

## FOREWORD

This wiring diagram manual has been prepared to provide information on the electrical system of the 2005 TOYOTA TUNDRA.

Applicable models: GSK30 Series  
UCK30, 31, 40, 41 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.
▲ 2005 TOYOTA TUNDRA Repair Manual	RM1150U
▲ 2005 TOYOTA New Car Features	NCF275U

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.**

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# 2005 TOYOTA TUNDRA ELECTRICAL WIRING DIAGRAM

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# A INTRODUCTION

This manual consists of the following 13 sections:

No.	Section	Description
A	INDEX	Index of the contents of this manual.
	INTRODUCTION	Brief explanation of each section.
B	HOW TO USE THIS MANUAL	Instructions on how to use this manual.
C	TROUBLE-SHOOTING	Describes the basic inspection procedures for electrical circuits.
D	ABBREVIATIONS	Defines the abbreviations used in this manual.
E	GLOSSARY OF TERMS AND SYMBOLS	Defines the symbols and functions of major parts.
F	RELAY LOCATIONS	Shows position of the Electronic Control Unit, Relays, Relay Block, etc. This section is closely related to the system circuit.
G	ELECTRICAL WIRING ROUTING	Describes position of Parts Connectors, Splice points, Ground points, etc. This section is closely related to the system circuit.
H	INDEX	Index of the system circuits.
	SYSTEM CIRCUITS	Electrical circuits of each system are shown from the power supply through ground points. Wiring connections and their positions are shown and classified by code according to the connection method. (Refer to the section, "How to use this manual"). The "System Outline" and "Service Hints" useful for troubleshooting are also contained in this section.
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.

**ABBREVIATIONS**

The following abbreviations are used in this manual.

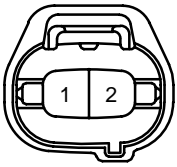
2WD	=	Two Wheel Drive Vehicles
4WD	=	Four Wheel Drive Vehicles
A/C	=	Air Conditioning
A/T	=	Automatic Transmission
ABS	=	Anti-Lock Brake System
ACIS	=	Acoustic Control Induction System
ADD	=	Automatic Disconnecting Differential
BEAN	=	Body Electronics Area Network
CAN	=	Controller Area Network
DVD	=	Digital Versatile Disc
EC	=	Electrochromic
ECU	=	Electronic Control Unit
ESA	=	Electronic Spark Advance
ETCS-i	=	Electronic Throttle Control System-intelligent
EVAP	=	Evaporative Emission
FL	=	Fusible Link Block
IC	=	Integrated Circuit
INT	=	Intermittent
IPO	=	Intelligent Power Outlet
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
TRAC	=	Traction Control
TVIP	=	TOYOTA Vehicle Intrusion Protection
VSC	=	Vehicle Stability Control
VSV	=	Vacuum Switching Valve
VVT	=	Variable Valve Timing
w/	=	With
w/o	=	Without

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

# K CONNECTOR LIST

\*1 : Access Cab, Standard Cab

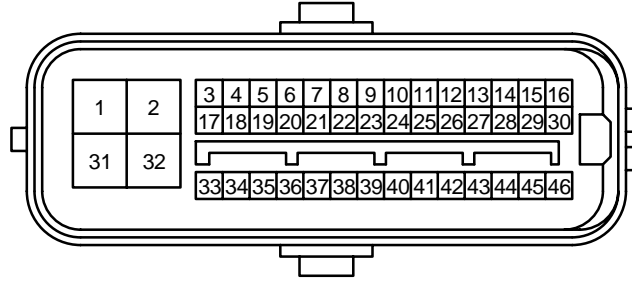
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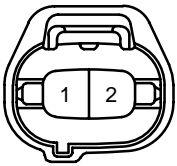
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**A 5**  
Gray



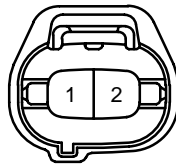
**A 6**  
(w/ VSC)



**A 6**  
(w/o VSC) Gray



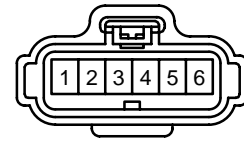
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(w/ VSC)



**A 7**  
(w/o VSC) Gray



**A 9**  
Black



**A10**  
Dark Gray



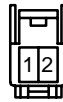
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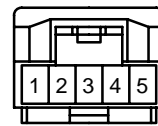
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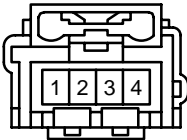
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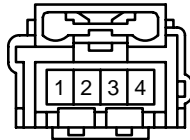
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**A16**  
Yellow



**A17**  
Yellow



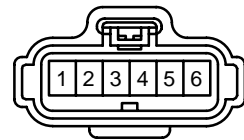
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**A19**  
Gray



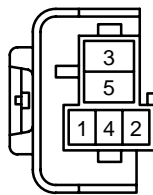
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(A/T) Black



**A20**  
(M/T) Black



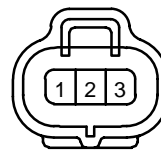
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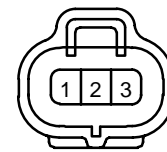
**A28**  
Black



**A29**  
(\*1) Black



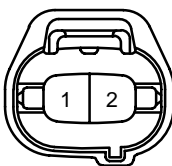
**A29**  
(Double Cab)



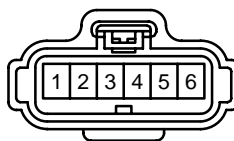
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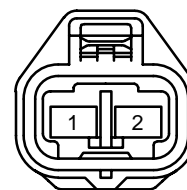
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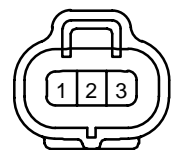
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Black



**A33**  
Gray



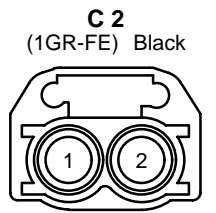
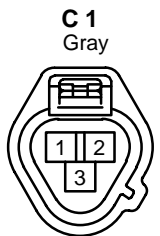
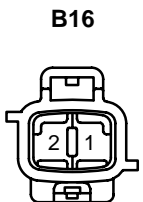
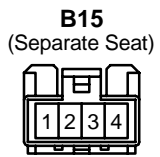
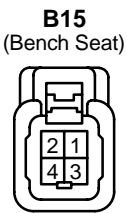
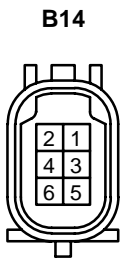
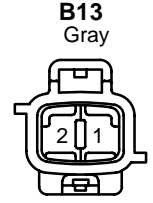
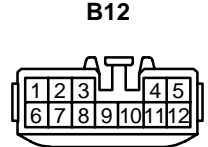
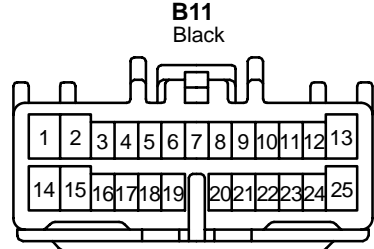
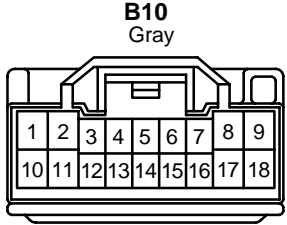
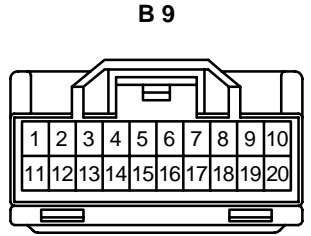
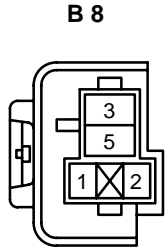
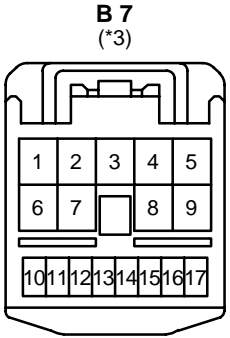
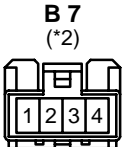
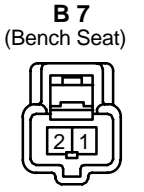
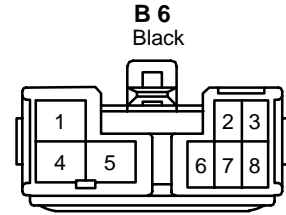
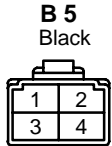
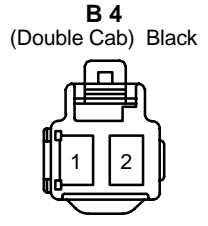
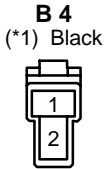
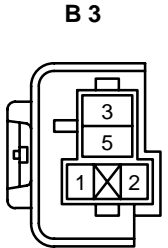
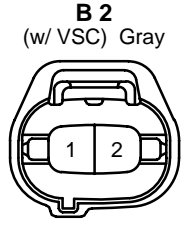
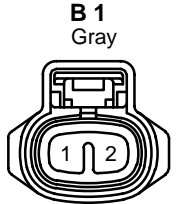
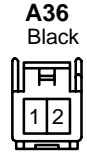
**A34**  
Black



\*1 : Access Cab, Standard Cab

\*2 : Captain Seat (w/ Power Seat)

\*3 : Separate Seat, Captain Seat (w/o Power Seat)



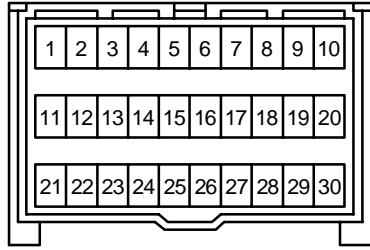
# K CONNECTOR LIST

\*1 : Access Cab, Standard Cab

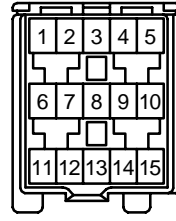
**C 2**  
(2UZ-FE) Dark Gray



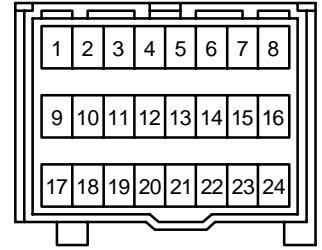
**C 4**  
Yellow



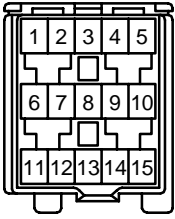
**C 5**  
(\*1) Yellow



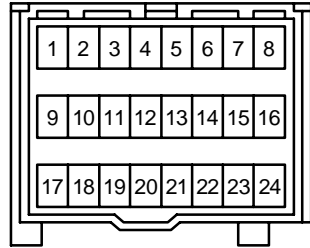
**C 5**  
(Double Cab) Yellow



**C 6**  
(\*1) Yellow



**C 6**  
(Double Cab) Yellow



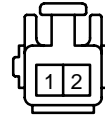
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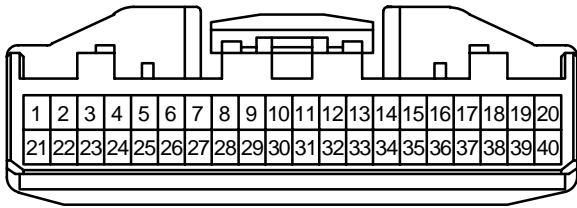
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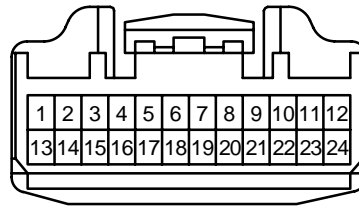
**C 10**



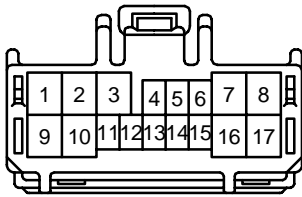
**C 11**



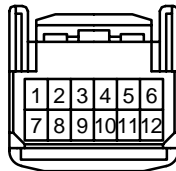
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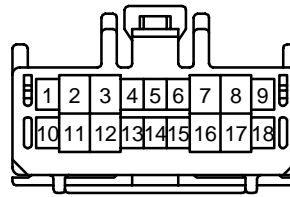
**C 15**



**C 16**  
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**C 17**  
Black



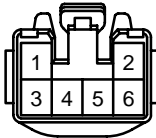
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Black



**C 20**  
Black



**C 21**  
Black



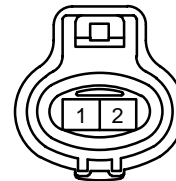
**C 22**  
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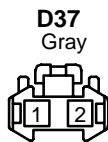
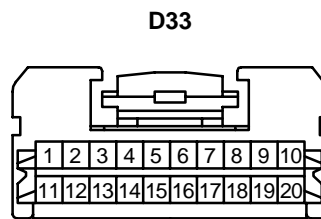
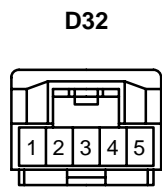
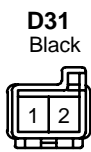
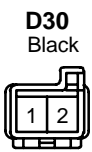
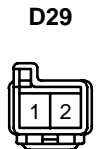
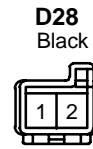
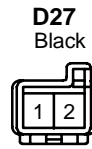
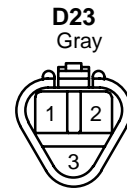
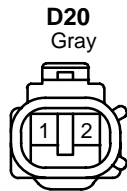
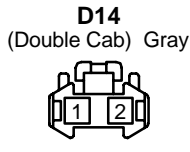
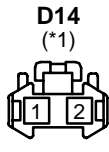
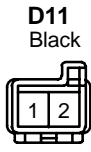
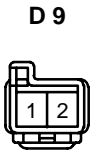
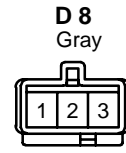
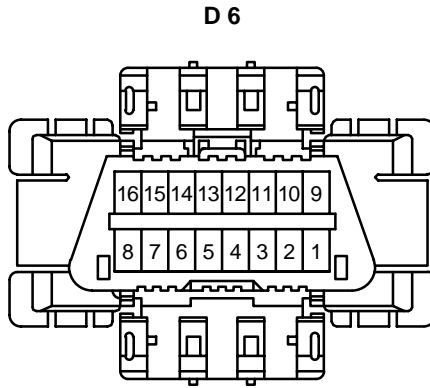
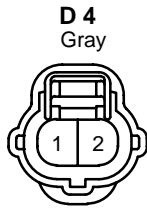
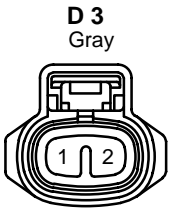
**C 23**  
Yellow



**D 2**  
Gray



\*1 : Access Cab, Standard Cab

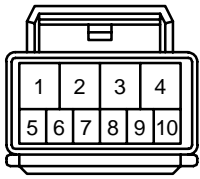




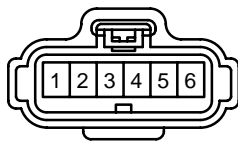
# K CONNECTOR LIST

\*1 : Access Cab, Standard Cab

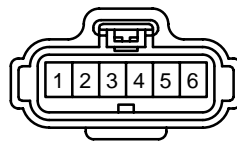
**D41**



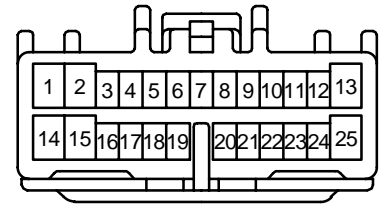
**D42**  
Black



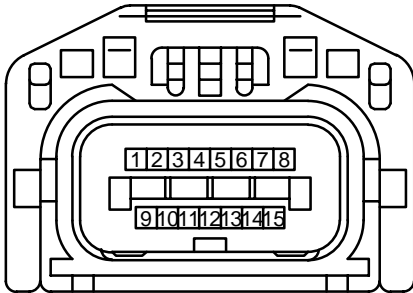
**D43**  
Black



**D44**



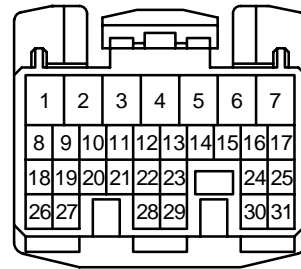
**E 1**  
Gray



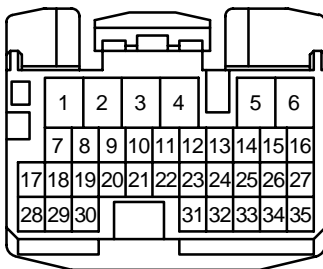
**E 2**  
(1GR-FE) Dark Gray (2UZ-FE) Gray



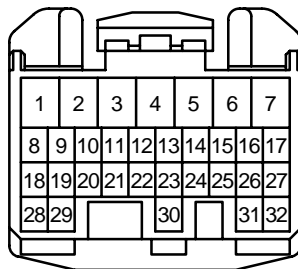
**E 3**



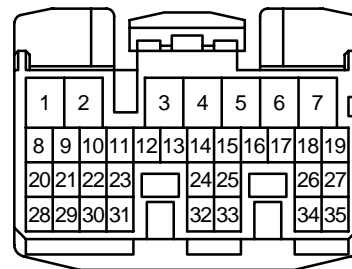
**E 4**



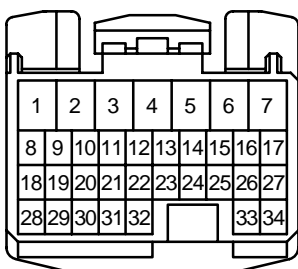
**E 5**



**E 6**



**E 7**



**E 8**  
Black



**F 1**  
Brown



**F 2**  
Brown



**F 3**  
Gray



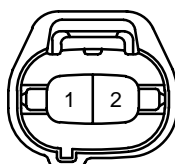
**F 4**  
Gray



**F 5**  
(1GR-FE) Dark Gray



**F 5**  
(2UZ-FE) Black



**F 8**  
(\*1)



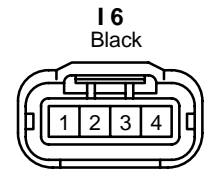
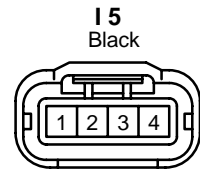
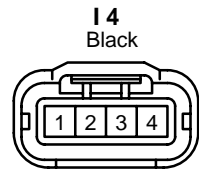
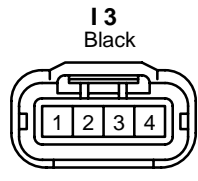
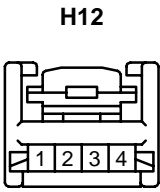
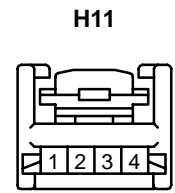
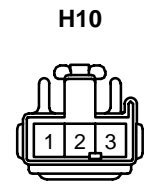
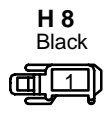
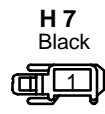
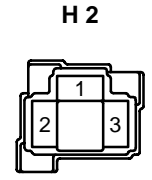
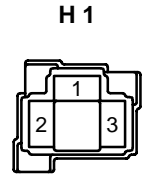
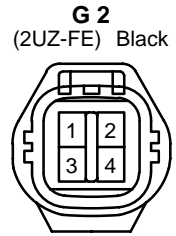
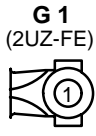
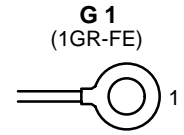
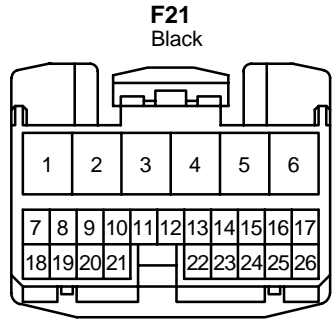
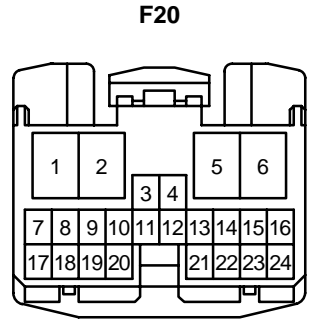
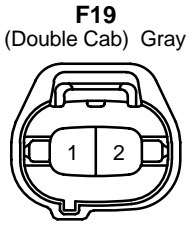
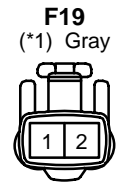
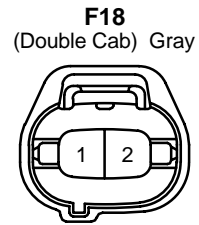
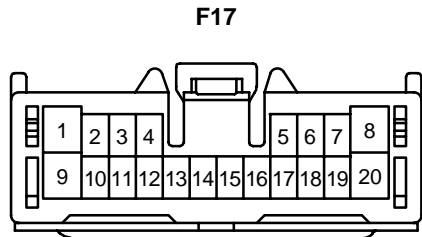
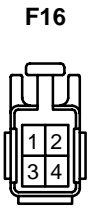
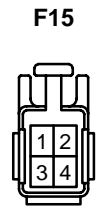
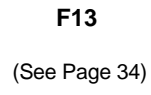
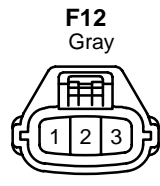
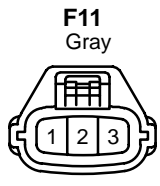
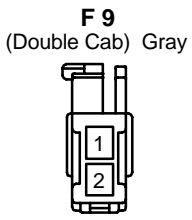
**F 8**  
(Double Cab) Gray



**F 9**  
(\*1)



\*1 : Access Cab, Standard Cab

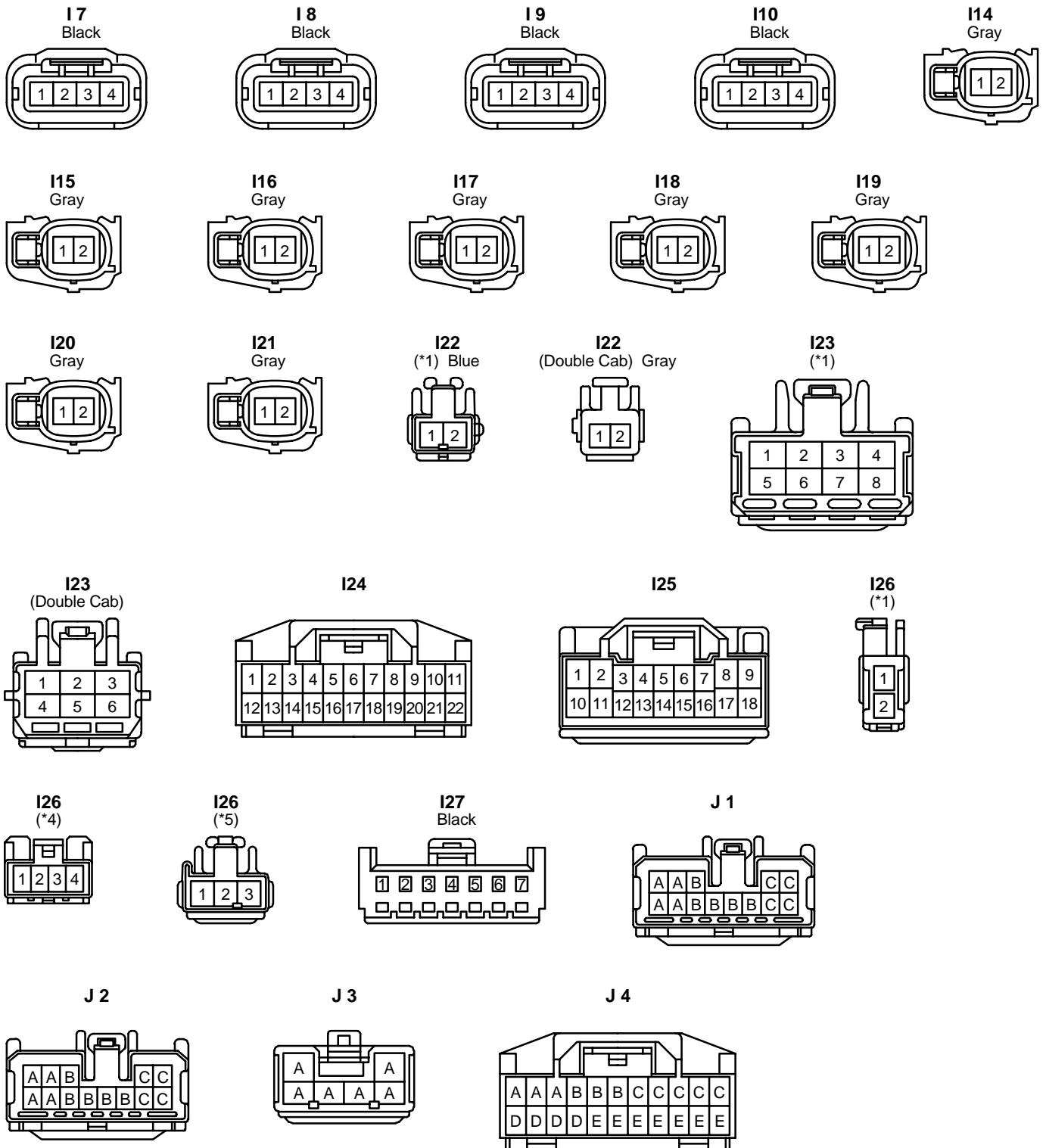


# K CONNECTOR LIST

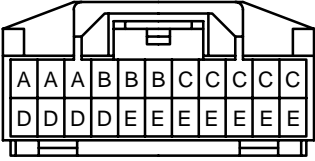
\*1 : Access Cab, Standard Cab

\*4 : Double Cab w/ Vanity Light

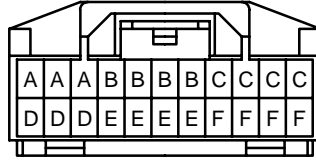
\*5 : Double Cab w/o Vanity Light



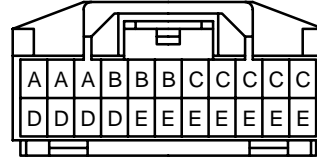
J5



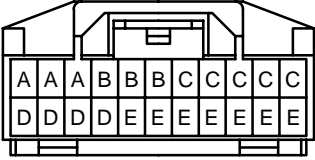
J7



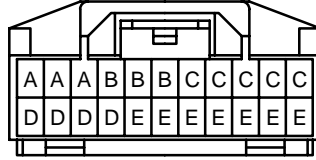
J8



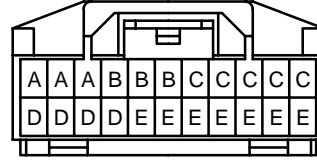
J9



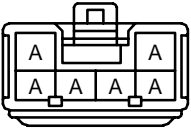
J10



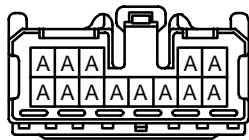
J12



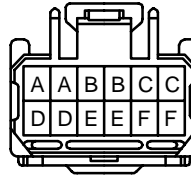
J13



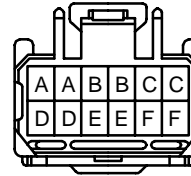
J18



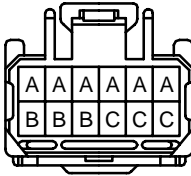
J21



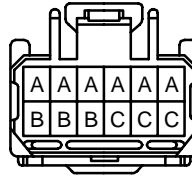
J22



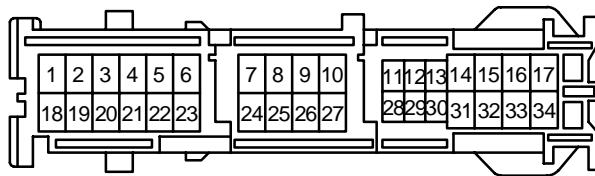
J23  
Gray



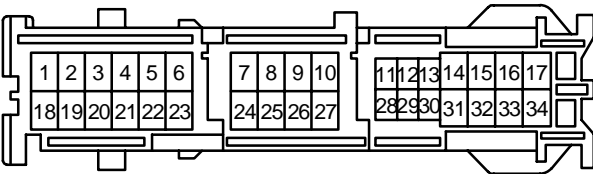
J24  
Gray



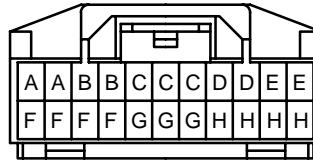
J26



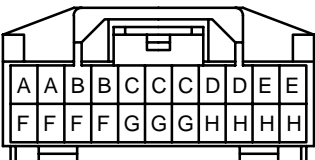
J27



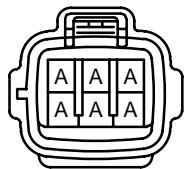
J28  
Blue



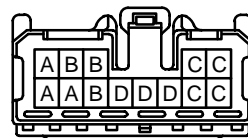
J29  
Blue



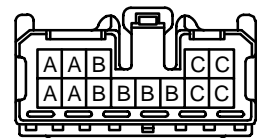
J30  
Gray



J31  
Blue

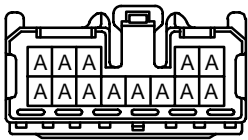


J32

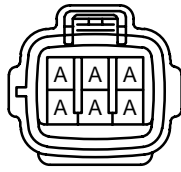


# K CONNECTOR LIST

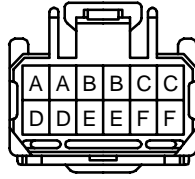
**J34**  
Black



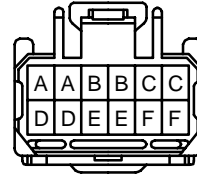
**J35**  
Gray



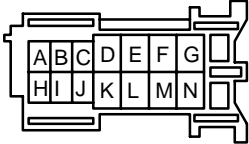
**J36**



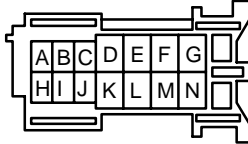
**J37**



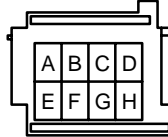
**J38**



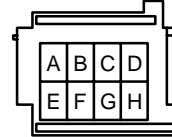
**J39**



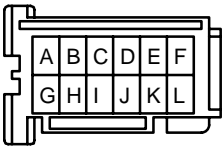
**J40**



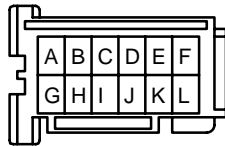
**J41**



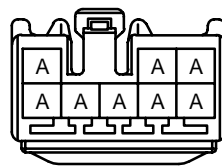
**J42**



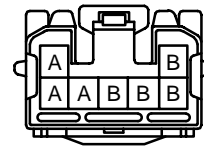
**J43**



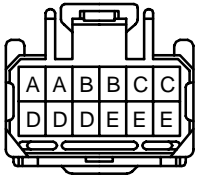
**J45**



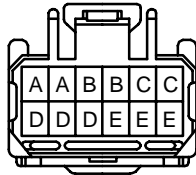
**J46**



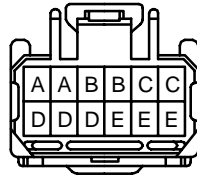
**J47**  
Black



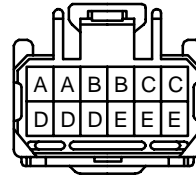
**J48**  
Black



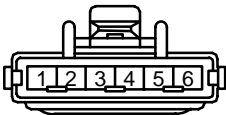
**J49**  
Black



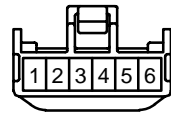
**J50**  
Black



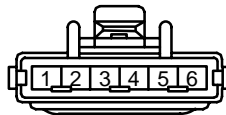
**J51**



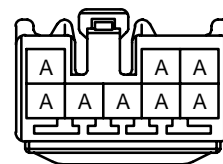
**J52**  
Black



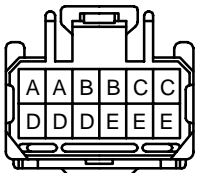
**J53**



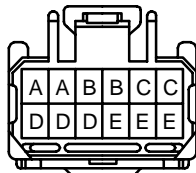
**J54**



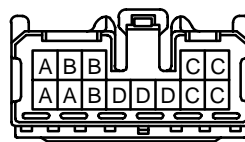
**J55**  
Black



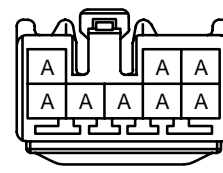
**J56**  
Black



**J57**  
Blue



**J58**



**J59**  
Black



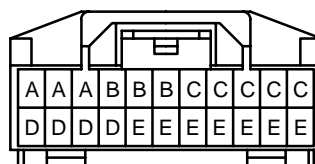
**J60**  
Black



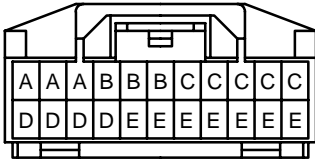
**J63**  
Black



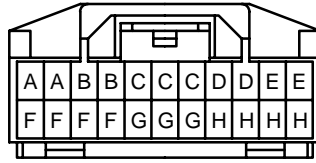
**J64**



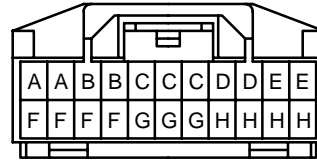
J65



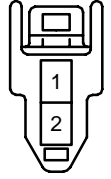
J66  
Blue



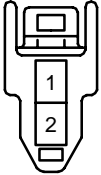
J67  
Blue



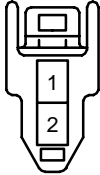
J68



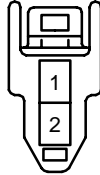
J69



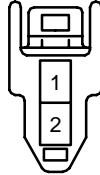
J70



J71



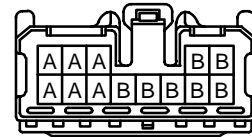
J72



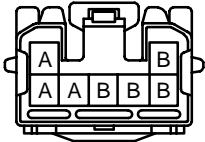
J73



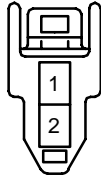
J74  
Gray



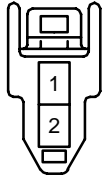
J75



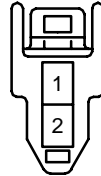
J76



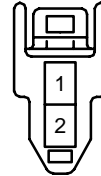
J77



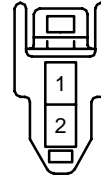
J78



J79



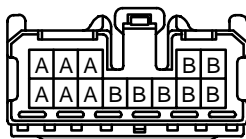
J80



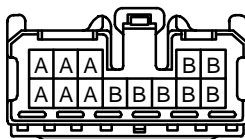
J81



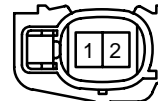
J82  
Gray



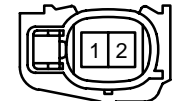
J83  
Gray



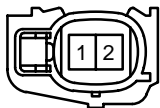
K 1  
Black



K 2  
(1GR-FE) Black



K 2  
(2UZ-FE) Gray



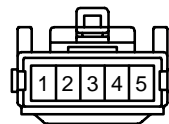
L 1  
Gray



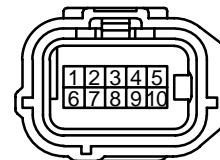
L 2  
Gray



L 3



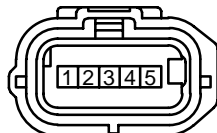
L 4  
Black



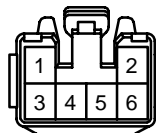
M 1  
(1GR-FE) Black



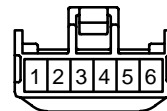
M 1  
(2UZ-FE) Black



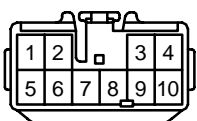
M 4  
Black



M 5  
Black



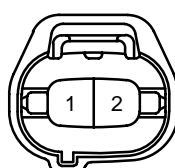
M 6



N 1  
Gray



O 1  
Black



O 2  
Gray



O 4



# K CONNECTOR LIST

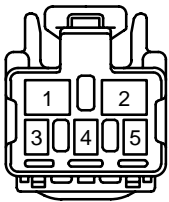
\*1 : Access Cab, Standard Cab

\*7 : Double Cab Except Captain seat

\*6 : Double Cab Captain seat

\*8 : Access Cab, Standard Cab, Double Cab Except Captain seat

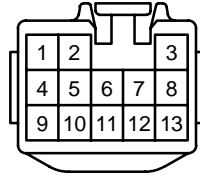
**O 5**



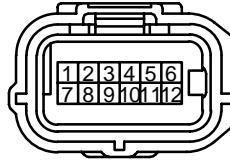
**O 7**



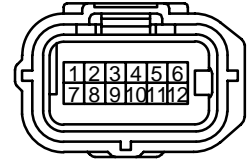
**O 8**



**O10**  
Black



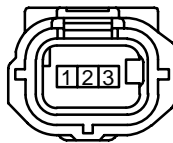
**O11**  
Gray



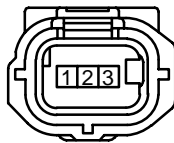
**O12**  
Gray



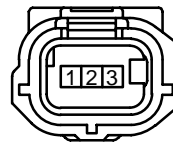
**O13**  
Black



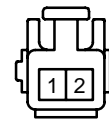
**O14**  
Black



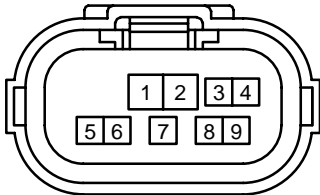
**O15**  
Gray



**O16**



**P 1**  
Gray



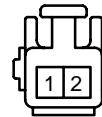
**P 2**  
Black



**P 5**  
(A/T)



**P 5**  
(M/T)



**P 6**  
(\*1) Blue



**P 6**  
(\*6)



**P 6**  
(\*7)



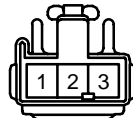
**P 7**  
(\*8)



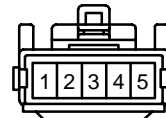
**P 7**  
(\*6)



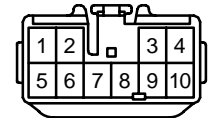
**P 8**



**P 9**



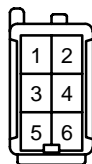
**P10**



**P11**  
(\*1)



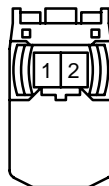
**P11**  
(Double Cab)



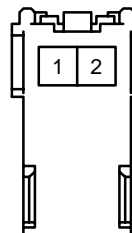
**P12**



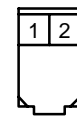
**P13**  
(Access Cab) Black



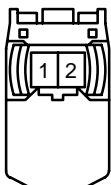
**P13**  
(Double Cab) Yellow



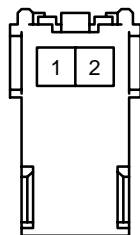
**P13**  
(Standard Cab) Yellow



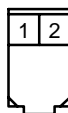
**P14**  
(Access Cab) Black



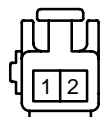
**P14**  
(Double Cab) Yellow



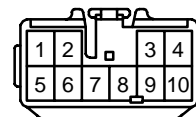
**P14**  
(Standard Cab) Yellow



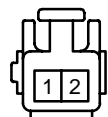
**P15**  
Black



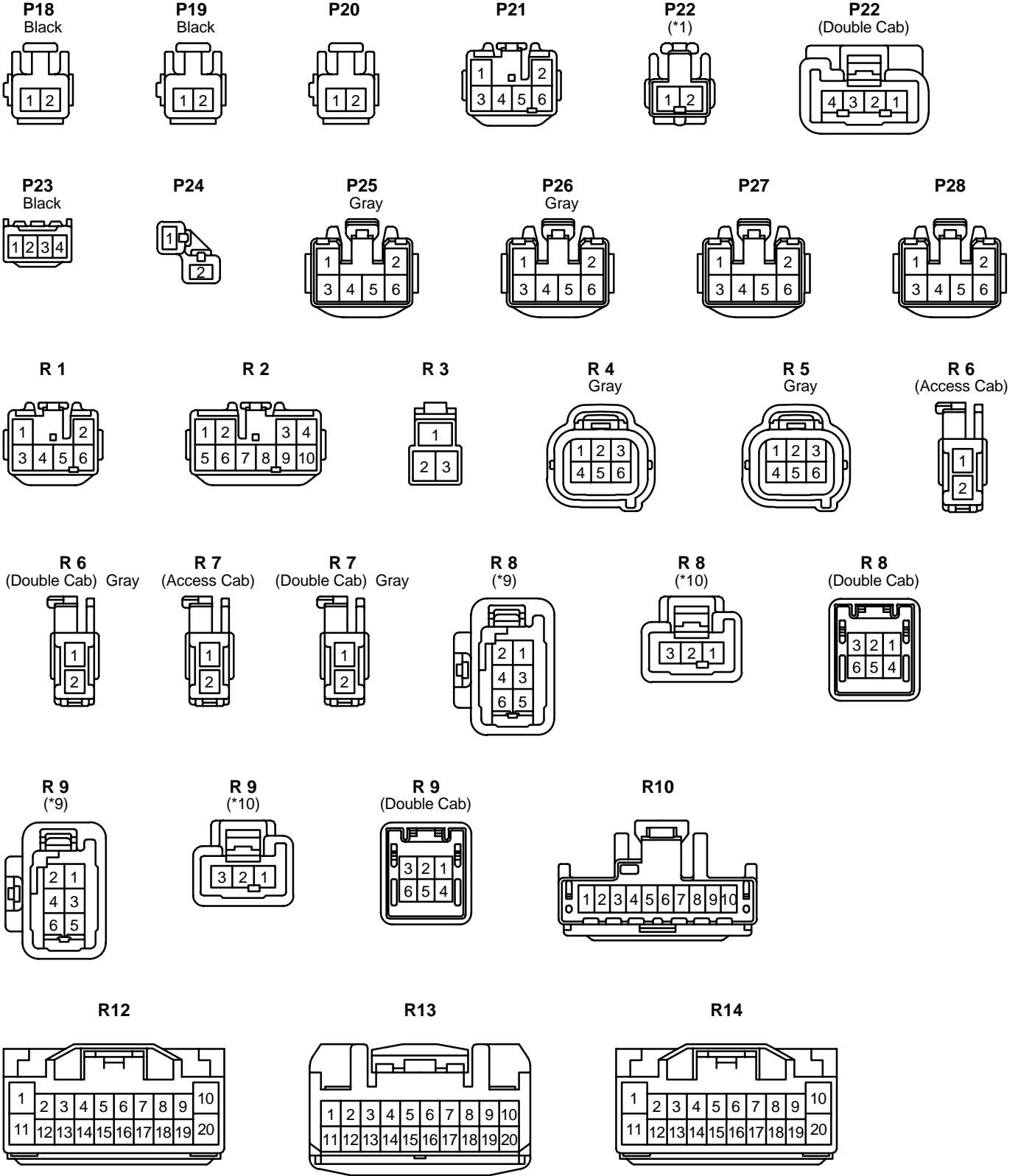
**P16**



**P17**  
Black



\*1 : Access Cab, Standard Cab  
\*9 : Access Cab, Standard Cab w/ Mirror Heater  
\*10 : Access Cab, Standard Cab w/o Mirror Heater



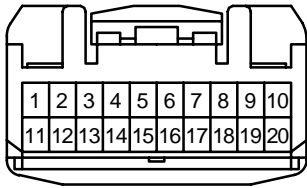


# K CONNECTOR LIST

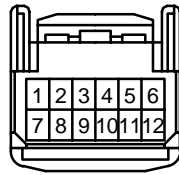
\*11 : 1GR-FE (Cold Area Spec.)

\*12 : 1GR-FE (Except Cold Area Spec.)

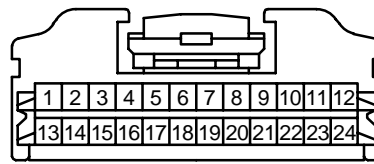
**R15**



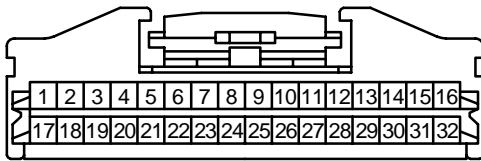
**R16**



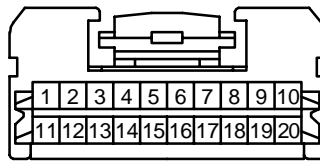
**R17**



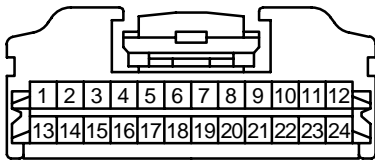
**R18**



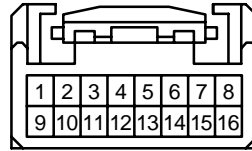
**R19**



**R20**



**R21**



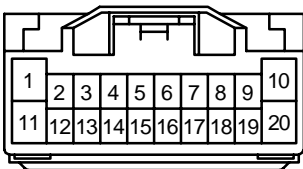
**R22**  
Gray



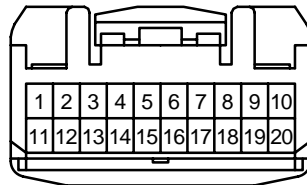
**R23**



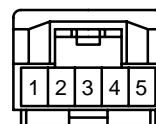
**R24**



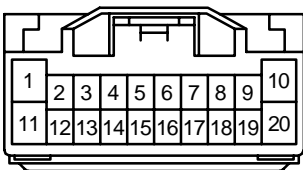
**R25**



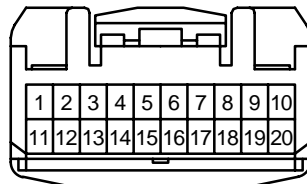
**R26**  
Gray



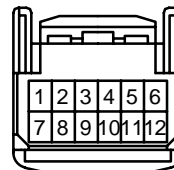
**R27**



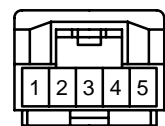
**R28**



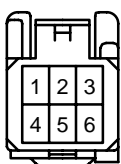
**R29**



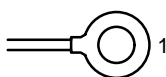
**R30**  
Gray



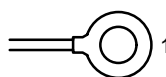
**R31**  
Blue



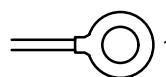
**S 1**  
(\*11)



**S 1**  
(\*12)



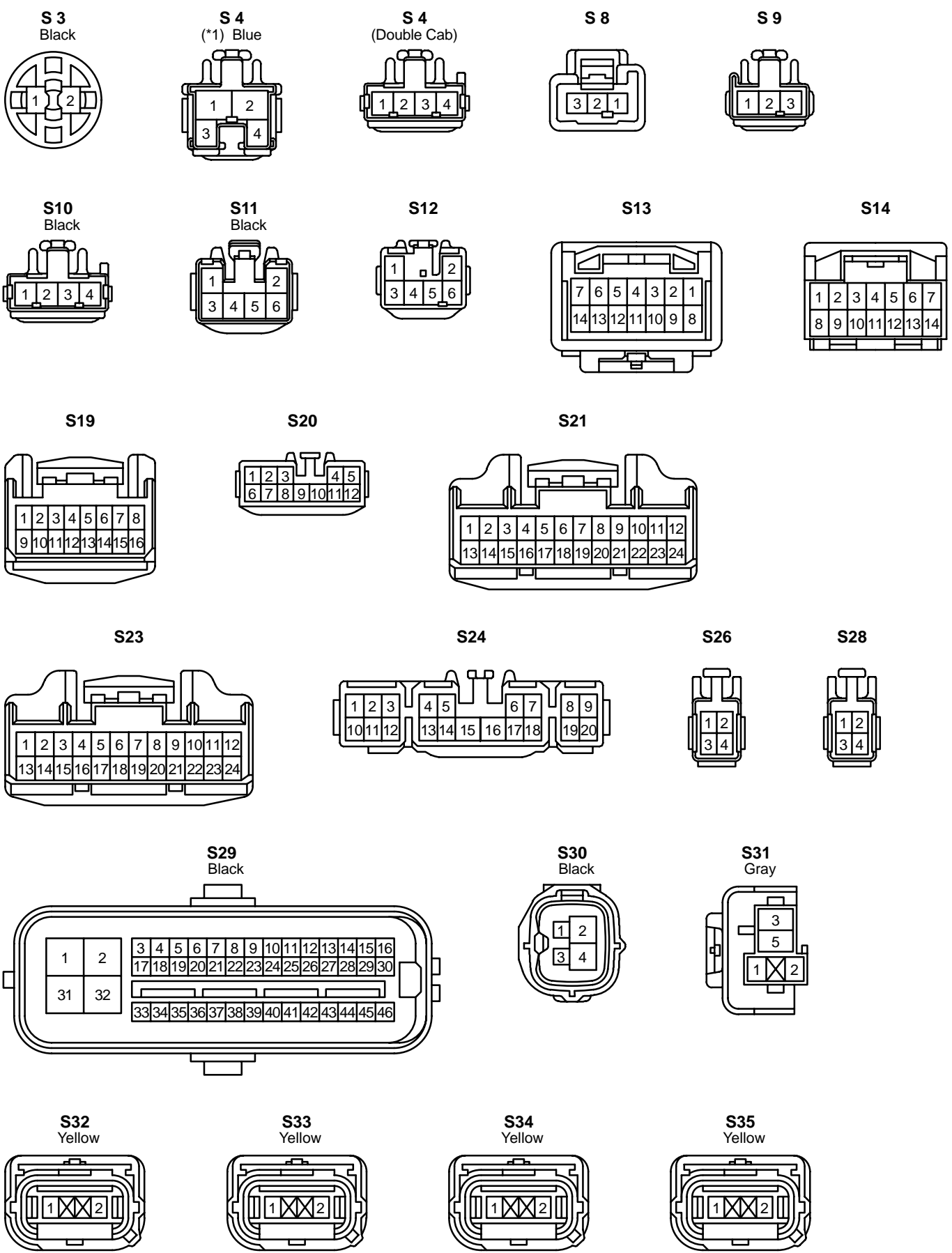
**S 1**  
(2UZ-FE)



**S 2**  
Black



\*1 : Access Cab, Standard Cab



# K CONNECTOR LIST

\*1 : Access Cab, Standard Cab

\*13 : Except Towing Package

**S36**  
Black



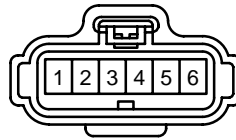
**S37**  
Yellow



**S38**  
Yellow



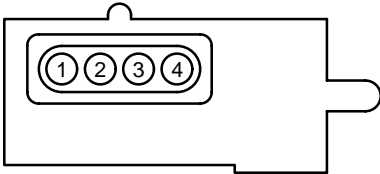
**T 3**  
Black



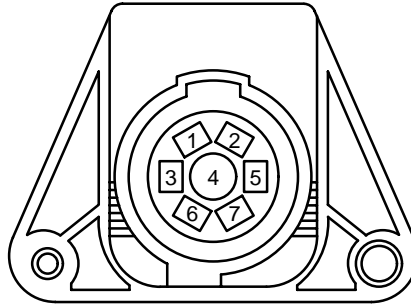
**T 5**  
Black



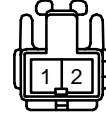
**T 6**  
(\*13) Black



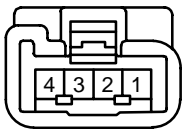
**T 6**  
(Towing Package) Black



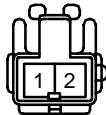
**T 7**  
(\*1)



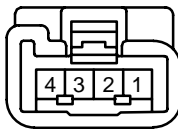
**T 7**  
(Double Cab)



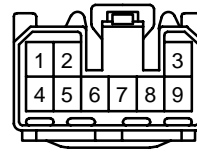
**T 8**  
(\*1)



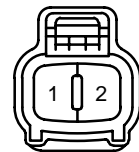
**T 8**  
(Double Cab)



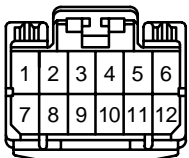
**T 9**



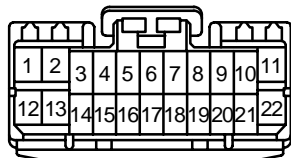
**T10**  
Gray



**T11**



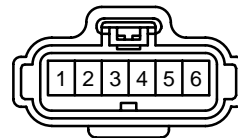
**T12**



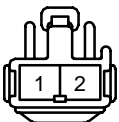
**T13**  
Black



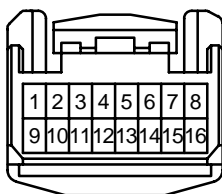
**T14**  
Black



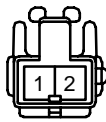
**T15**  
Black



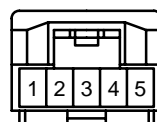
**T16**



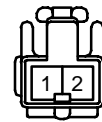
**T17**  
Black



**T18**



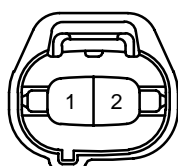
**U 1**



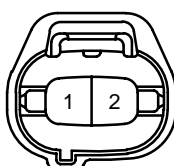
**V 2**  
Black



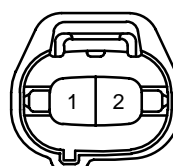
**V 3**  
Black



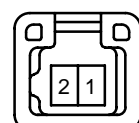
**V 4**  
(1GR-FE) Gray



**V 4**  
(2UZ-FE) Black



**V 6**  
(\*1) Blue

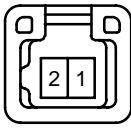


\*1 : Access Cab, Standard Cab

**V 6**  
(Double Cab)



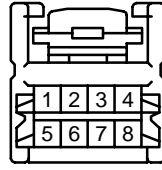
**V 7**  
(\*1) Blue



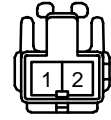
**V 7**  
(Double Cab)



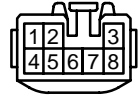
**V10**



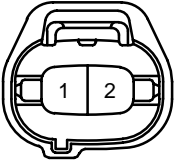
**V11**  
Black



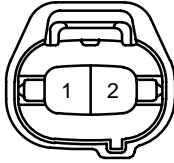
**V12**



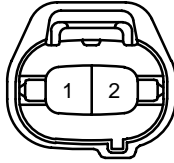
**V13**  
Black



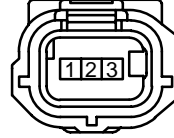
**V14**  
Brown



**V15**  
Brown



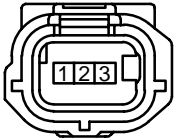
**V16**  
(1GR-FE) Black



**V16**  
(2UZ-FE) Dark Gray



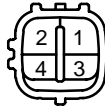
**V17**  
(1GR-FE) Black



**V17**  
(2UZ-FE) Dark Gray



**W 2**  
Dark Gray



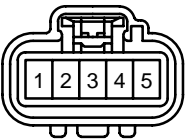
**W 4**  
Black



**W 5**  
Black



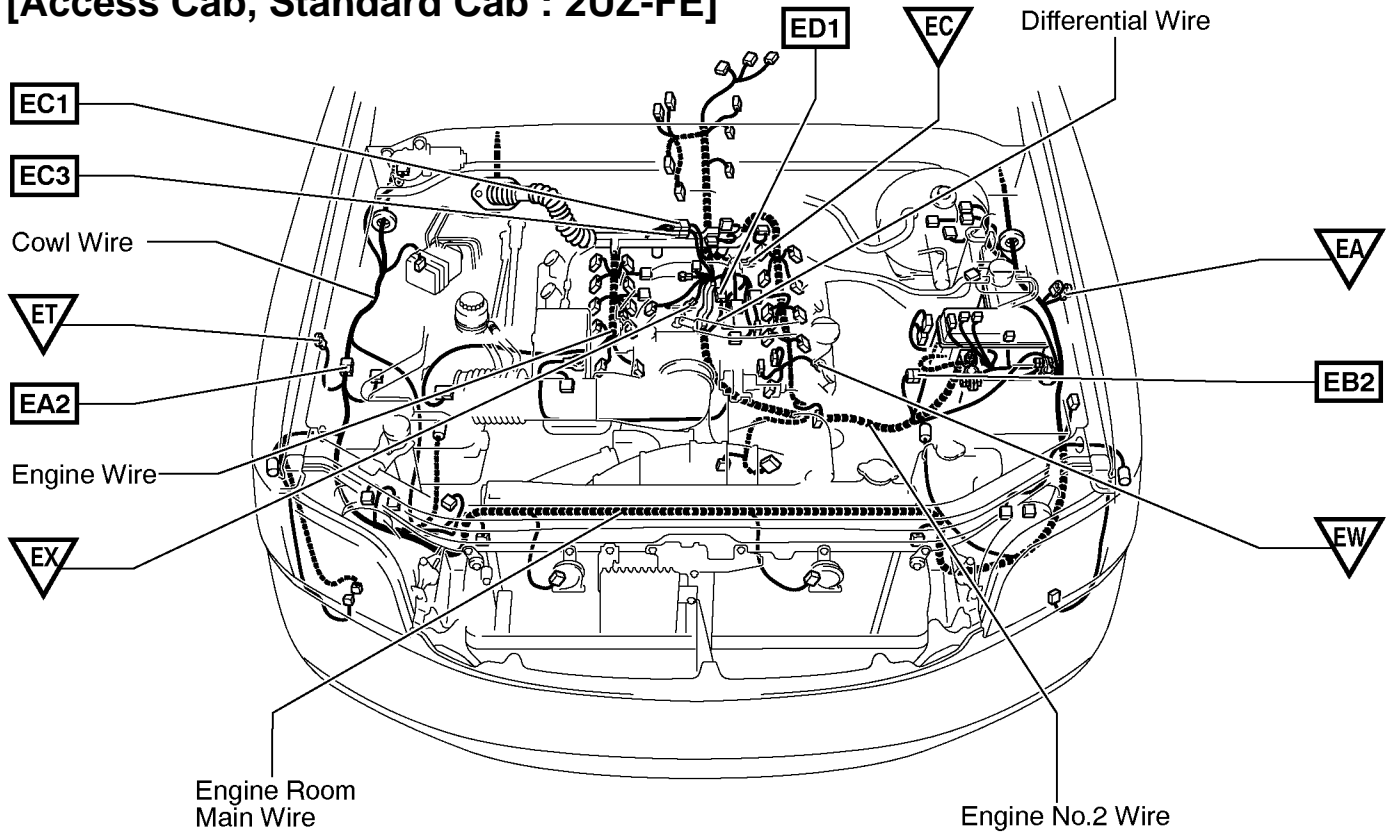
**Y 1**  
Black



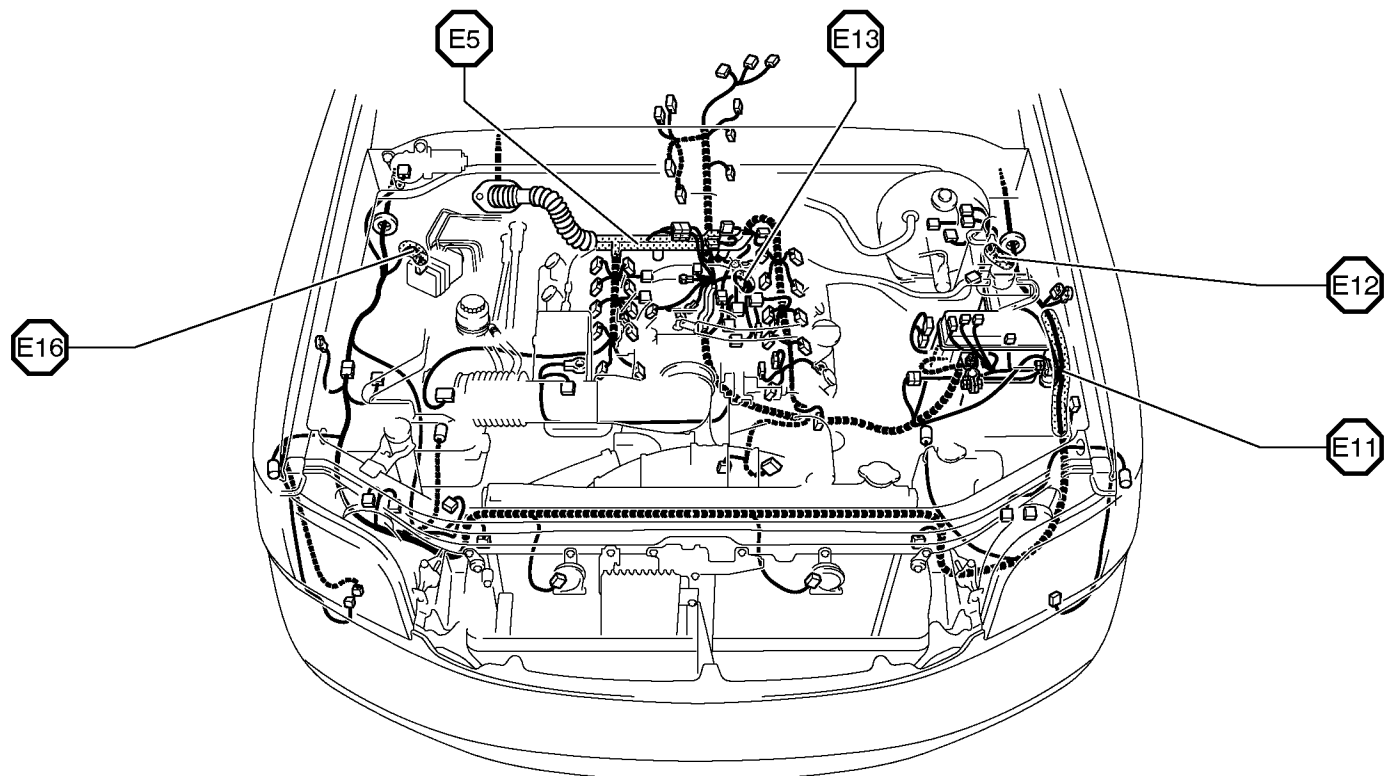
# G ELECTRICAL WIRING ROUTING

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

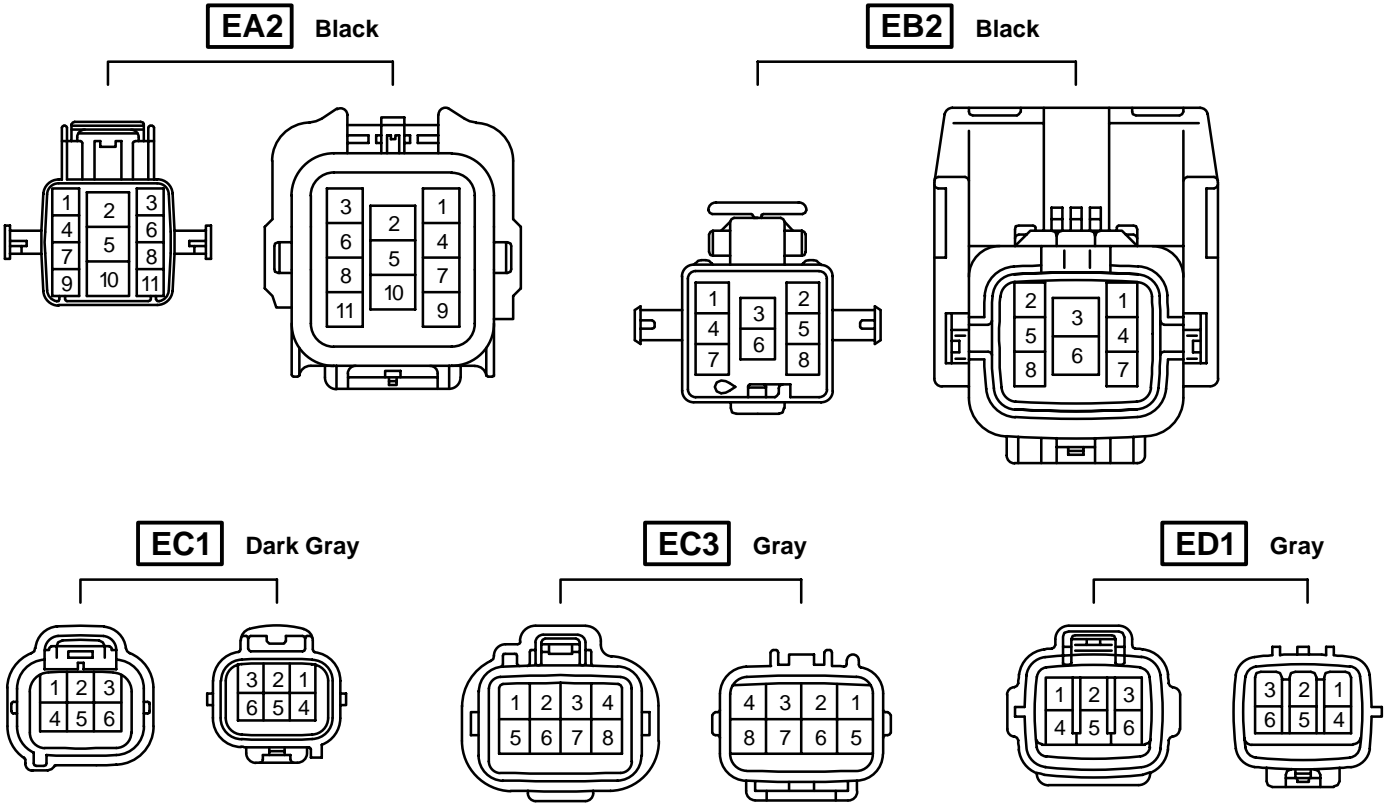
[Access Cab, Standard Cab : 2UZ-FE]



- : Location of Splice Points



## Connector Joining Wire Harness and Wire Harness

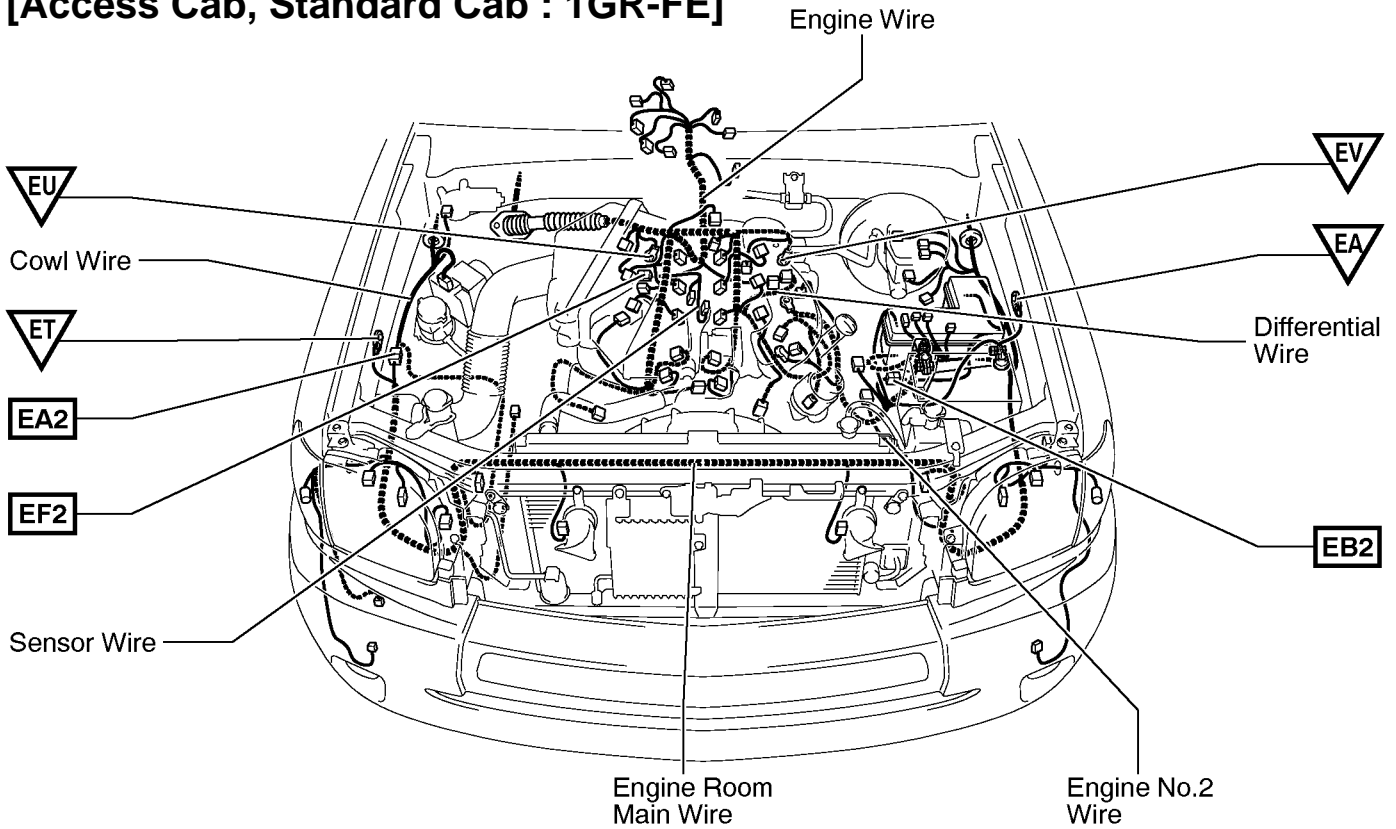


Code	Joining Wire Harness and Wire Harness (Connector Location)
EA2	Cowl Wire and Engine Room Main Wire (Right Fender)
EB2	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
EC1	Engine No.2 Wire and Engine Wire (Near the Starter)
EC3	
ED1	Engine No.2 Wire and Differential Wire (Near the Transmission)

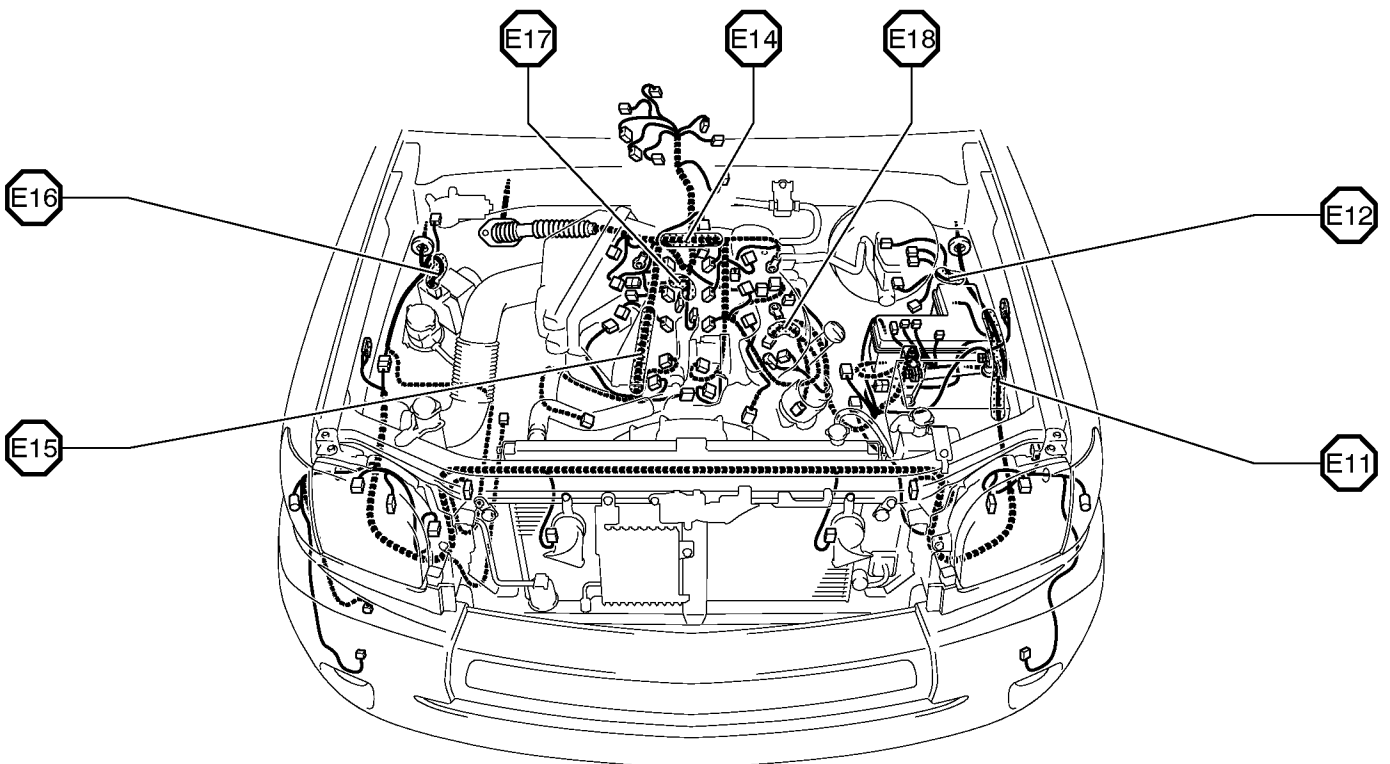
# G ELECTRICAL WIRING ROUTING

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

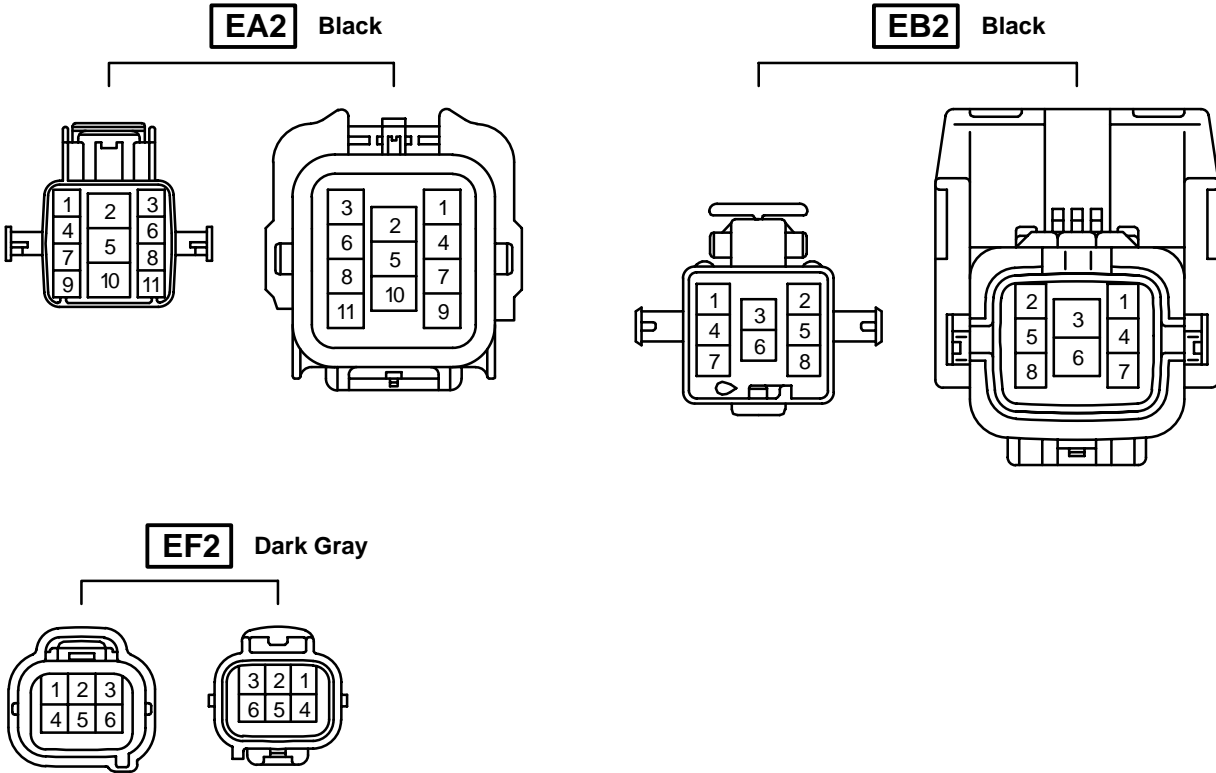
[Access Cab, Standard Cab : 1GR-FE]



- : Location of Splice Points



## Connector Joining Wire Harness and Wire Harness



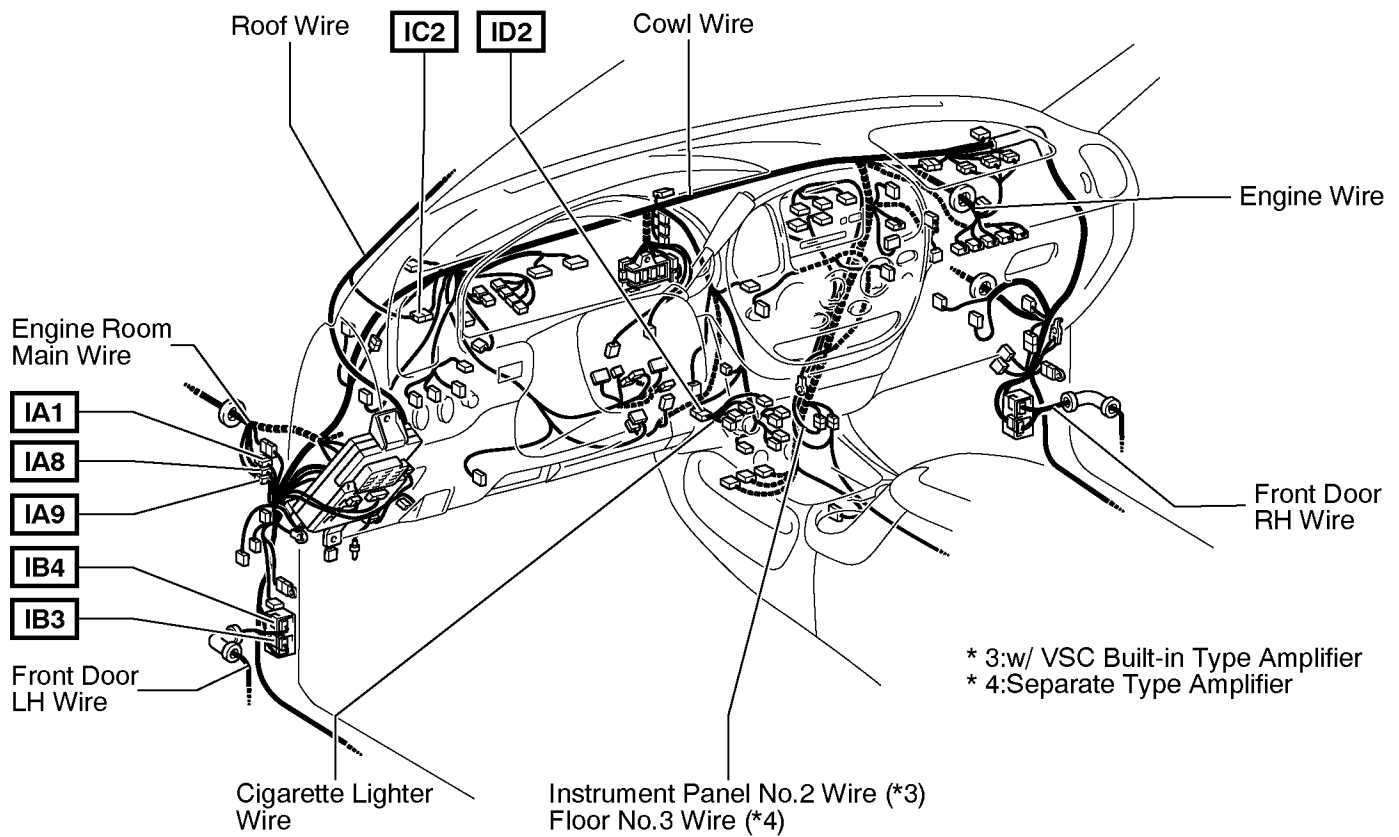
Code	Joining Wire Harness and Wire Harness (Connector Location)
EA2	Cowl Wire and Engine Room Main Wire (Right Fender)
EB2	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
EF2	Engine Wire and Sensor Wire (Over the Cylinder Head)



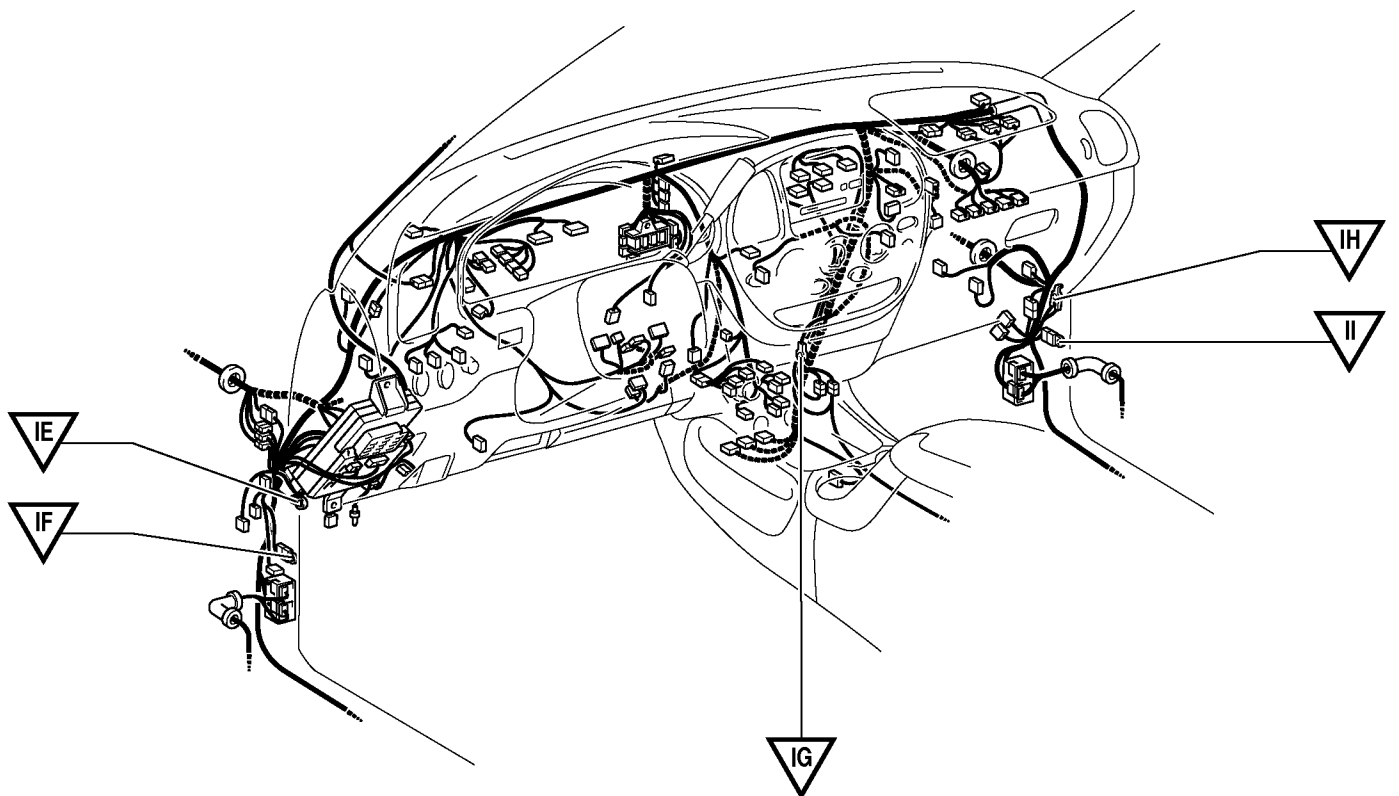
# G ELECTRICAL WIRING ROUTING

**□ : Location of Connector Joining Wire Harness and Wire Harness**

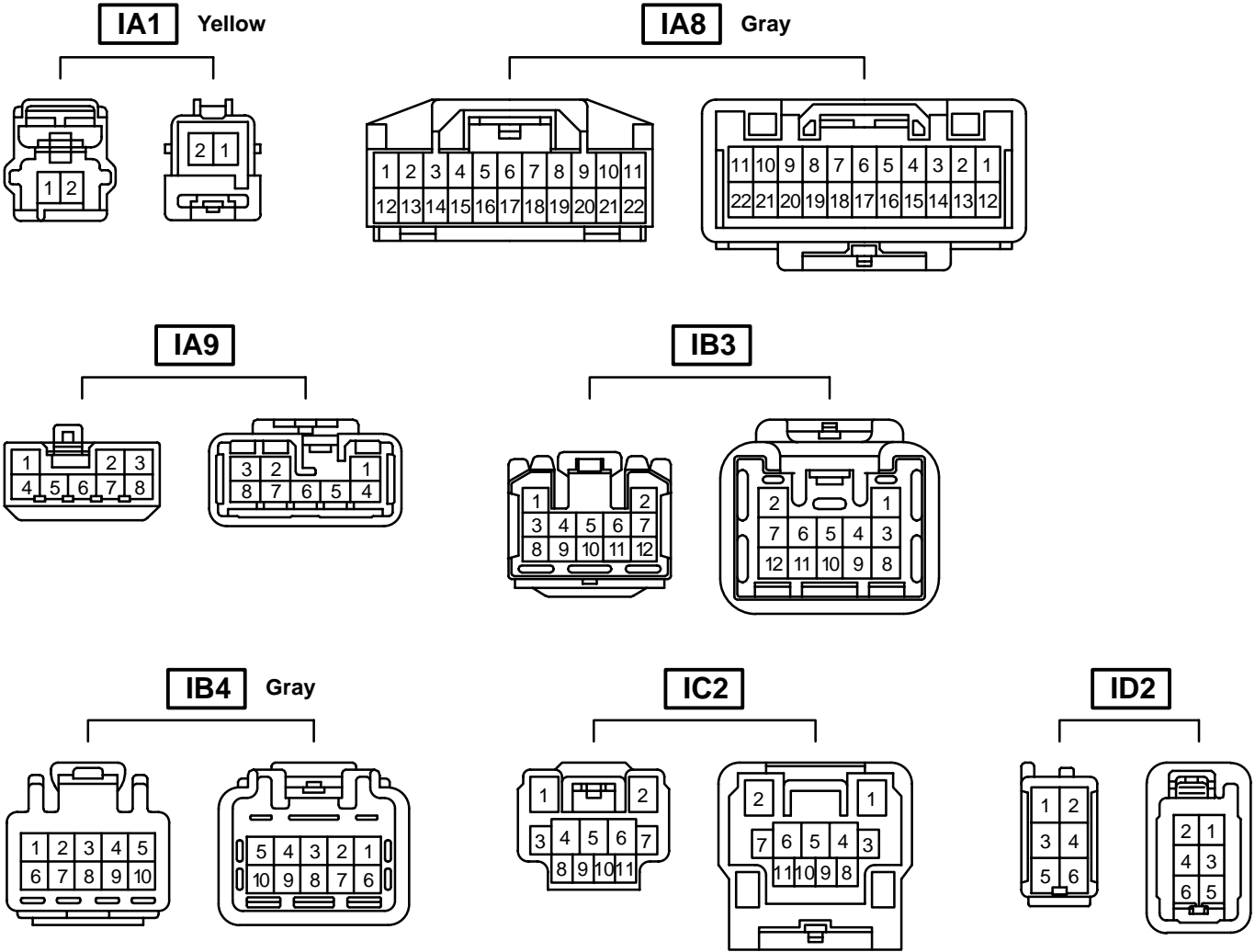
**[Access Cab, Standard Cab]**



**▽ : Location of Ground Points**



## Connector Joining Wire Harness and Wire Harness

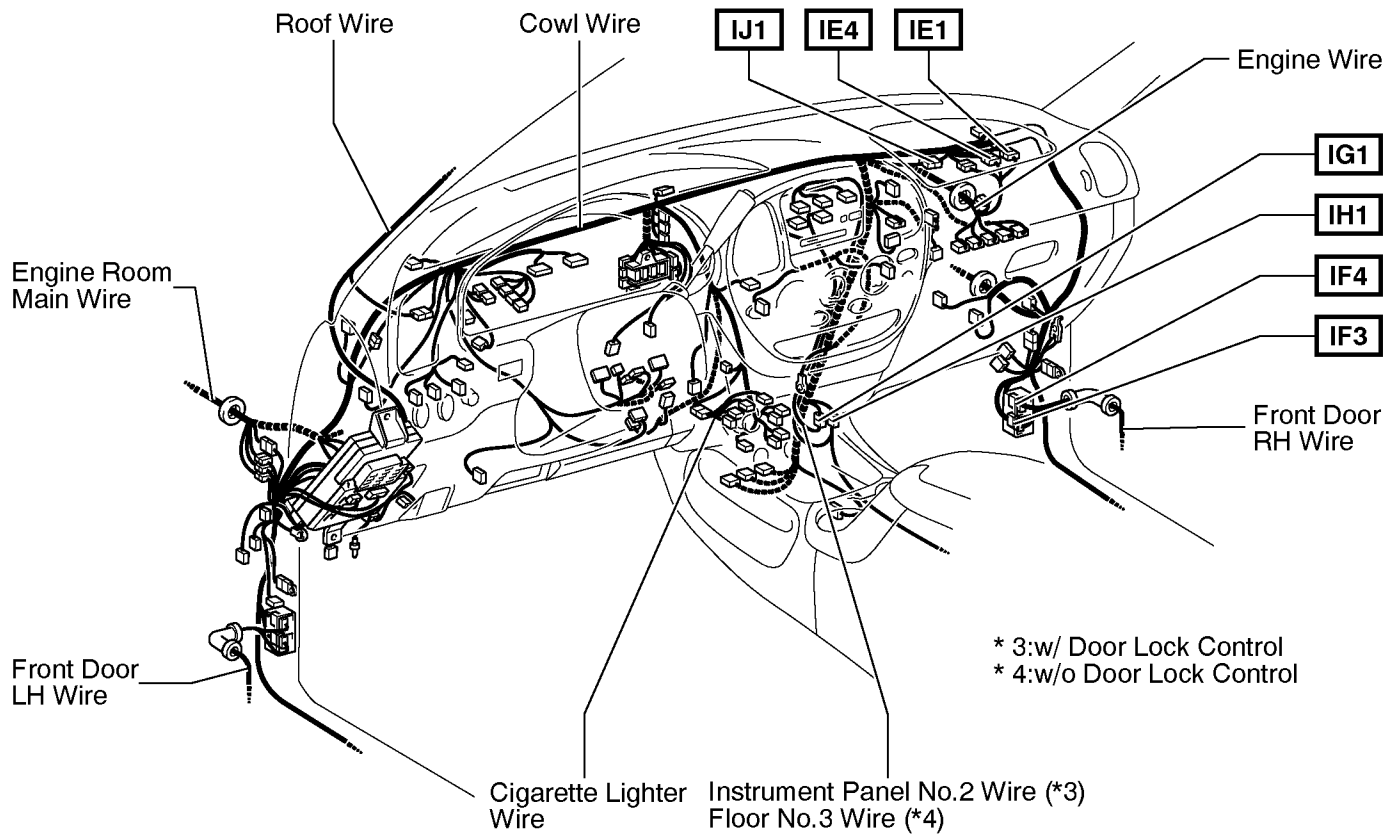


Code	Joining Wire Harness and Wire Harness (Connector Location)
IA1	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA8	
IA9	
IB3	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IB4	
IC2	Cowl Wire and Roof Wire (Left Side of Instrument Panel)
ID2	Cigarette Lighter Wire and Cowl Wire (Instrument Panel Brace LH)

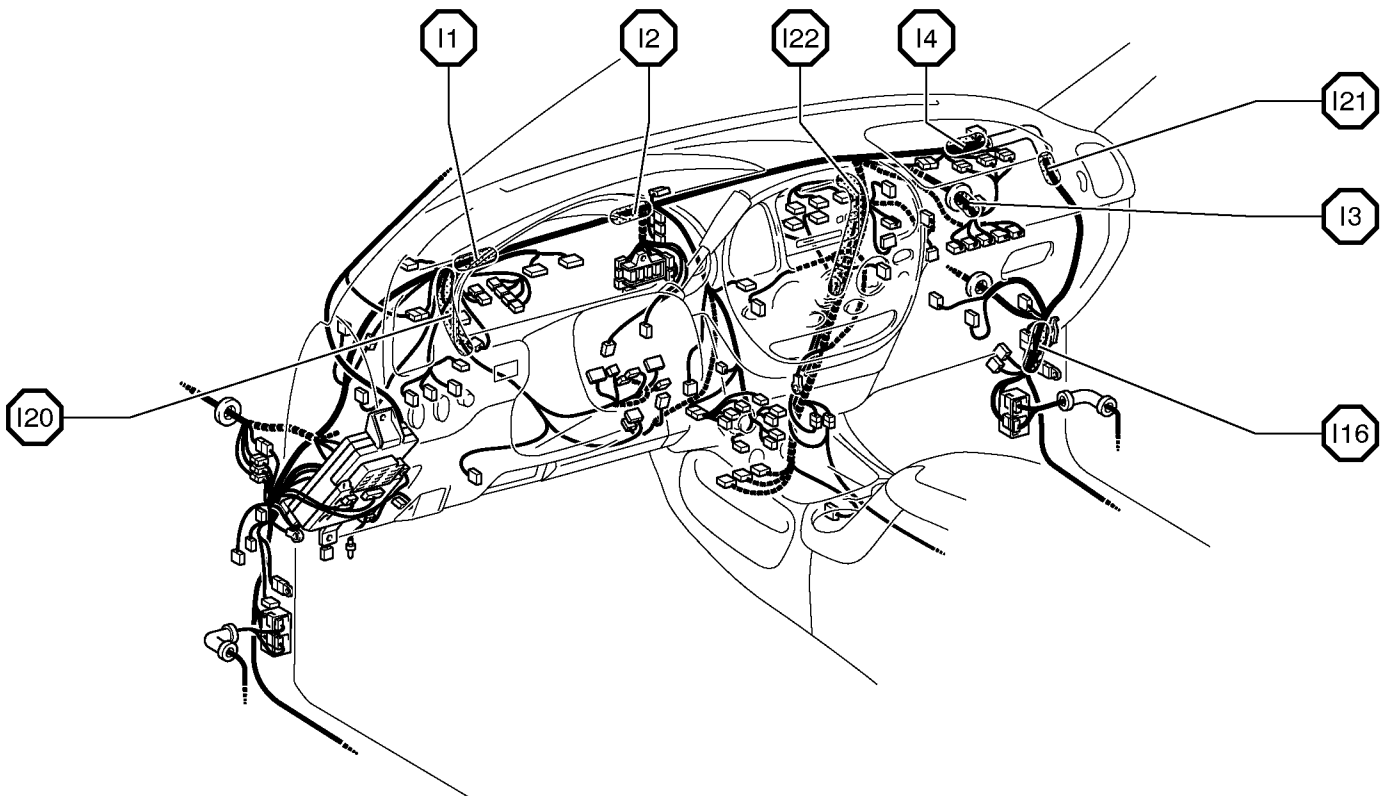
# G ELECTRICAL WIRING ROUTING

□ : Location of Connector Joining Wire Harness and Wire Harness

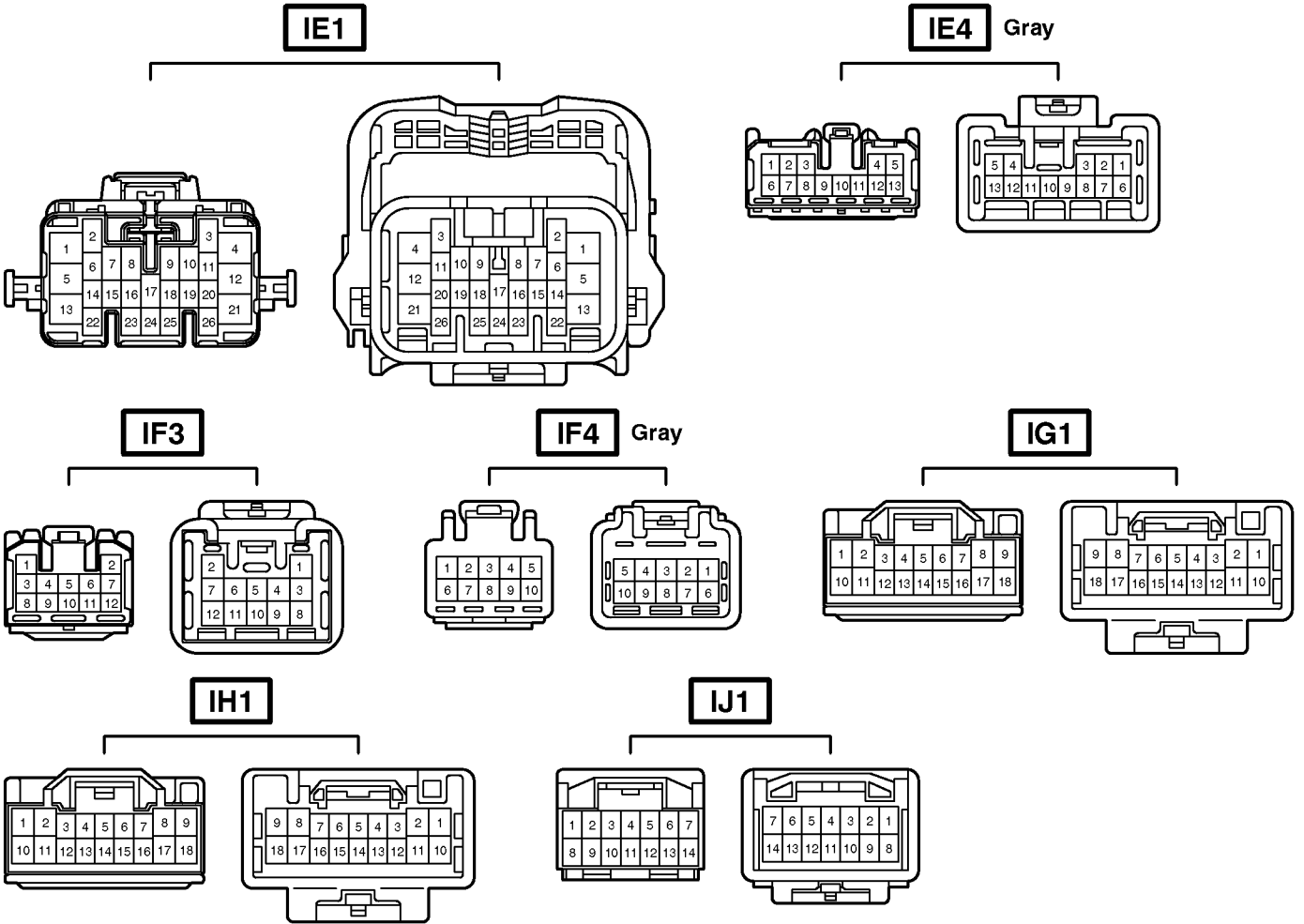
[Access Cab, Standard Cab]



○ : Location of Splice Points



# Connector Joining Wire Harness and Wire Harness



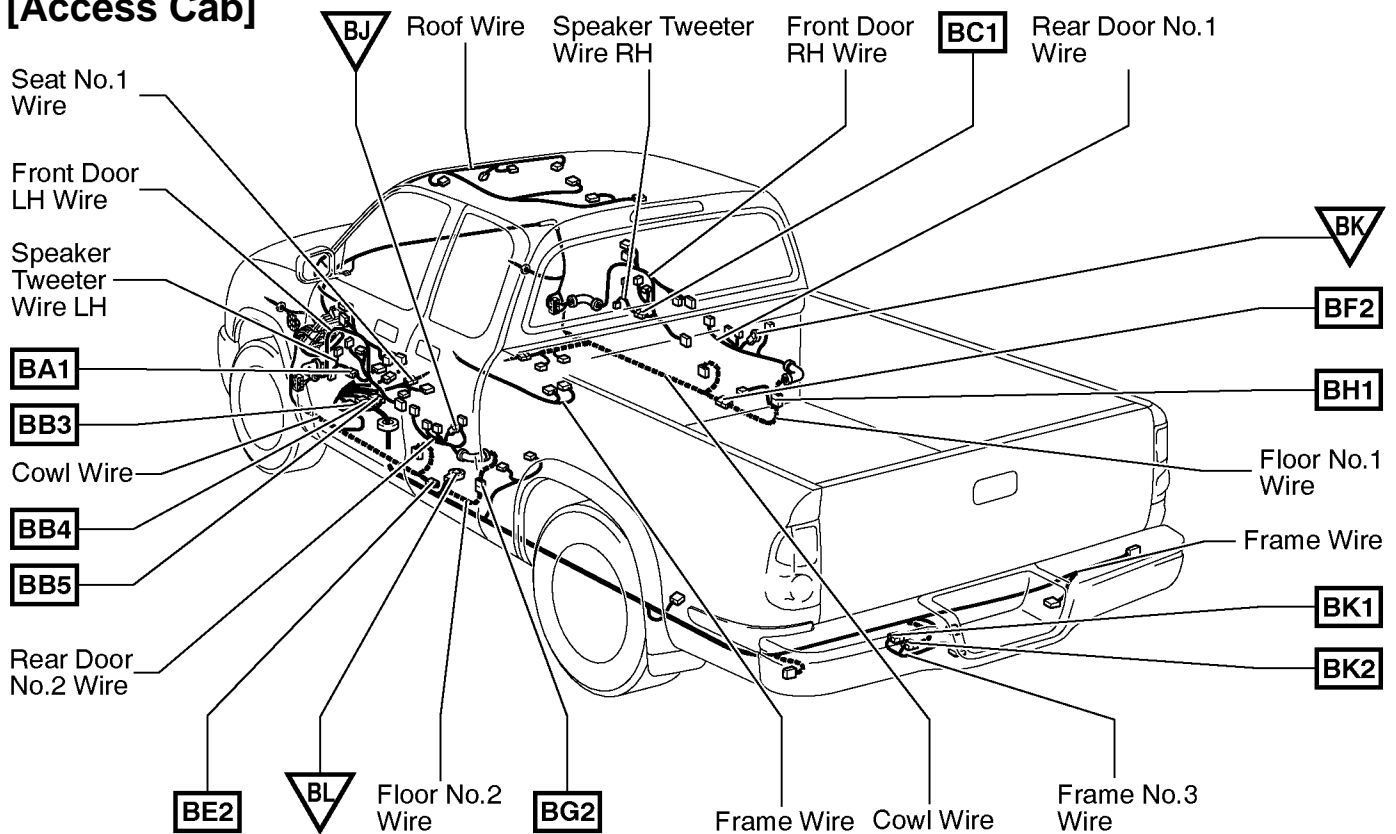
Code	Joining Wire Harness and Wire Harness (Connector Location)
IE1	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IE4	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IF3	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IF4	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IG1	Cowl Wire and Instrument Panel No.2 Wire (Instrument Panel Brace RH)
IH1	Cowl Wire and Floor No.3 Wire (Instrument Panel Brace RH)
IJ1	Cowl Wire and Cowl Wire (Right Side of Instrument Panel)

# G ELECTRICAL WIRING ROUTING

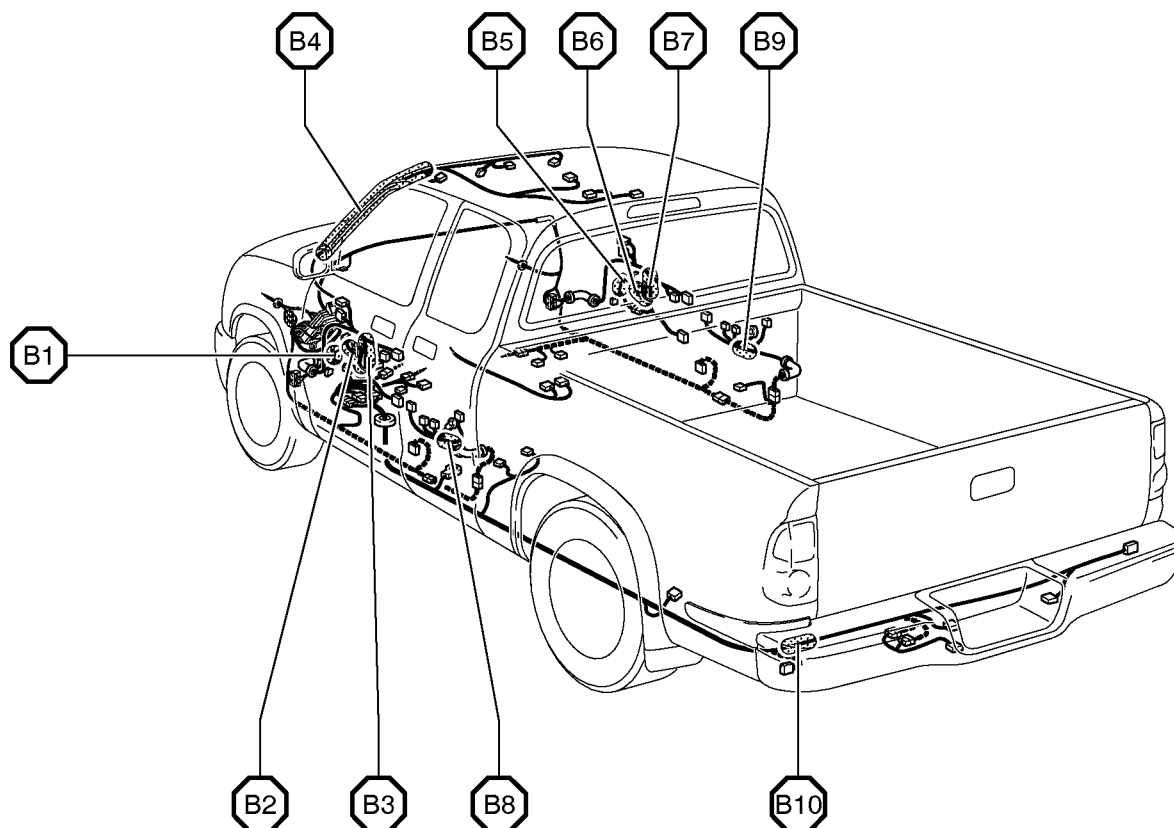
□ : Location of Connector Joining Wire Harness and Wire Harness

▽ : Location of Ground Points

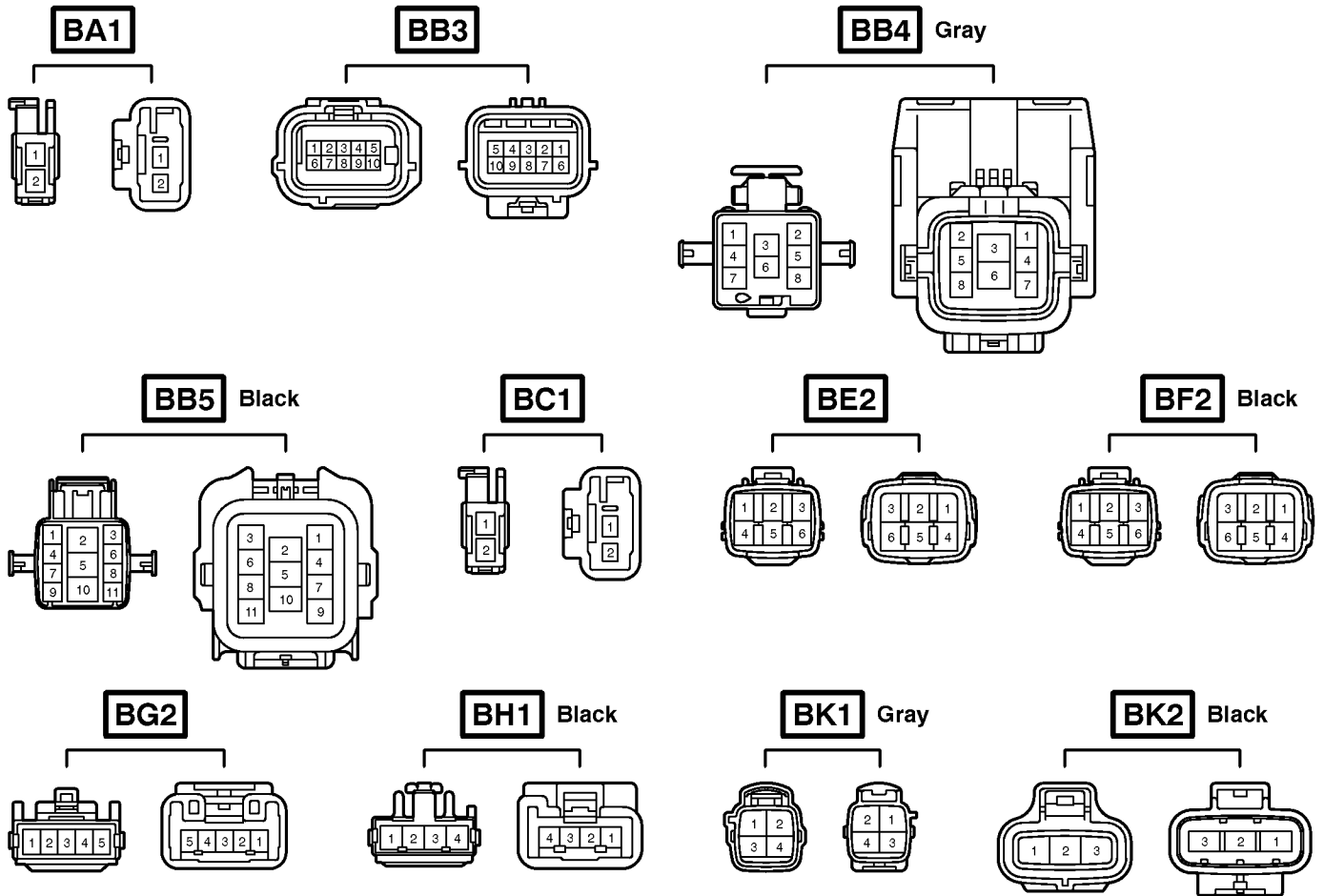
## [Access Cab]



○ : Location of Splice Points



## Connector Joining Wire Harness and Wire Harness

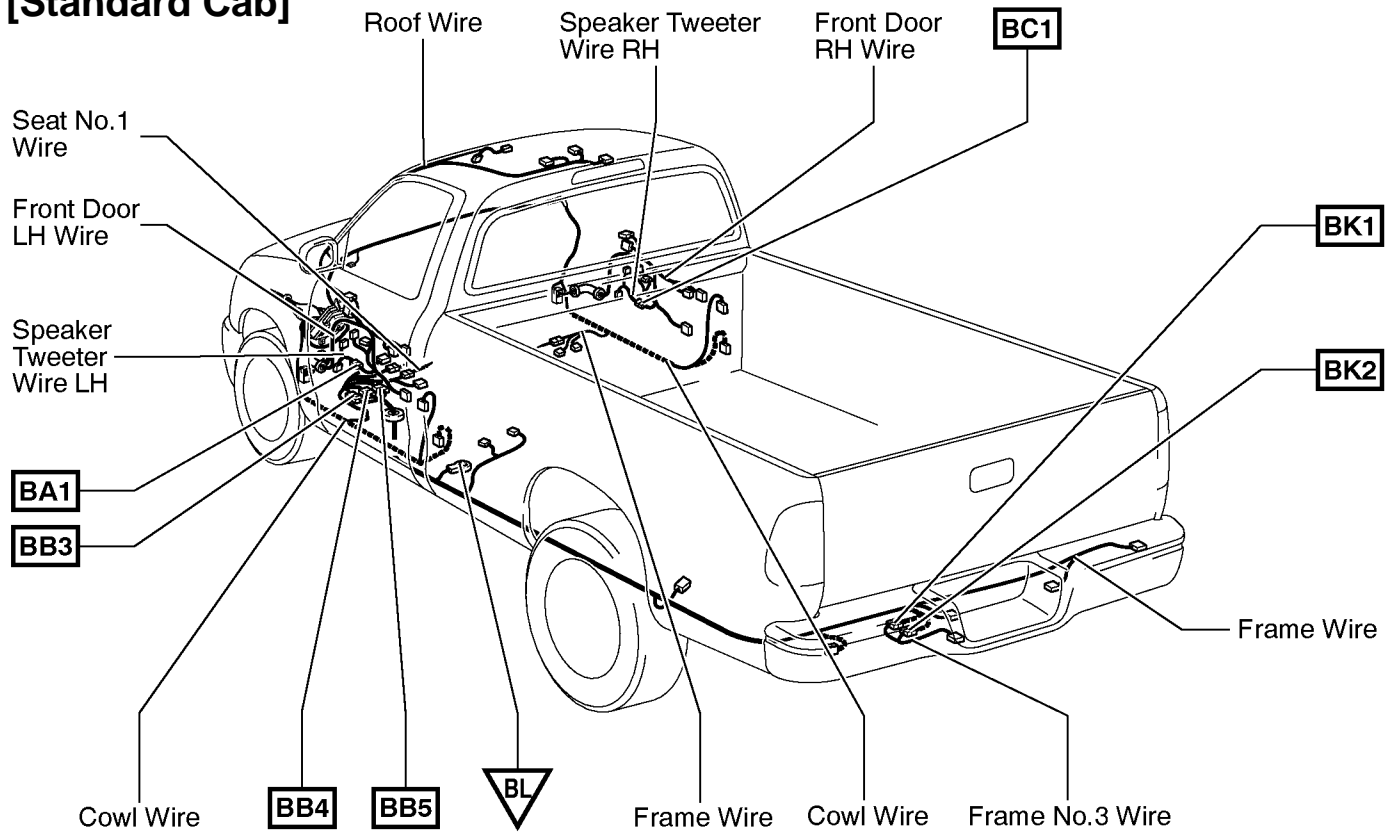


Code	Joining Wire Harness and Wire Harness (Connector Location)
BA1	Front Door LH Wire and Speaker Tweeter Wire LH (Inside of Front Door LH)
BB3	
BB4	Frame Wire and Cowl Wire (Under the Driver's Seat)
BB5	
BC1	Front Door RH Wire and Speaker Tweeter Wire RH (Inside of Front Door RH)
BE2	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BF2	Floor No.1 Wire and Cowl Wire (Center of Right Rocker Panel)
BG2	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)
BH1	Floor No.1 Wire and Rear Door No.1 Wire (Under the Right Quarter Panel)
BK1	
BK2	Frame Wire and Frame No.3 Wire (Near the License Plate Light)

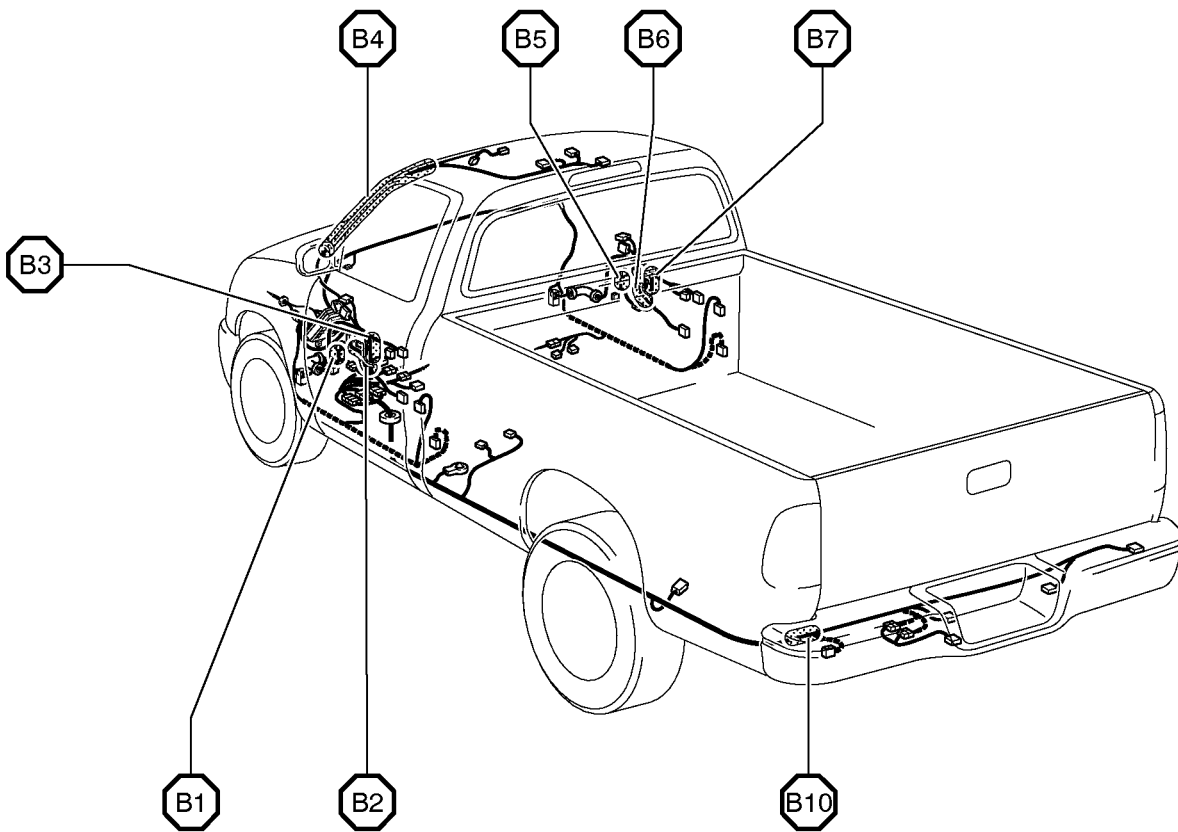
# G ELECTRICAL WIRING ROUTING

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

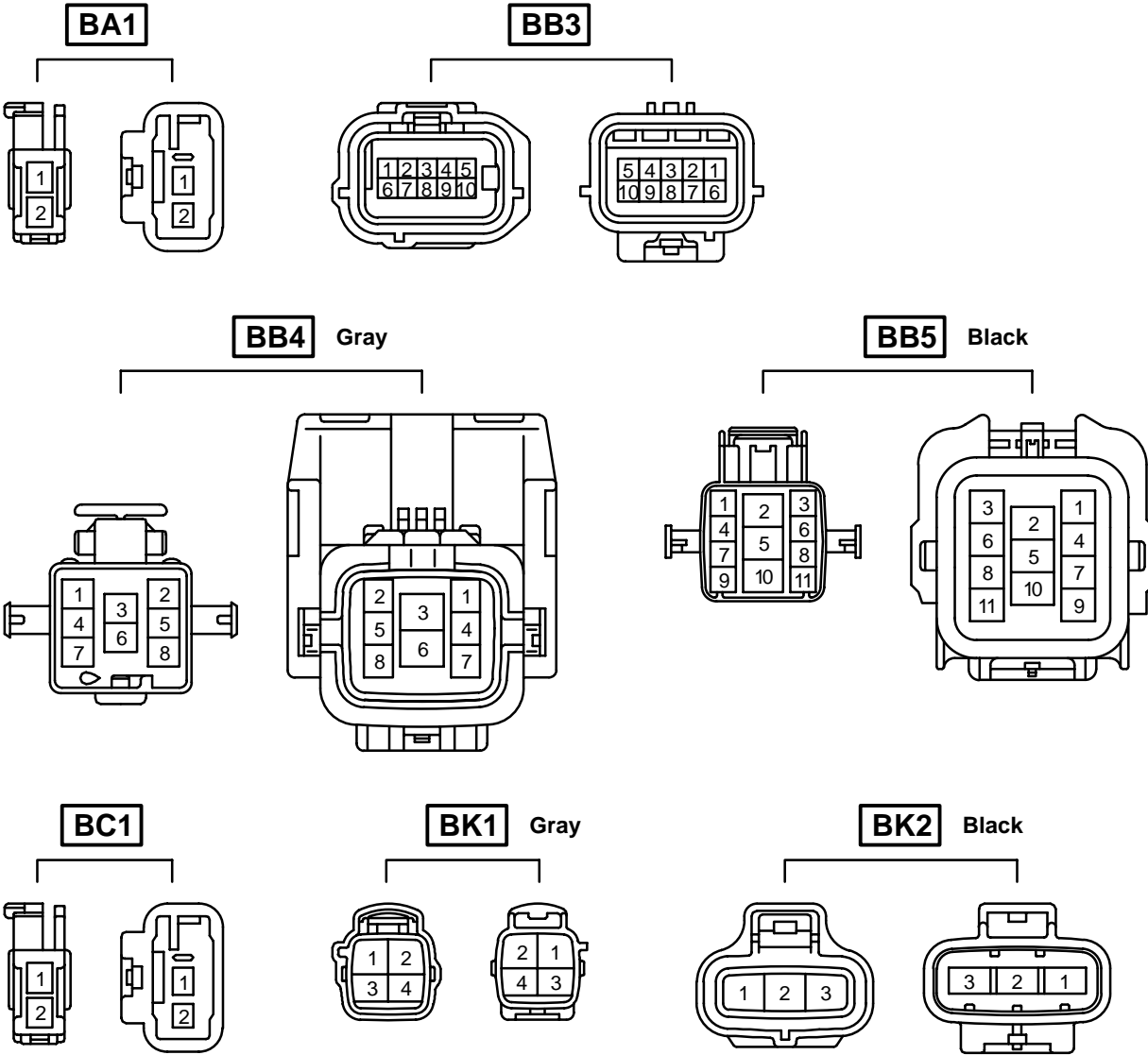
## [Standard Cab]



○ : Location of Splice Points



## Connector Joining Wire Harness and Wire Harness



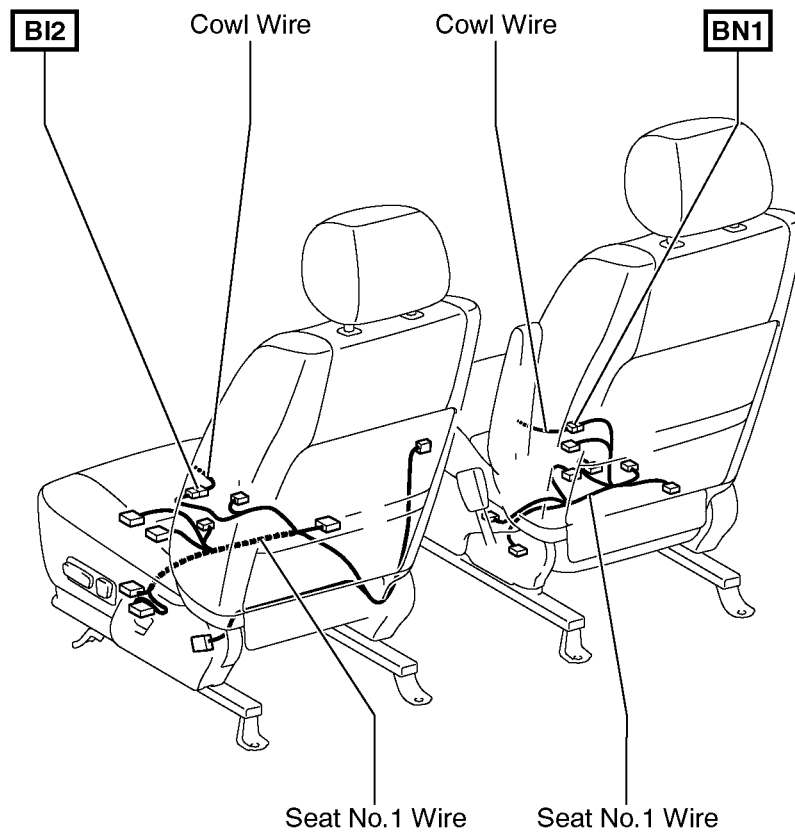
Code	Joining Wire Harness and Wire Harness (Connector Location)
BA1	Front Door LH Wire and Speaker Tweeter Wire LH (Inside of Front Door LH)
BB3	
BB4	Frame Wire and Cowl Wire (Under the Driver's Seat)
BB5	
BC1	Front Door RH Wire and Speaker Tweeter Wire RH (Inside of Front Door RH)
BK1	
BK2	Frame Wire and Frame No.3 Wire (Near the License Plate Light)



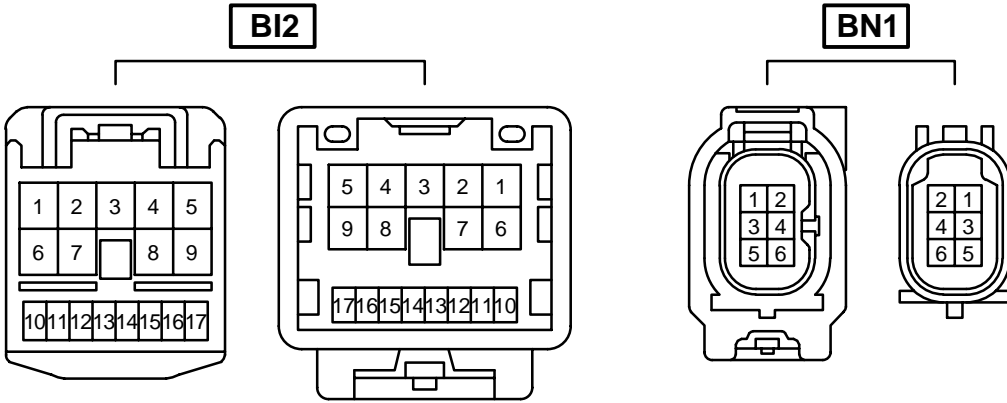
## G ELECTRICAL WIRING ROUTING

□ : Location of Connector Joining Wire Harness and Wire Harness

[Access Cab : Captain Seat]



## Connector Joining Wire Harness and Wire Harness

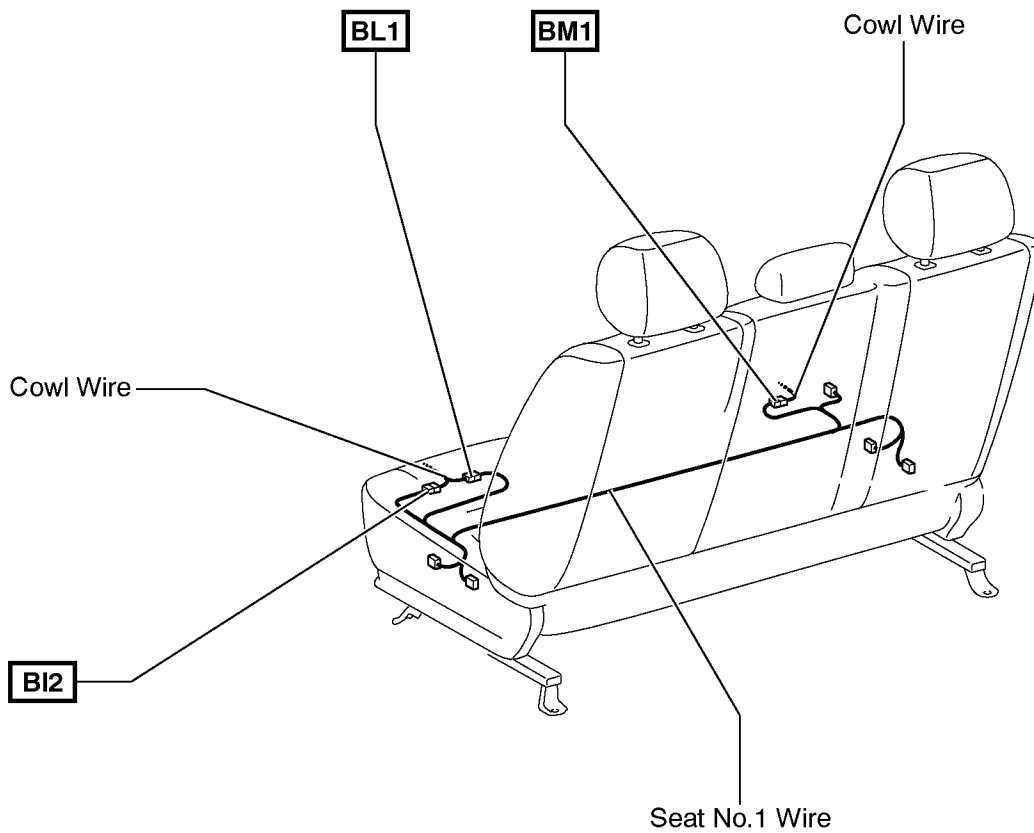


Code	Joining Wire Harness and Wire Harness (Connector Location)
B12	Cowl Wire and Seat No.1 Wire (Under the Driver's Seat)
BN1	Seat No.1 Wire and Cowl Wire (Under the Passenger's Seat)

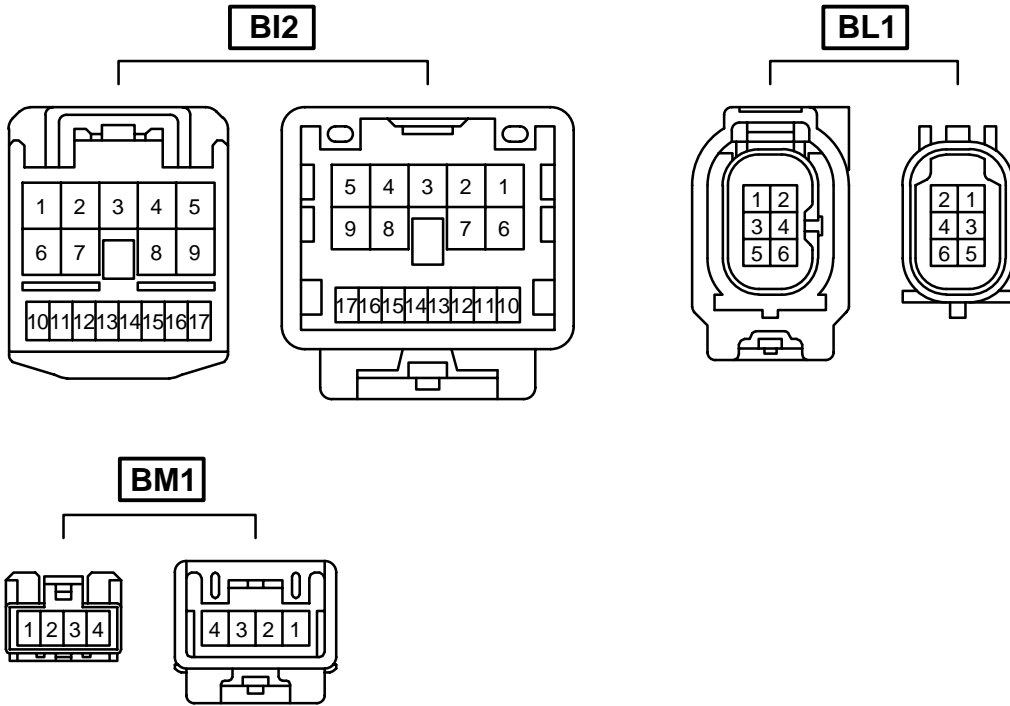
## G ELECTRICAL WIRING ROUTING

□ : Location of Connector Joining Wire Harness and Wire Harness

[Standard Cab : Bench Seat]



## Connector Joining Wire Harness and Wire Harness

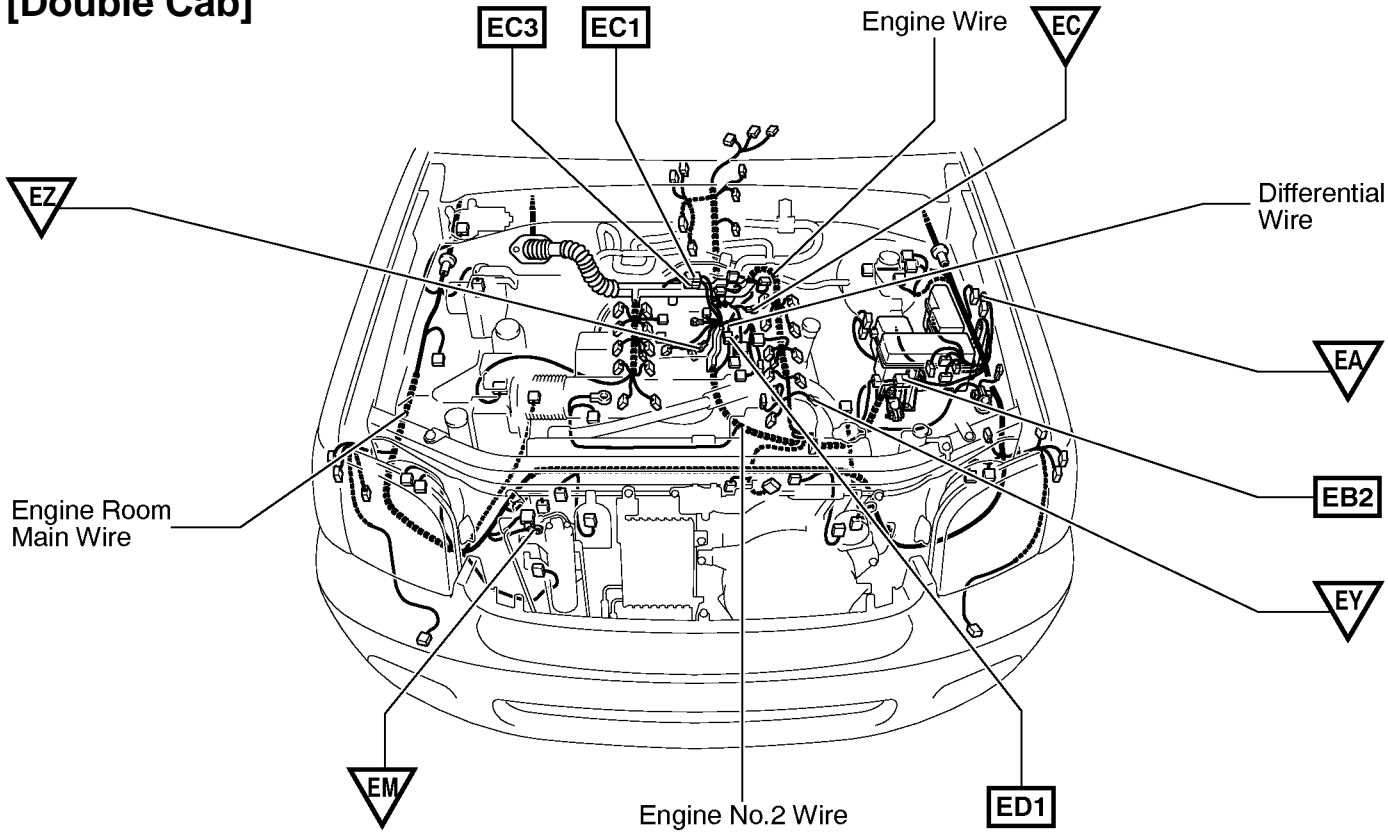


Code	Joining Wire Harness and Wire Harness (Connector Location)
BI2	Cowl Wire and Seat No.1 Wire (Under the Driver's Seat)
BL1	Seat No.1 Wire and Cowl Wire (Under the Driver's Seat)
BM1	Cowl Wire and Seat No.1 Wire (Under the Passenger's Seat)

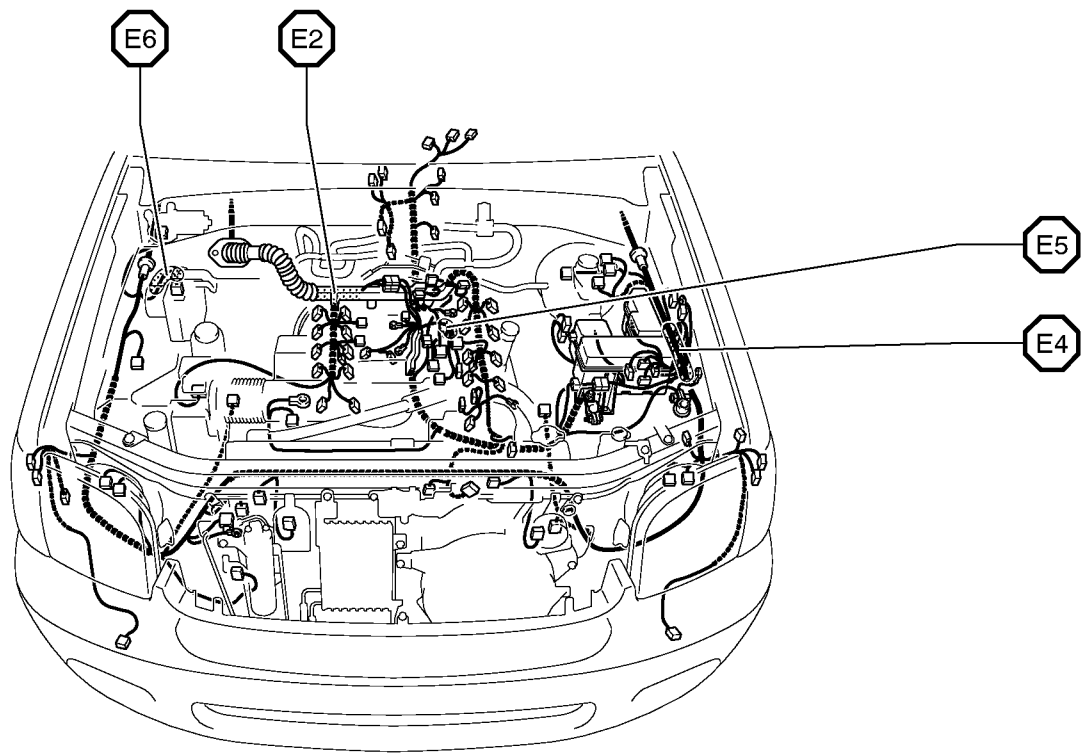
# G ELECTRICAL WIRING ROUTING

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

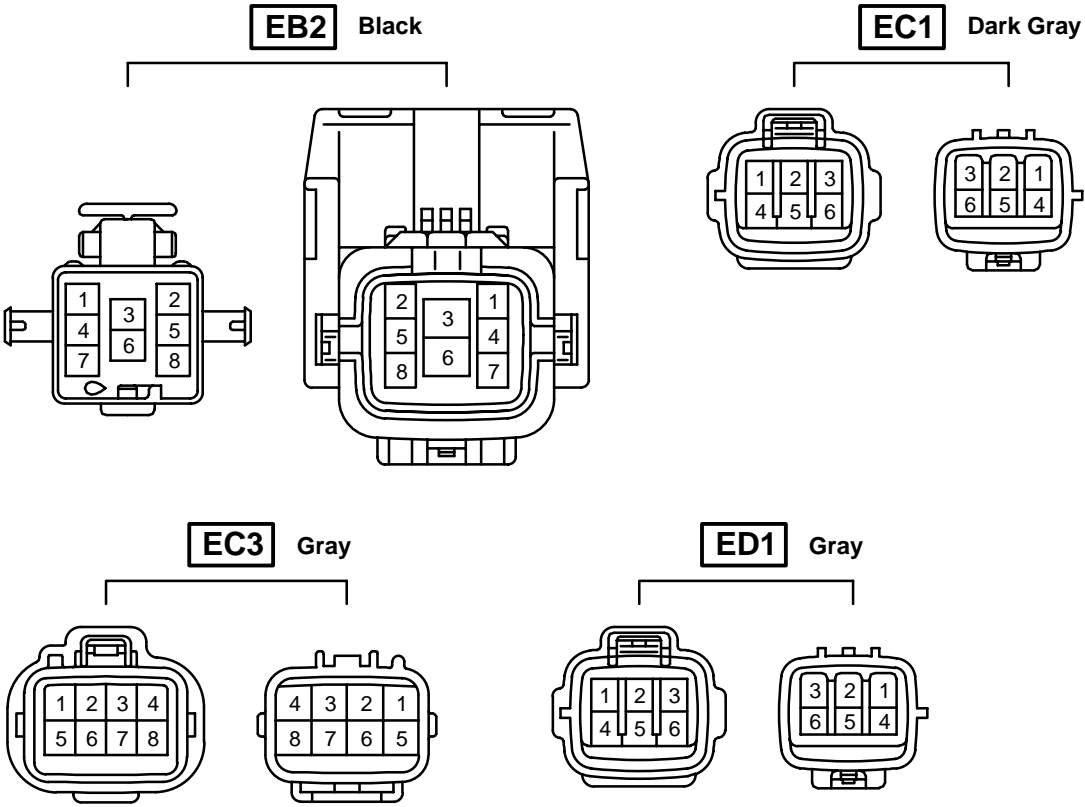
[Double Cab]



○ : Location of Splice Points



## Connector Joining Wire Harness and Wire Harness

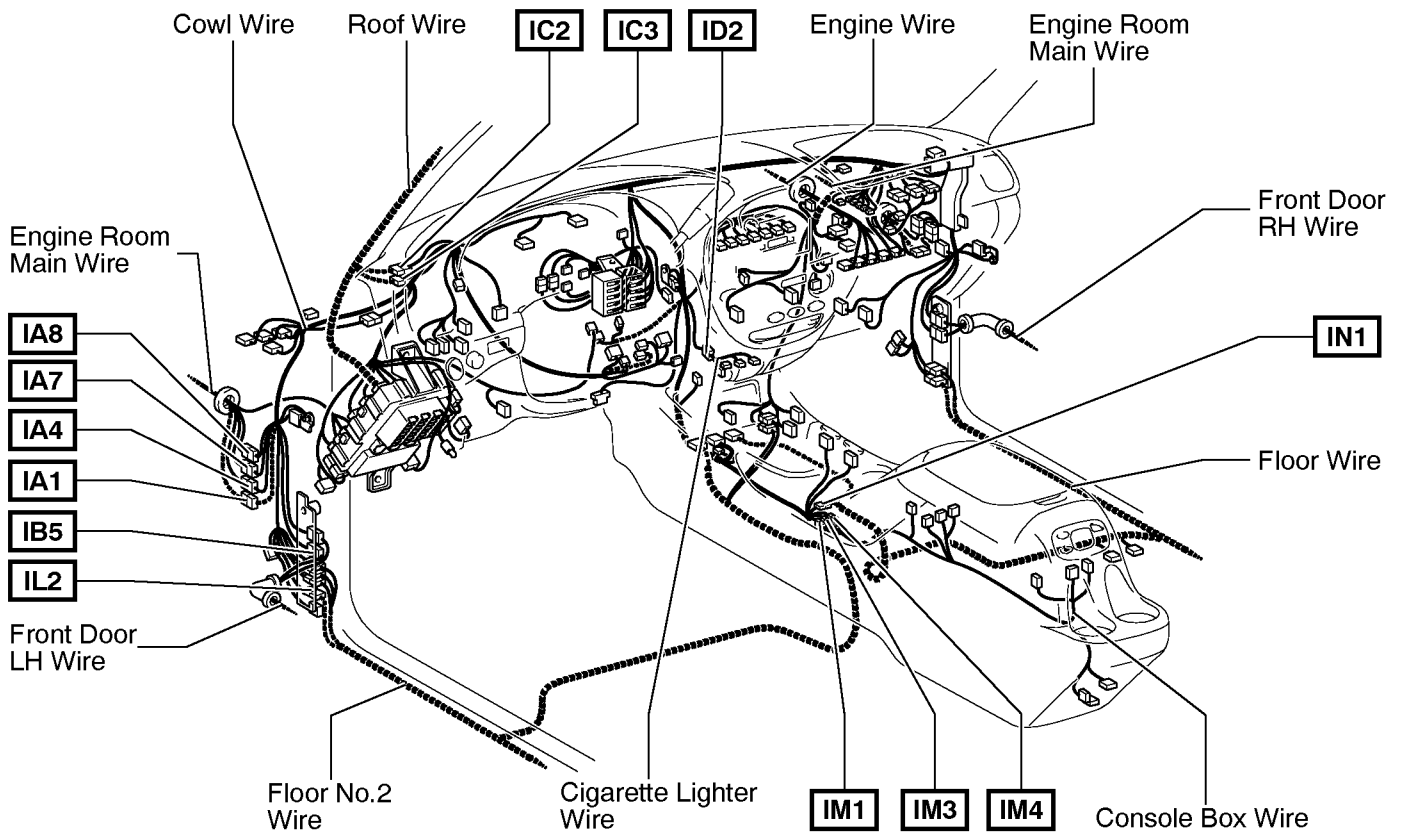


Code	Joining Wire Harness and Wire Harness (Connector Location)
EB2	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
EC1	Engine No.2 Wire and Engine Wire (Near the Starter)
EC3	Engine No.2 Wire and Engine Wire (Near the Starter)
ED1	Engine No.2 Wire and Differential Wire (Near the Transmission)

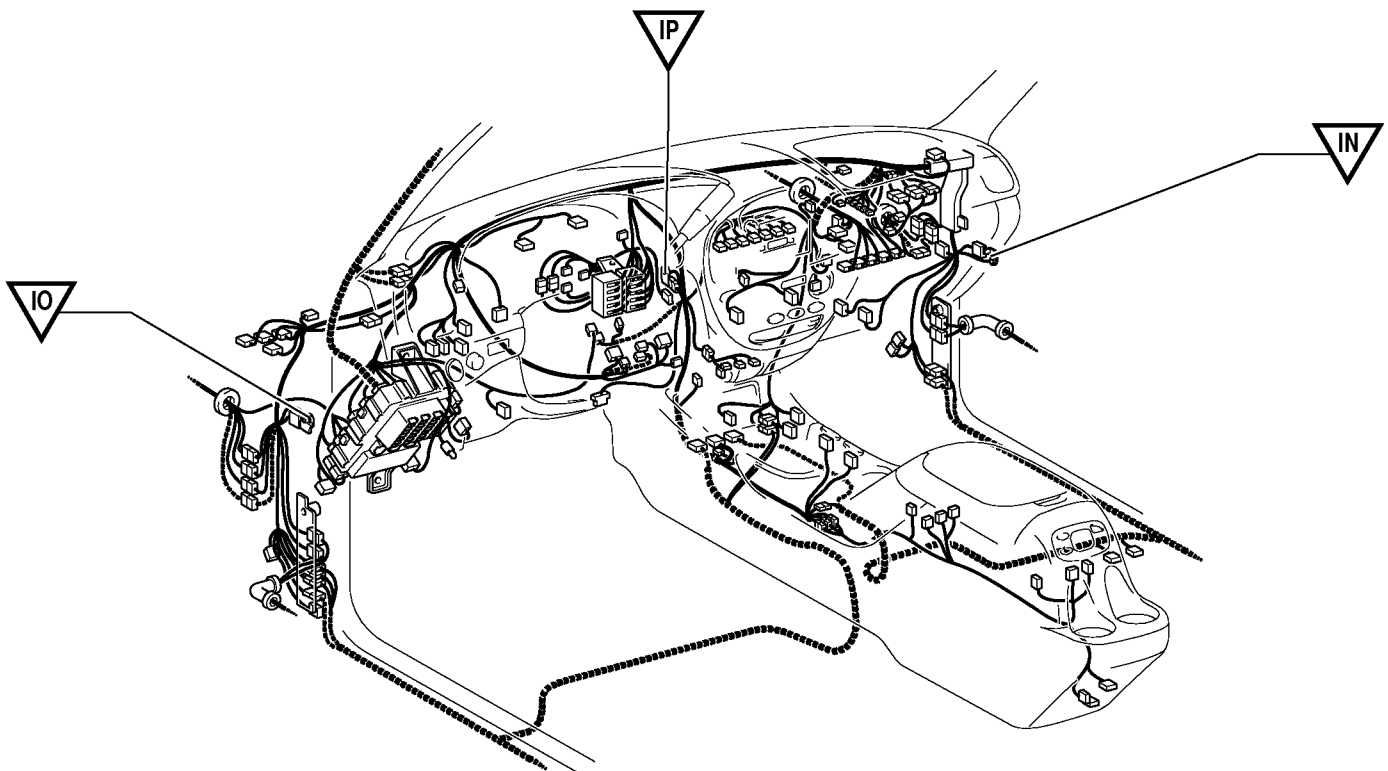
# G ELECTRICAL WIRING ROUTING

**□** : Location of Connector Joining Wire Harness and Wire Harness

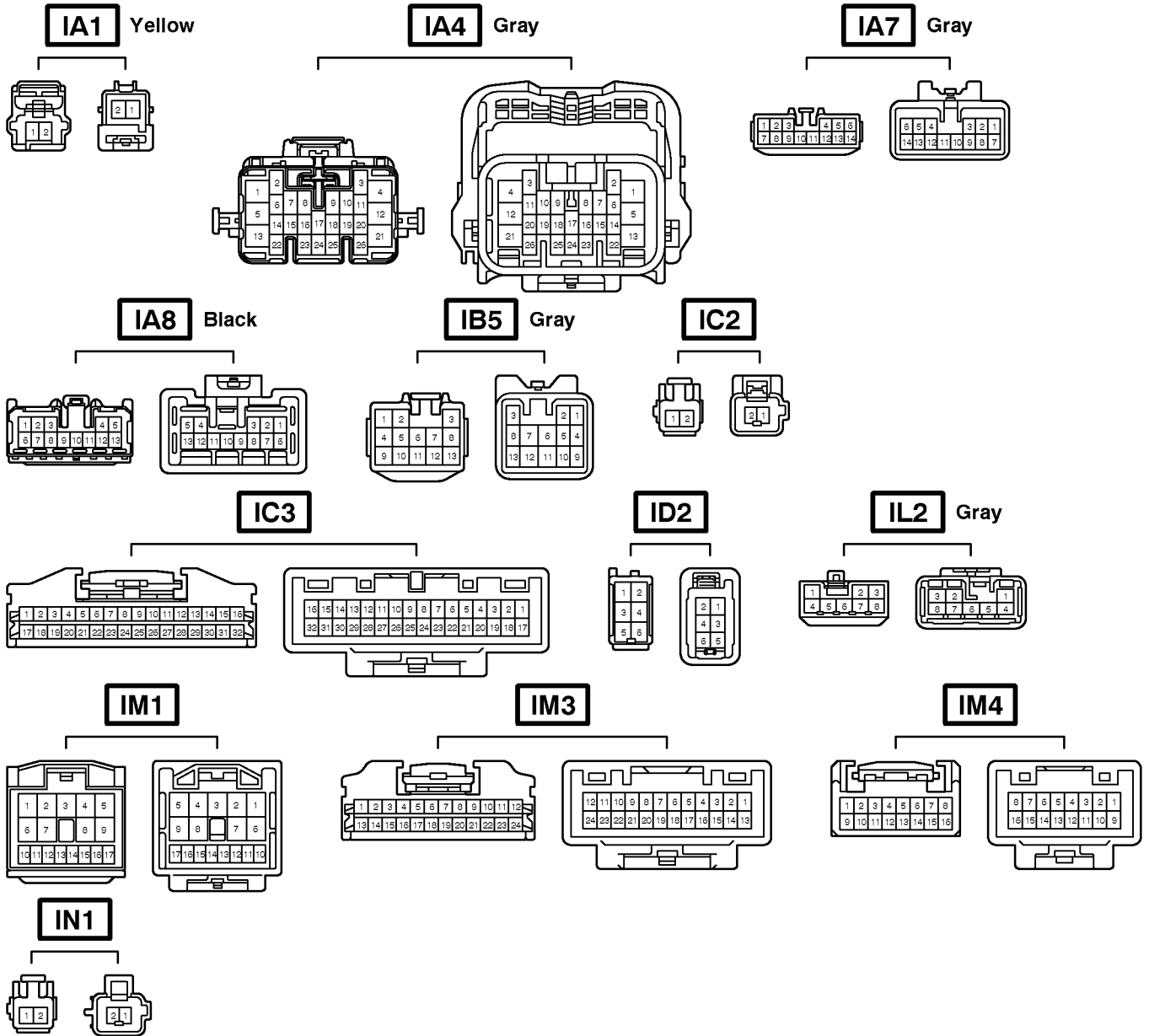
**[Double Cab]**



**▽** : Location of Ground Points



# Connector Joining Wire Harness and Wire Harness



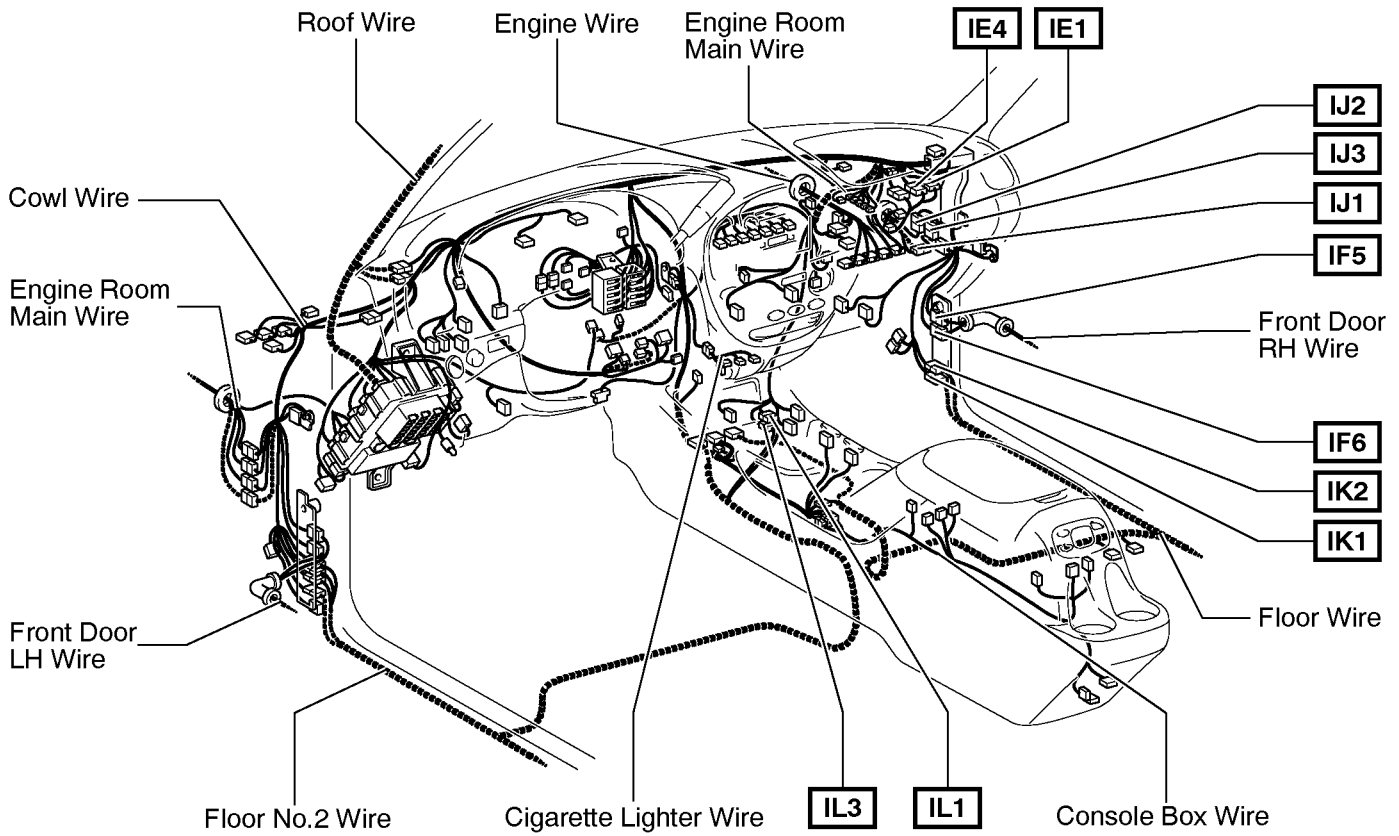
Code	Joining Wire Harness and Wire Harness (Connector Location)
IA1	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA4	
IA7	
IA8	
IB5	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC2	Cowl Wire and Roof Wire (Left Side of Instrument Panel)
IC3	
ID2	Cigarette Lighter Wire and Cowl Wire (Instrument Panel Brace LH)
IL2	Floor No.2 Wire and Cowl Wire (Right Kick Panel)
IM1	Console Box Wire and Cowl Wire (Rear Console)
IM3	
IM4	
IN1	Cowl Wire and Floor Wire (Rear Console)



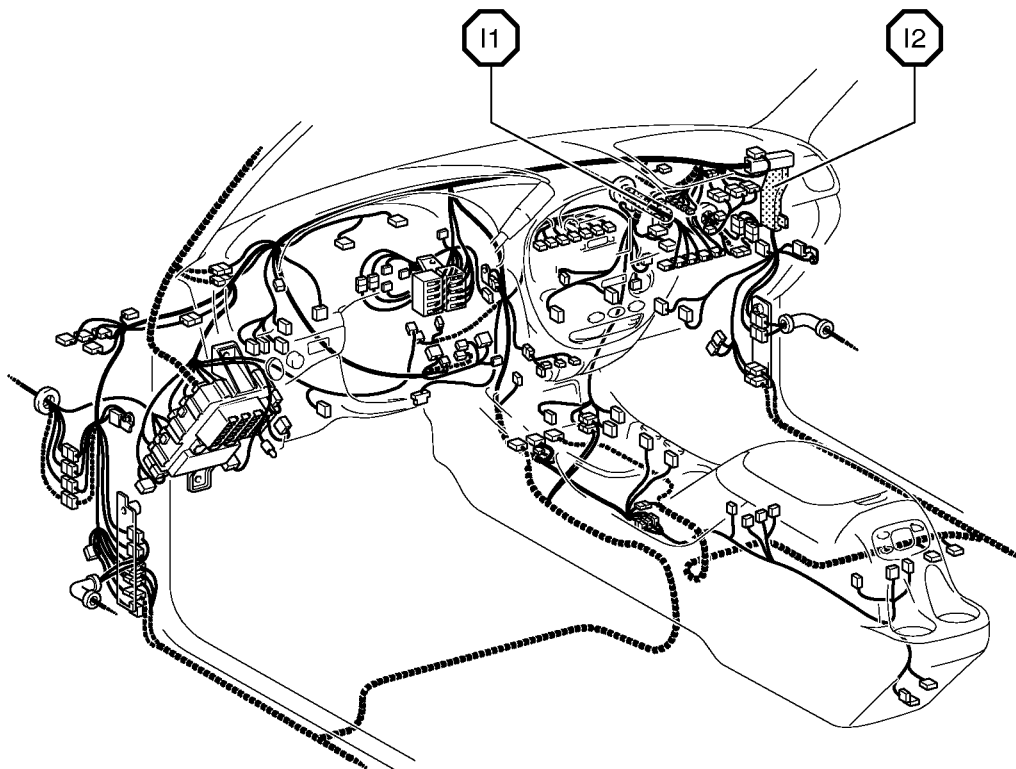
# G ELECTRICAL WIRING ROUTING

□ : Location of Connector Joining Wire Harness and Wire Harness

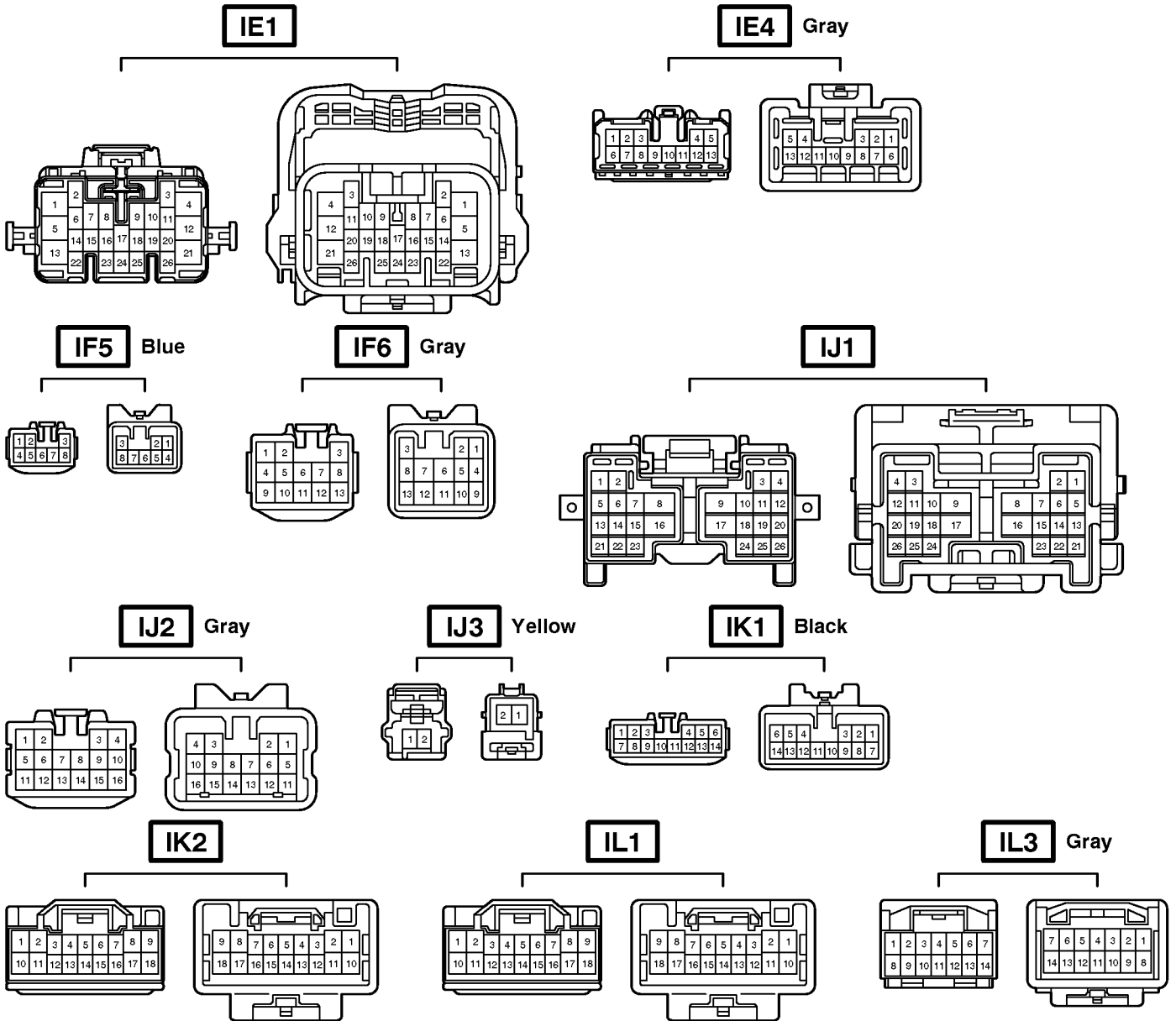
[Double Cab]



○ : Location of Splice Points



# Connector Joining Wire Harness and Wire Harness

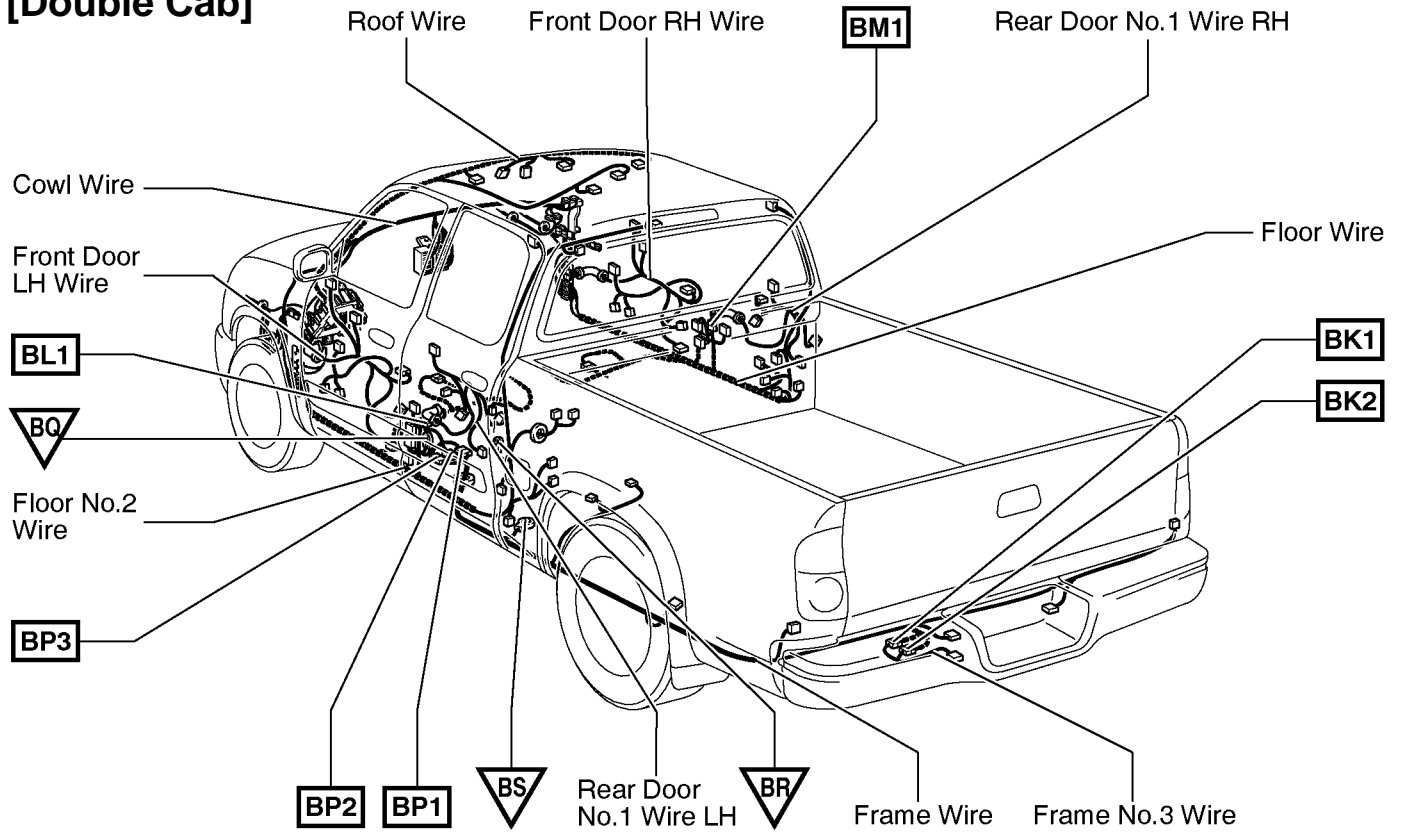


Code	Joining Wire Harness and Wire Harness (Connector Location)
IE1	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IE4	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IF5	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IF6	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IJ1	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)
IJ2	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)
IJ3	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)
IK1	Floor Wire and Cowl Wire (Right Kick Panel)
IK2	Floor Wire and Cowl Wire (Right Kick Panel)
IL1	Floor No.2 Wire and Cowl Wire (Instrument Panel Brace RH)
IL3	Floor No.2 Wire and Cowl Wire (Instrument Panel Brace RH)

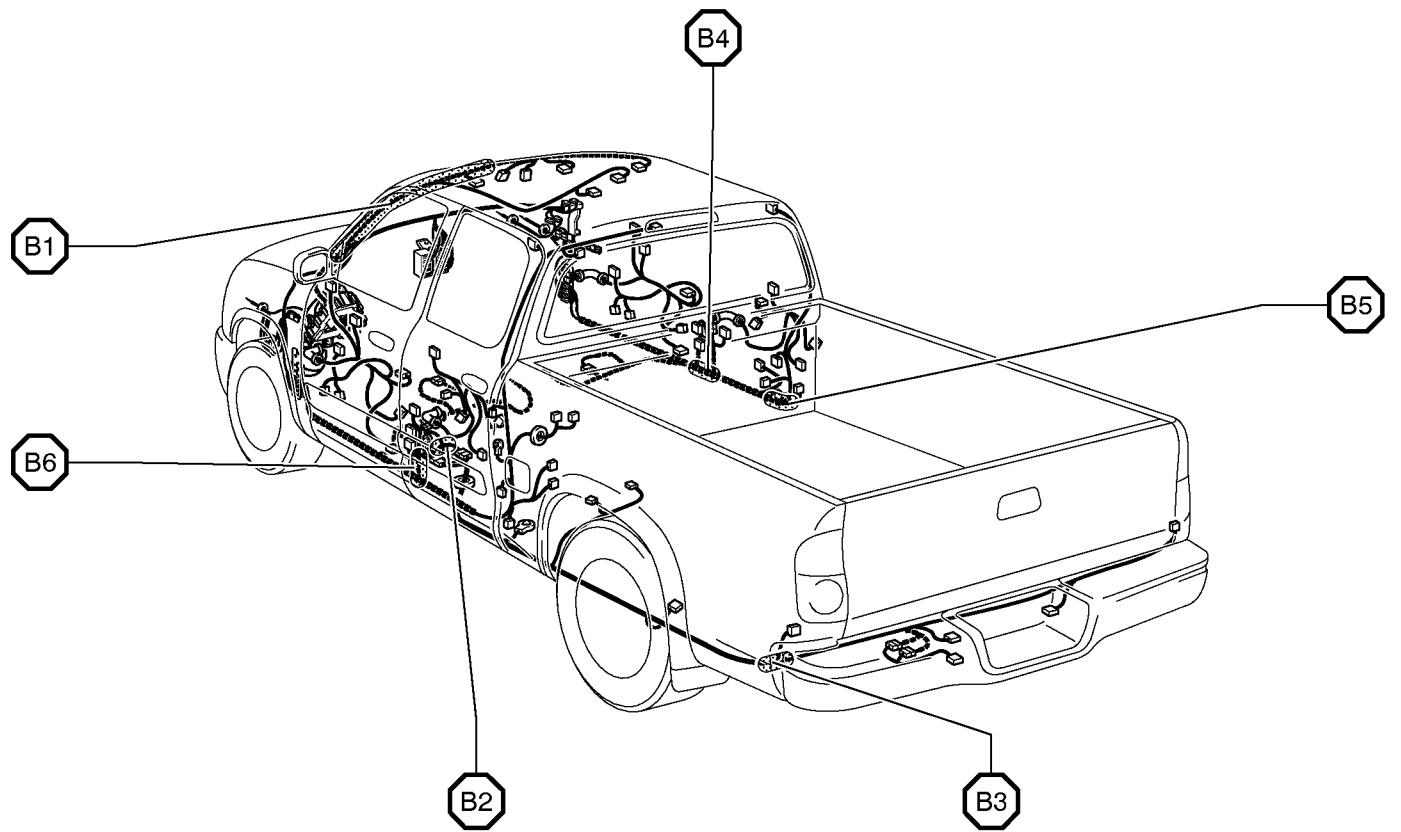
# G ELECTRICAL WIRING ROUTING

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

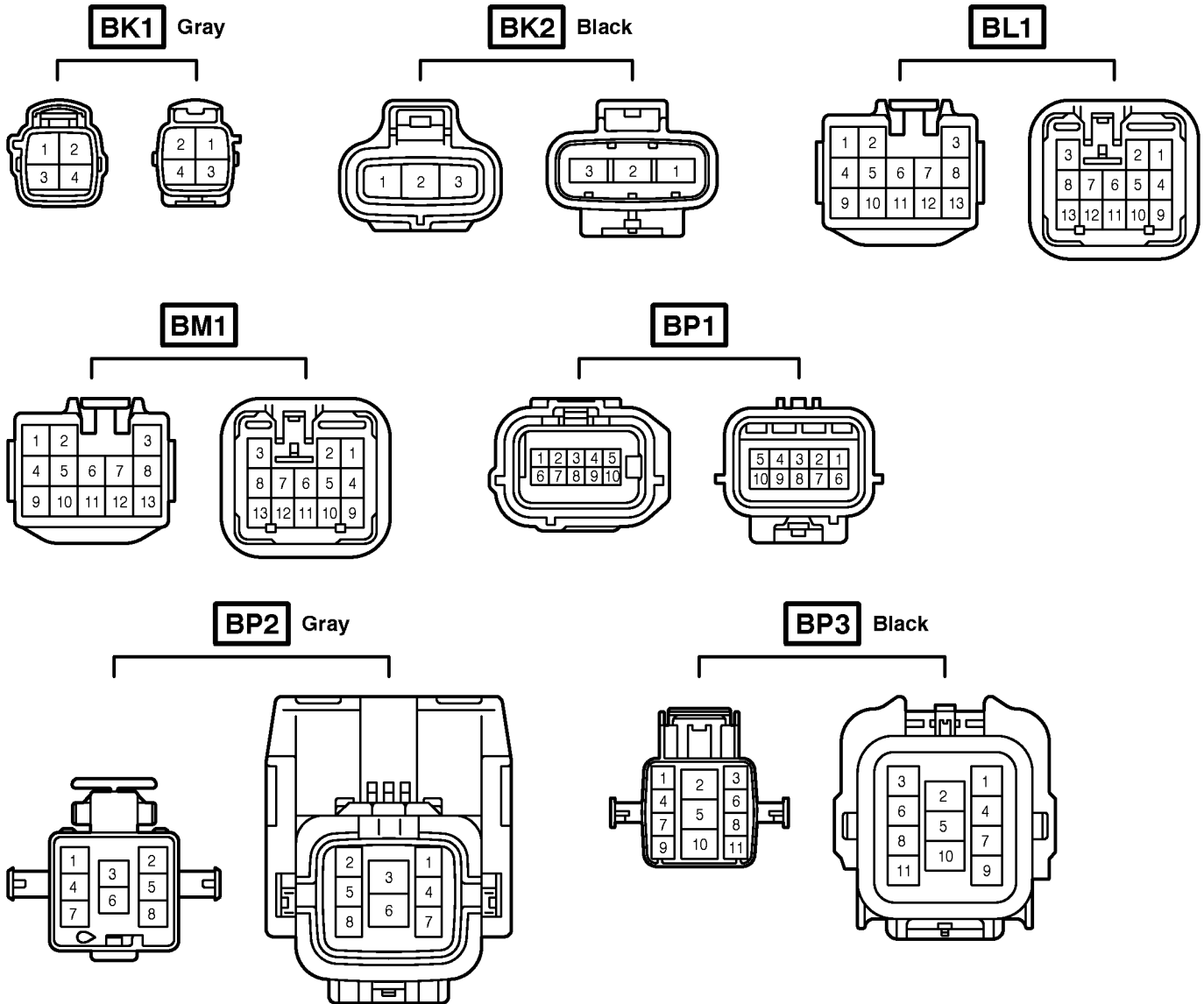
[Double Cab]



○ : Location of Splice Points



## Connector Joining Wire Harness and Wire Harness

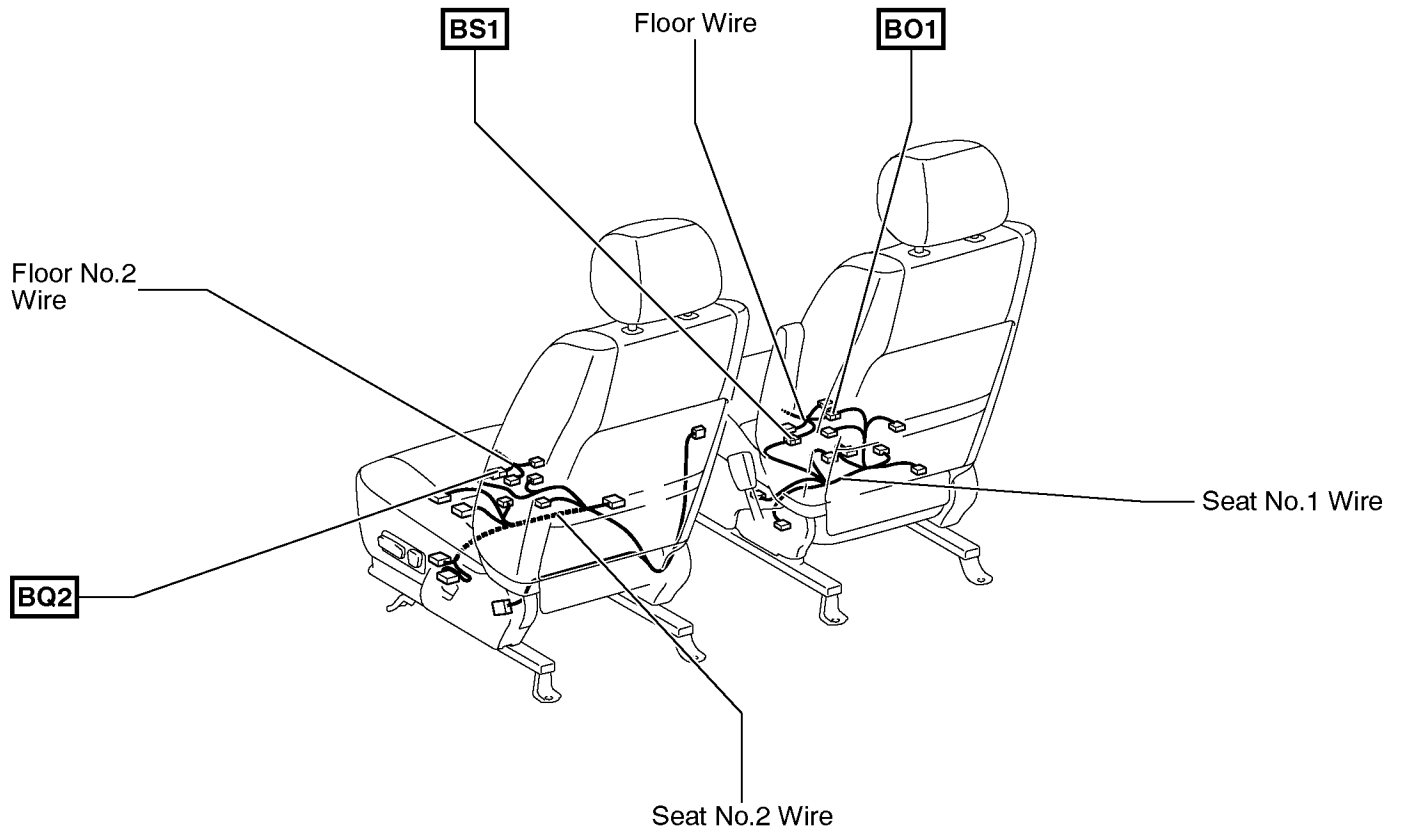


Code	Joining Wire Harness and Wire Harness (Connector Location)
BK1	Frame Wire and Frame No.3 Wire (Near the License Plate Light)
BK2	
BL1	Rear Door No.1 Wire LH and Floor No.2 Wire (Left Side of Center Pillar)
BM1	Rear Door No.1 Wire RH and Floor Wire (Right Side of Center Pillar)
BP1	Frame Wire and Floor No.2 Wire (Under the Driver's Seat)
BP2	
BP3	

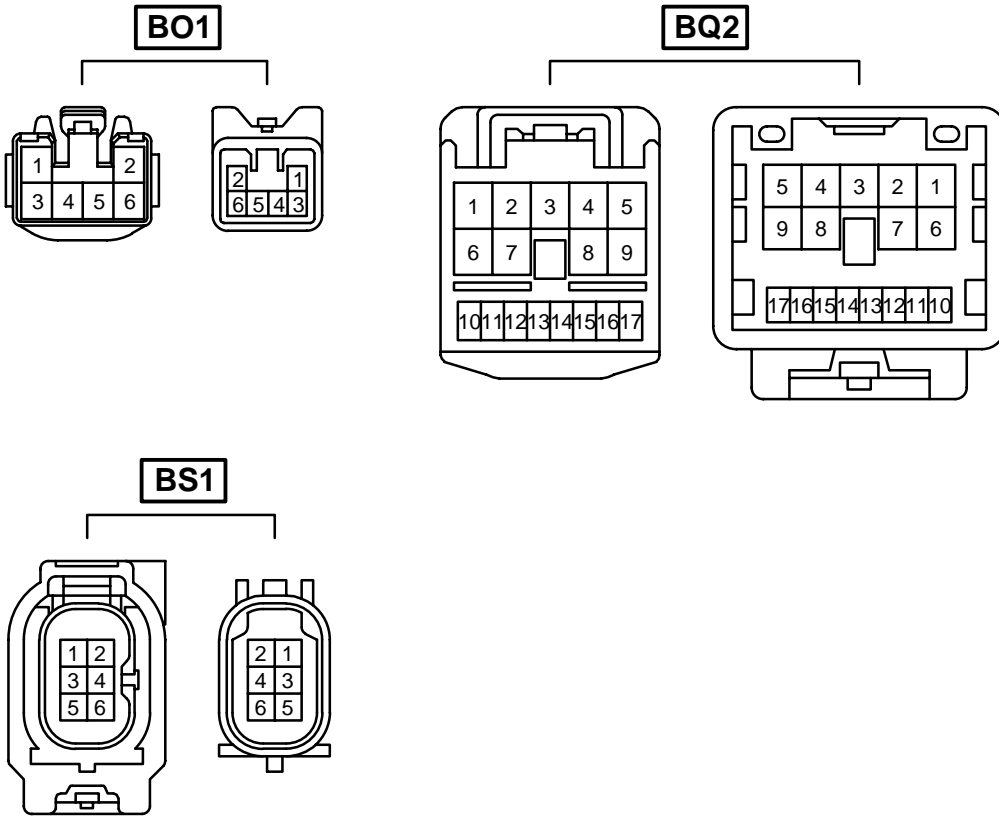
# G ELECTRICAL WIRING ROUTING

**□** : Location of Connector Joining Wire Harness and Wire Harness

**[Double Cab]**



## Connector Joining Wire Harness and Wire Harness

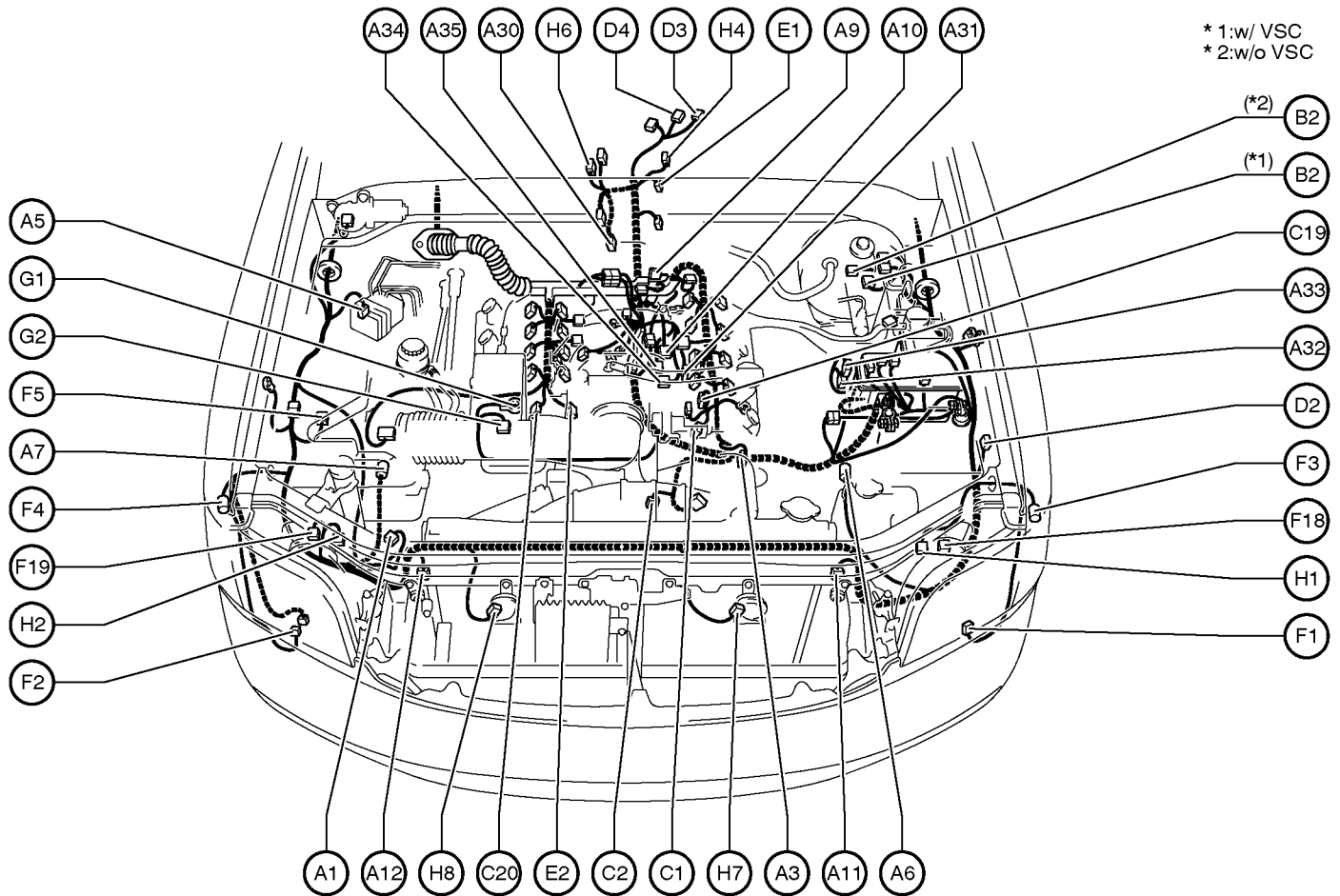


Code	Joining Wire Harness and Wire Harness (Connector Location)
BO1	Floor Wire and Seat No.1 Wire (Under the Front Passenger's Seat)
BQ2	Floor No.2 Wire and Seat No.2 Wire (Under the Driver's Seat)
BS1	Seat No.1 Wire and Floor Wire (Under the Front Passenger's Seat)

# G ELECTRICAL WIRING ROUTING

## Position of Parts in Engine Compartment

[Access Cab, Standard Cab : 2UZ-FE]



\* 1:w/ VSC  
\* 2:w/o VSC

- A 1 Pressure SW
- A 3 A/C Magnetic Clutch and Lock Sensor
- A 5 ABS Actuator with ECU
- A 6 ABS Speed Sensor Front LH
- A 7 ABS Speed Sensor Front RH
- A 9 ADD Actuator
- A10 Air Fuel Ratio Sensor (Bank 1 Sensor 1)
- A11 Airbag Sensor Front LH
- A12 Airbag Sensor Front RH
- A30 Air Fuel Ratio Sensor (Bank 2 Sensor 1)
- A31 Air Switching Valve
- A32 Air Injection Control Driver
- A33 Air Injection Control Driver
- A34 Air Pressure Sensor
- A35 Air Pump

- B 2 Brake Fluid Level Warning SW

- C 1 Camshaft Position Sensor
- C 2 Crankshaft Position Sensor
- C19 Camshaft Timing Oil Control Valve LH
- C20 Camshaft Timing Oil Control Valve RH

- D 2 Daytime Running Light Resistor
- D 3 Detection SW (Transfer 4WD Position)
- D 4 Detection SW (Transfer L4 Position)

- E 1 Electronically Controlled Transmission Solenoid
- E 2 Engine Coolant Temp. Sensor

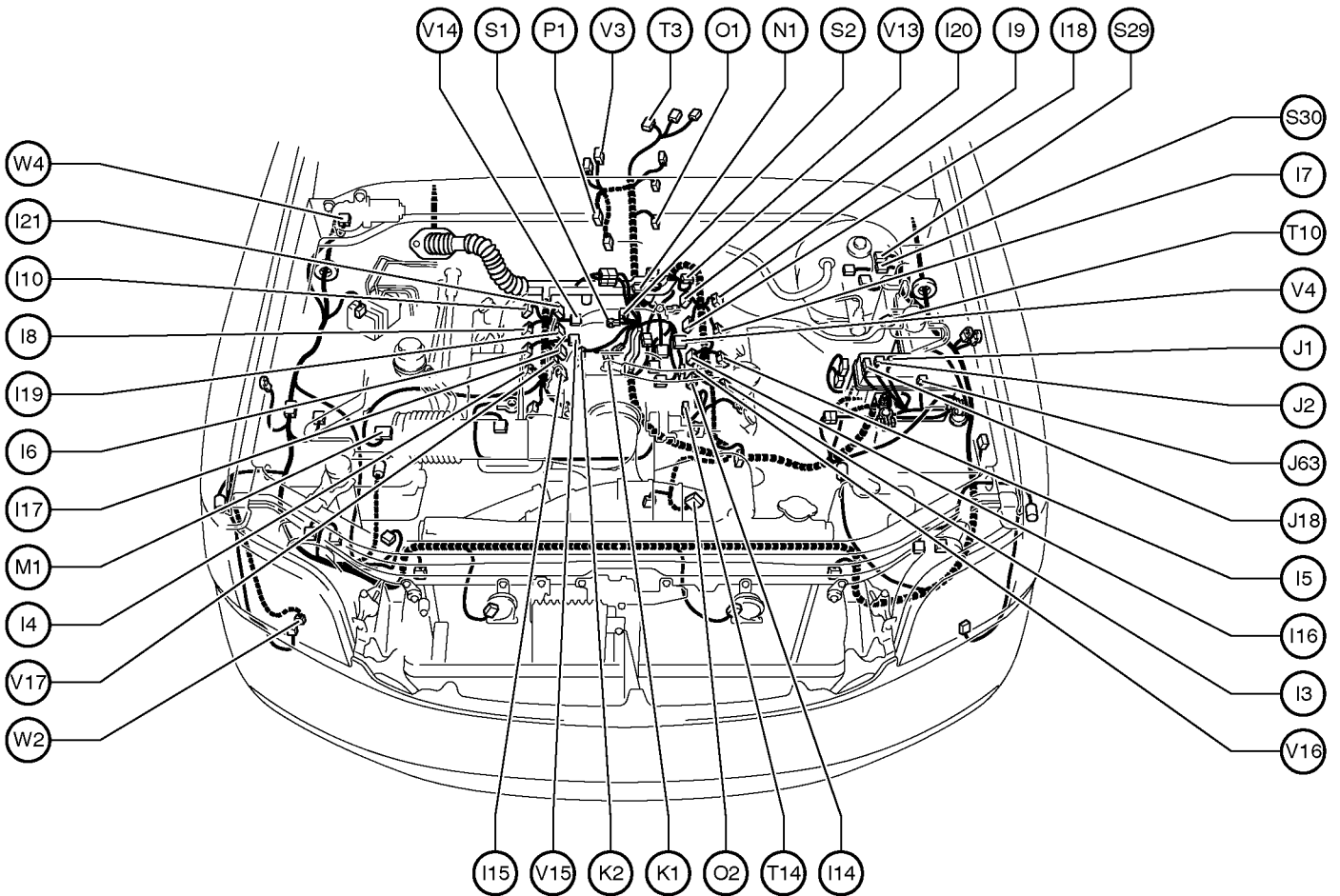
- F 1 Front Fog Light LH
- F 2 Front Fog Light RH
- F 3 Front Turn Signal Light and Parking Light LH
- F 4 Front Turn Signal Light and Parking Light RH
- F 5 Fuel Pump Resistor
- F18 Front Parking Light LH No.3
- F19 Front Parking Light RH No.3

- G 1 Generator
- G 2 Generator

- H 1 Headlight LH
- H 2 Headlight RH
- H 4 Heated Oxygen Sensor (Bank 1 Sensor 2)
- H 6 Heated Oxygen Sensor (Bank 2 Sensor 2)
- H 7 Horn LH
- H 8 Horn RH

## Position of Parts in Engine Compartment

**[Access Cab, Standard Cab : 2UZ-FE]**



I 3 Igniter and Ignition Coil No.1  
 I 4 Igniter and Ignition Coil No.2  
 I 5 Igniter and Ignition Coil No.3  
 I 6 Igniter and Ignition Coil No.4  
 I 7 Igniter and Ignition Coil No.5  
 I 8 Igniter and Ignition Coil No.6  
 I 9 Igniter and Ignition Coil No.7  
 I 10 Igniter and Ignition Coil No.8  
 I 14 Injector No.1  
 I 15 Injector No.2  
 I 16 Injector No.3  
 I 17 Injector No.4  
 I 18 Injector No.5  
 I 19 Injector No.6  
 I 20 Injector No.7  
 I 21 Injector No.8

J 1 Junction Connector  
 J 2 Junction Connector  
 J 18 Junction Connector  
 J 63 Junction Connector

K 1 Knock Sensor (Bank 1)  
 K 2 Knock Sensor (Bank 2)

M 1 Mass Air Flow Meter

N 1 Noise Filter

O 1 O/D Direct Clutch Speed Sensor  
 O 2 Oil Pressure SW

P 1 Park/Neutral Position SW

S 1 Starter  
 S 2 Starter  
 S29 Skid Control ECU with Actuator  
 S30 Skid Control ECU with Actuator

T 3 Transfer Shift Actuator  
 T10 TVIP Buzzer  
 T14 Throttle Control Motor and Throttle Position Sensor

V 3 Vehicle Speed Sensor  
 (Electronically Controlled Transmission)

V 4 VSV (EVAP)  
 V13 VSV (ACIS)  
 V14 VSV (Air Switching Valve Bank 1)  
 V15 VSV (Air Switching Valve Bank 2)  
 V16 VVT Sensor LH  
 V17 VVT Sensor RH

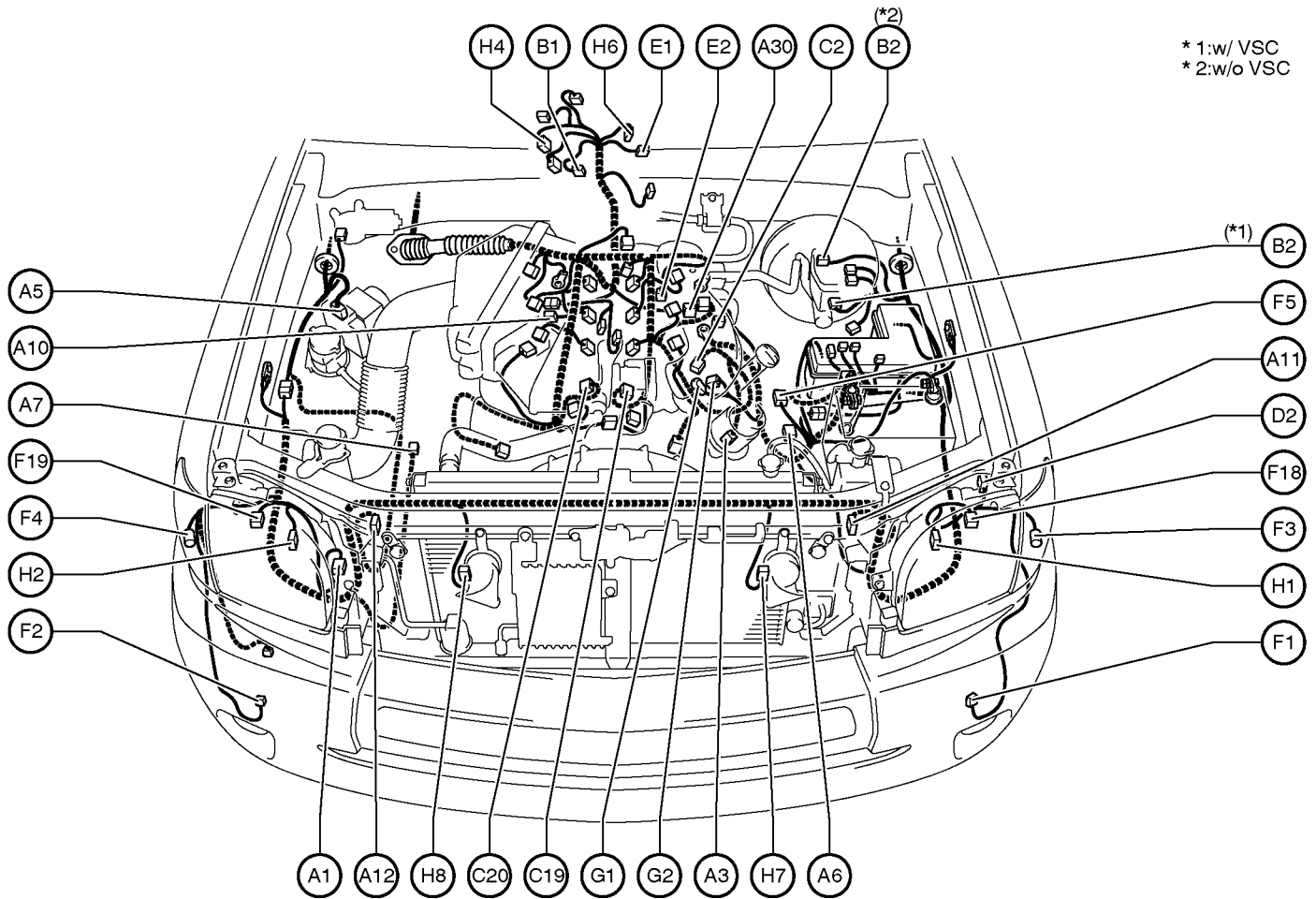
W 2 Washer Motor and Washer Level Sensor  
 W 4 Wiper Motor



# G ELECTRICAL WIRING ROUTING

## Position of Parts in Engine Compartment

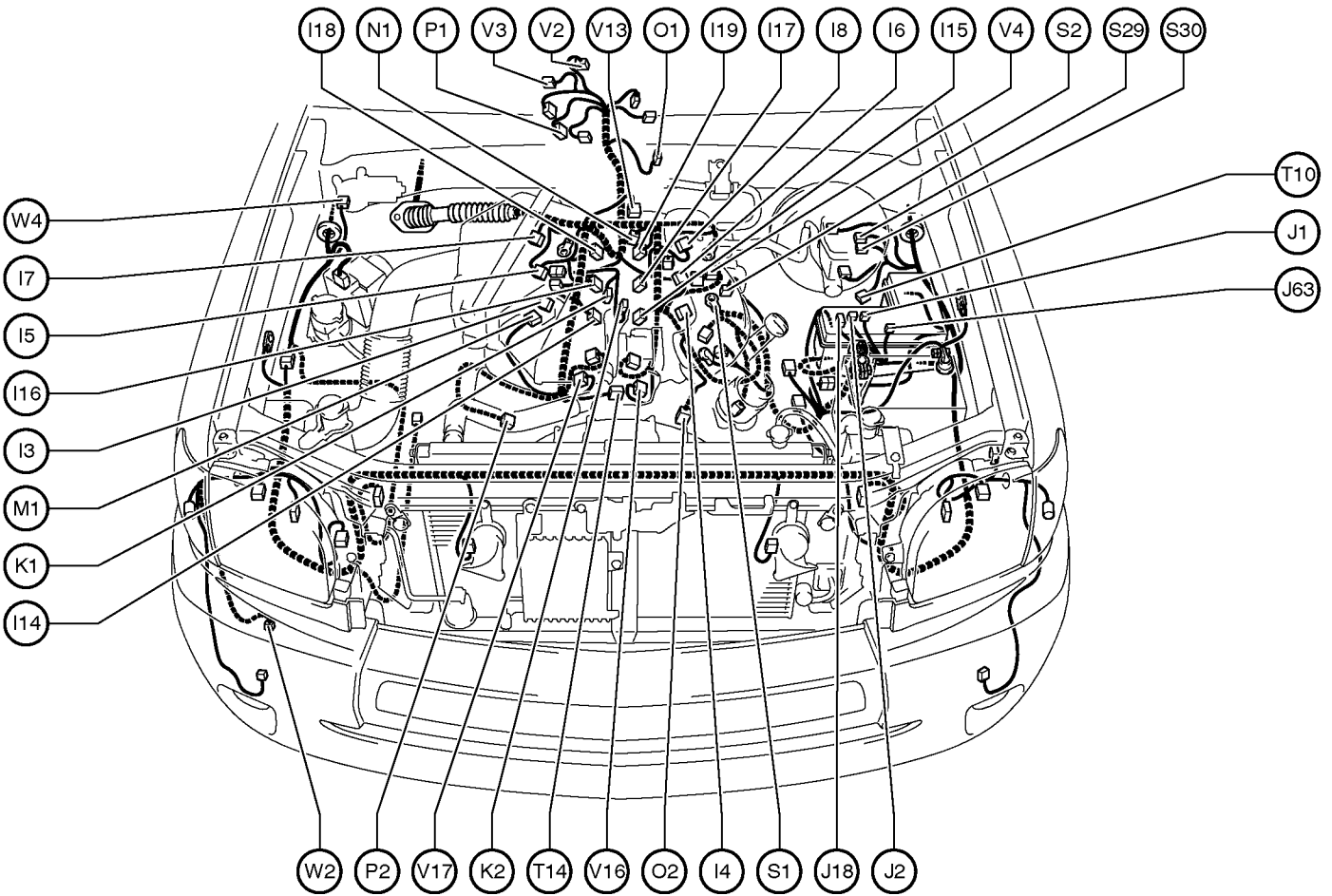
[Access Cab, Standard Cab : 1GR-FE]



- |   |  |
|---|--|
| A 1 Pressure SW                                     | F 1 Front Fog Light LH                           |
| A 3 A/C Magnetic Clutch and Lock Sensor             | F 2 Front Fog Light RH                           |
| A 5 ABS Actuator with ECU                           | F 3 Front Turn Signal Light and Parking Light LH |
| A 6 ABS Speed Sensor Front LH                       | F 4 Front Turn Signal Light and Parking Light RH |
| A 7 ABS Speed Sensor Front RH                       | F 5 Fuel Pump Resistor                           |
| A 10 Air Fuel Ratio Sensor (Bank 1 Sensor 1)        | F 18 Front Parking Light LH No.3                 |
| A 11 Airbag Sensor Front LH                         | F 19 Front Parking Light RH No.3                 |
| A 12 Airbag Sensor Front RH                         |  |
| A 30 Air Fuel Ratio Sensor (Bank 2 Sensor 1)        | G 1 Generator                                    |
|   | G 2 Generator                                    |
| B 1 Back-Up Light SW                                | H 1 Headlight LH                                 |
| B 2 Brake Fluid Level Warning SW                    | H 2 Headlight RH                                 |
| C 2 Crankshaft Position Sensor                      | H 4 Heated Oxygen Sensor (Bank 1 Sensor 2)       |
| C 19 Camshaft Timing Oil Control Valve LH           | H 6 Heated Oxygen Sensor (Bank 2 Sensor 2)       |
| C 20 Camshaft Timing Oil Control Valve RH           | H 7 Horn LH                                      |
|   | H 8 Horn RH                                      |
| D 2 Daytime Running Light Resistor                  |  |
| E 1 Electronically Controlled Transmission Solenoid |  |
| E 2 Engine Coolant Temp. Sensor                     |  |

## Position of Parts in Engine Compartment

[Access Cab, Standard Cab : 1GR-FE]



I 3 Igniter and Ignition Coil No.1  
 I 4 Igniter and Ignition Coil No.2  
 I 5 Igniter and Ignition Coil No.3  
 I 6 Igniter and Ignition Coil No.4  
 I 7 Igniter and Ignition Coil No.5  
 I 8 Igniter and Ignition Coil No.6  
 I 14 Injector No.1  
 I 15 Injector No.2  
 I 16 Injector No.3  
 I 17 Injector No.4  
 I 18 Injector No.5  
 I 19 Injector No.6

J 1 Junction Connector  
 J 2 Junction Connector  
 J 18 Junction Connector  
 J 63 Junction Connector

K 1 Knock Sensor (Bank 1)  
 K 2 Knock Sensor (Bank 2)

M 1 Mass Air Flow Meter

N 1 Noise Filter

O 1 O/D Direct Clutch Speed Sensor  
 O 2 Oil Pressure SW

P 1 Park/Neutral Position SW  
 P 2 Power Steering Oil Pressure SW

S 1 Starter  
 S 2 Starter  
 S29 Skid Control ECU with Actuator  
 S30 Skid Control ECU with Actuator

T 10 TVIP Buzzer  
 T 14 Throttle Control Motor and Throttle Position Sensor

V 2 Vehicle Speed Sensor (Combination Meter)  
 V 3 Vehicle Speed Sensor  
 (Electronically Controlled Transmission)

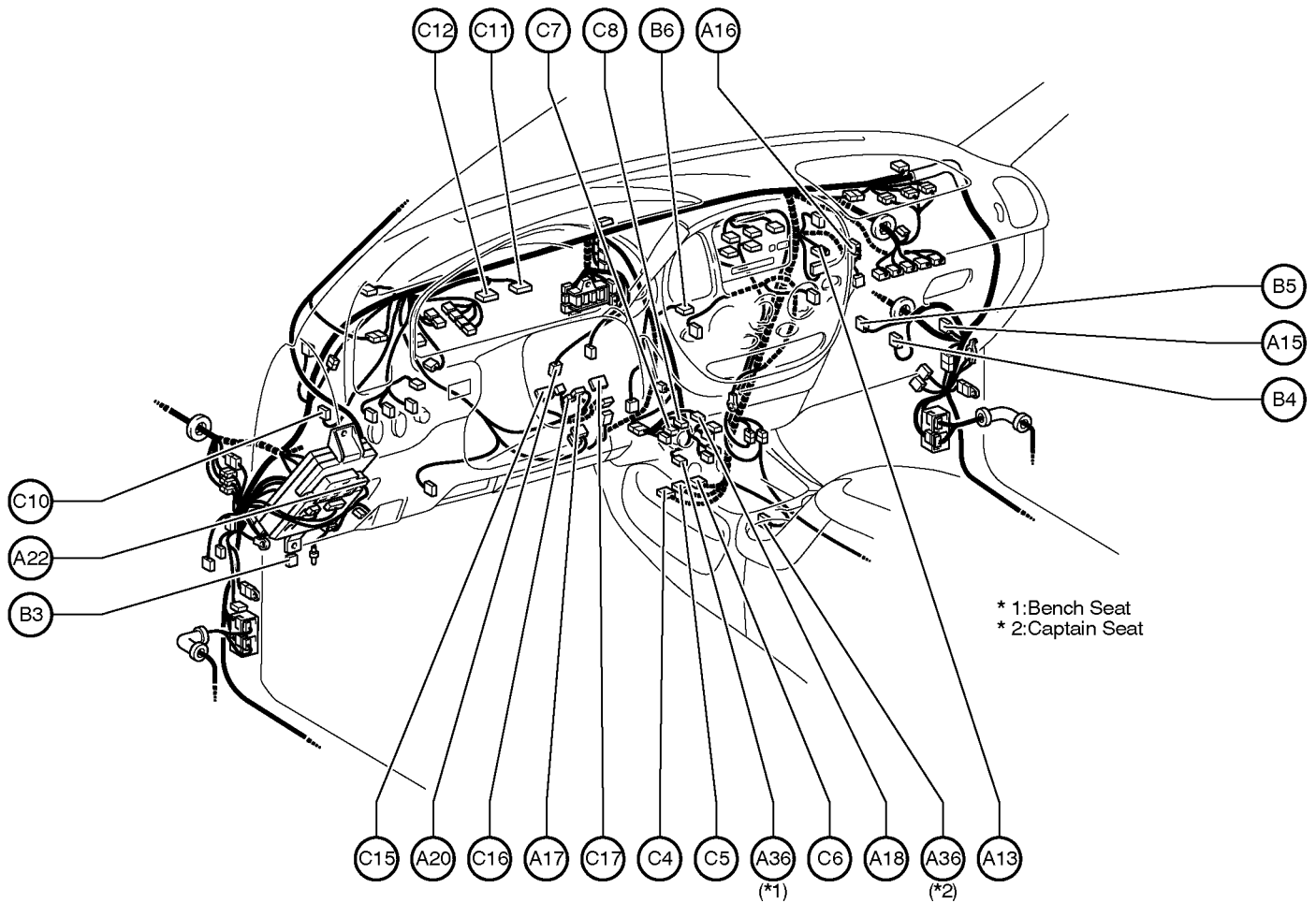
V 4 VSV (EVAP)  
 V13 VSV (ACIS)  
 V16 VVT Sensor LH  
 V17 VVT Sensor RH

W 2 Washer Motor and Washer Level Sensor  
 W 4 Wiper Motor

# G ELECTRICAL WIRING ROUTING

## Position of Parts in Instrument Panel

[Access Cab, Standard Cab]

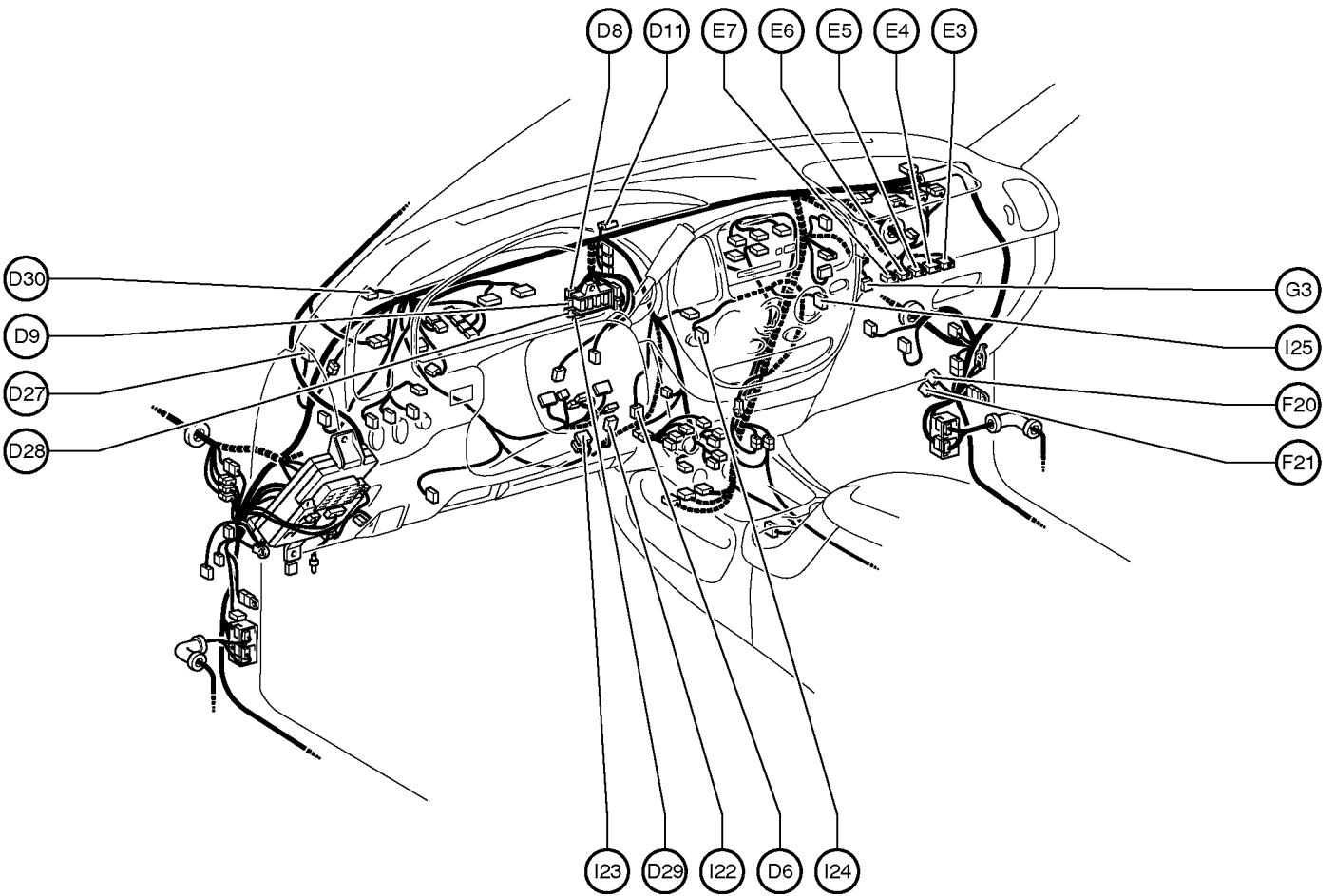


- A 13 A/C Thermistor
- A 15 Air Inlet Control Servo Motor
- A 16 Airbag Squib (Front Passenger Airbag Assembly)
- A 17 Airbag Squib (Steering Wheel Pad)
- A 18 Ashtray Illumination
- A 20 Accelerator Pedal Position Sensor
- A 22 ACC Cut Relay
- A 36 Airbag Cut Off SW
  
- B 3 Back-Up Light Relay
- B 4 Blower Motor
- B 5 Blower Resistor
- B 6 Blower SW and Defroster Mode SW

- C 4 Center Airbag Sensor Assembly
- C 5 Center Airbag Sensor Assembly
- C 6 Center Airbag Sensor Assembly
- C 7 Cigarette Lighter
- C 8 Cigarette Lighter Illumination
- C 10 Clutch Start Cancel SW
- C 11 Combination Meter
- C 12 Combination Meter
- C 15 Combination SW
- C 16 Combination SW
- C 17 Combination SW

## Position of Parts in Instrument Panel

**[Access Cab, Standard Cab]**



D 6 Data Link Connector 3  
 D 8 Diode (A/T)  
 D 9 Diode (Door Courtesy)  
 D11 Diode (Power Window System)  
 D27 Diode (Step Light)  
 D28 Diode (Door Lock)  
 D29 Diode (TVIP)  
 D30 Diode (Unlock Warning)

E 3 Engine Control Module  
 E 4 Engine Control Module  
 E 5 Engine Control Module  
 E 6 Engine Control Module  
 E 7 Engine Control Module

F 20 4WD Control ECU  
 F 21 4WD Control ECU

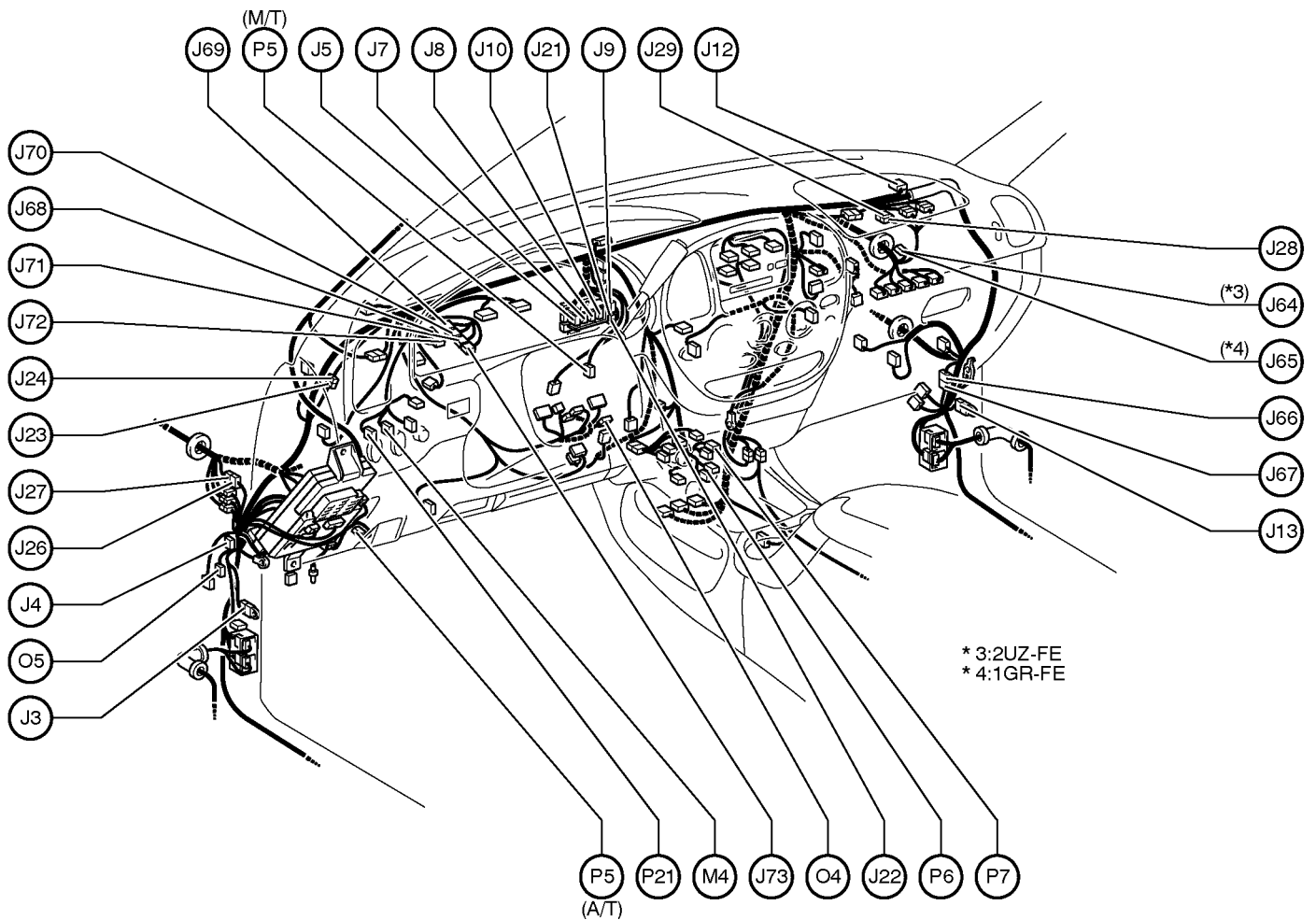
G 3 Glove Box Light

I 22 Ignition Key Cylinder Light  
 I 23 Ignition SW  
 I 24 Integration Control and Panel  
 I 25 Integration Control and Panel

# G ELECTRICAL WIRING ROUTING

## Position of Parts in Instrument Panel

[Access Cab, Standard Cab]

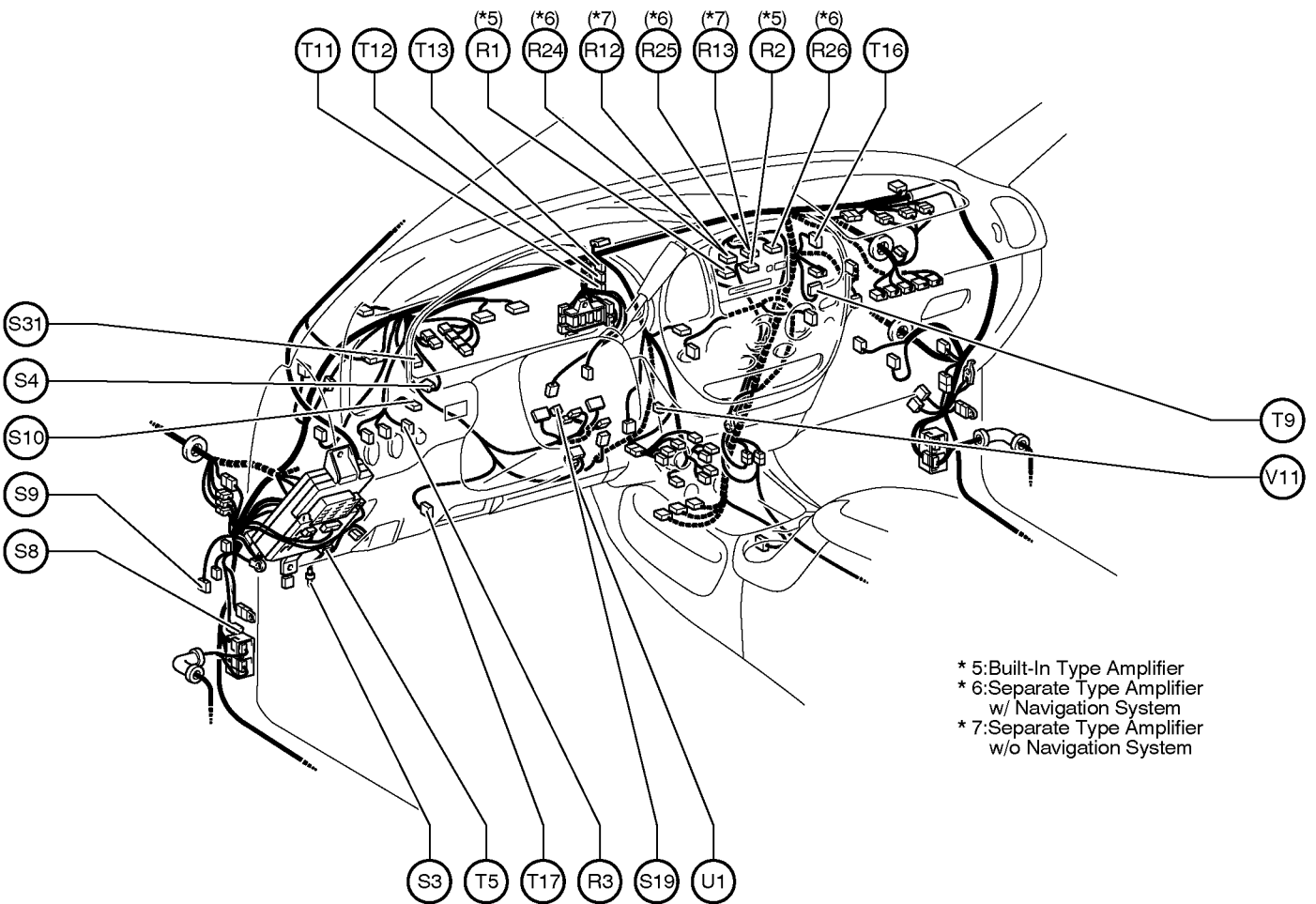


- J 3 Junction Connector
- J 4 Junction Connector
- J 5 Junction Connector
- J 7 Junction Connector
- J 8 Junction Connector
- J 9 Junction Connector
- J 10 Junction Connector
- J 12 Junction Connector
- J 13 Junction Connector
- J 21 Junction Connector
- J 22 Junction Connector
- J 23 Junction Connector
- J 24 Junction Connector
- J 26 Junction Connector
- J 27 Junction Connector
- J 28 Junction Connector
- J 29 Junction Connector
- J 64 Junction Connector
- J 65 Junction Connector
- J 66 Junction Connector
- J 67 Junction Connector
- J 68 Junction Connector
- J 69 Junction Connector
- J 70 Junction Connector
- J 71 Junction Connector
- J 72 Junction Connector
- J 73 Junction Connector

- M 4 Mirror Heater SW
- O 4 O/D Main SW
- O 5 Option Connector
- P 5 Parking Brake SW
- P 6 Power Outlet
- P 7 Power Outlet
- P 21 Power Window Control SW (Back Window)

## Position of Parts in Instrument Panel

**[Access Cab, Standard Cab]**



- \* 5: Built-In Type Amplifier
- \* 6: Separate Type Amplifier w/ Navigation System
- \* 7: Separate Type Amplifier w/o Navigation System

R 1 Radio and Player  
 R 2 Radio and Player  
 R 3 Rheostat  
 R12 Radio and Player  
 R13 Radio and Player  
 R24 Radio and Player with Display  
 R25 Radio and Player with Display  
 R26 Radio and Player with Display

S 3 Step Light  
 S 4 Stop Light SW  
 S 8 Short Pin  
 S 9 Short Connector (TVIP)  
 S10 Security Indicator and Glass Breakage Sensor Microphone  
 S19 Steering Sensor  
 S31 Stop Light Relay

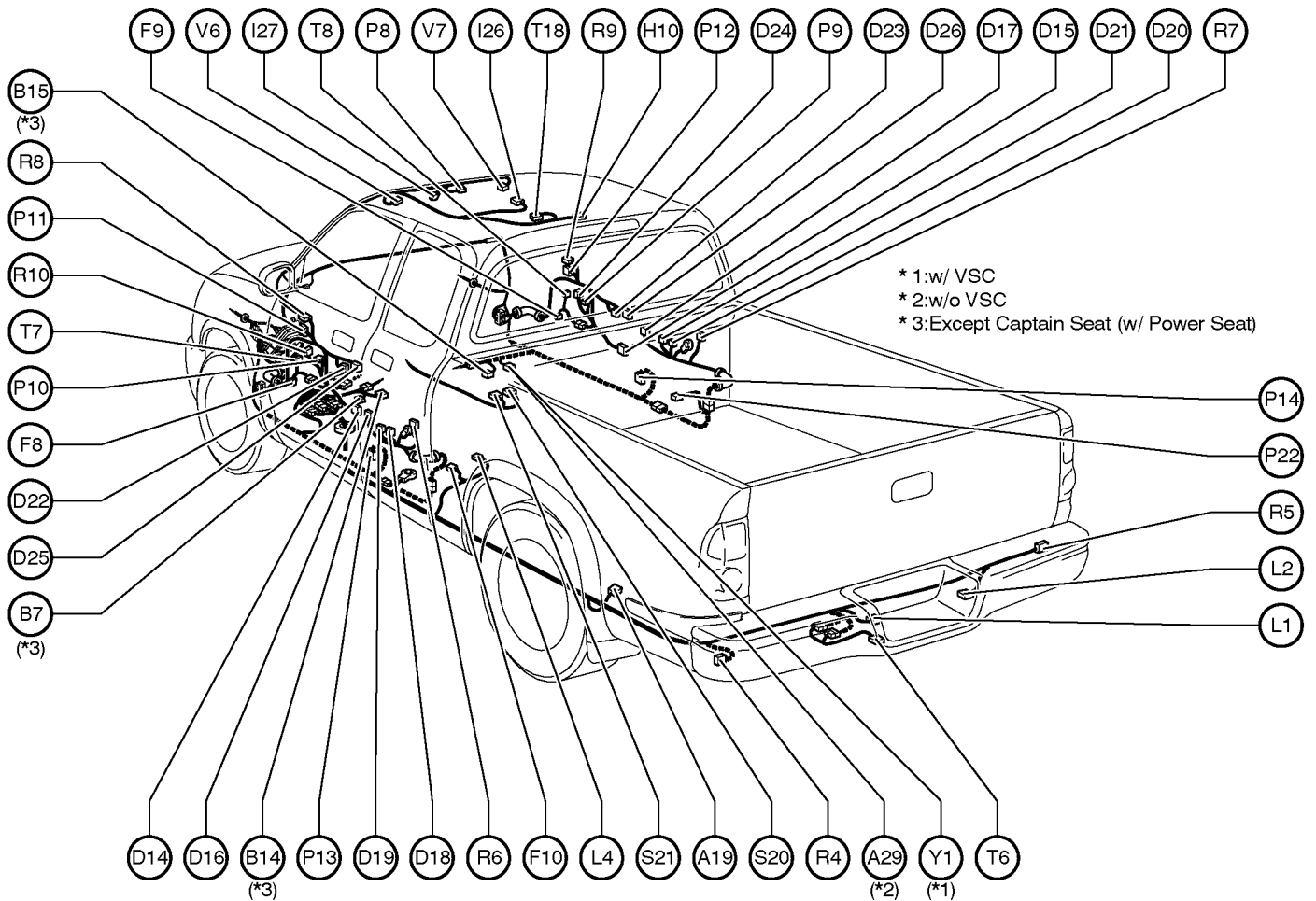
T 5 Turn Signal Flasher  
 T 9 Trailer Converter  
 T 11 TVIP ECU  
 T 12 TVIP ECU  
 T 13 TVIP ECU  
 T 16 Tire Pressure Monitor ECU  
 T 17 Tire Pressure Warning Standardization SW

U 1 Unlock Warning SW  
 V 11 VSC Warning Buzzer

# G ELECTRICAL WIRING ROUTING

## Position of Parts in Body

### [Access Cab]



A 19 ABS Speed Sensor Rear  
 A 29 ABS Deceleration Sensor

B 7 Buckle SW LH  
 B 14 Buckle SW LH  
 Seat Position Airbag Sensor  
 B 15 Buckle SW RH  
 Occupant Detection SW

D 14 Door Courtesy Light Front LH  
 D 15 Door Courtesy Light Front RH  
 D 16 Door Courtesy SW Front LH  
 D 17 Door Courtesy SW Front RH  
 D 18 Door Courtesy SW Rear LH Lower  
 D 19 Door Courtesy SW Rear LH Upper  
 D 20 Door Courtesy SW Rear RH Lower  
 D 21 Door Courtesy SW Rear RH Upper  
 D 22 Door Key Lock and Unlock SW LH  
 D 23 Door Key Lock and Unlock SW RH  
 D 24 Door Lock Control SW RH  
 D 25 Door Lock Motor and Door Unlock Detection SW LH  
 D 26 Door Lock Motor and Door Unlock Detection SW RH

F 8 Front Door Speaker LH  
 F 9 Front Door Speaker RH  
 F 10 Fuel Pump and Sender

H 10 Cargo Light  
 High Mounted Stop Light

I 26 Interior Light  
 I 27 Inner Mirror

L 1 License Plate Light LH  
 L 2 License Plate Light RH  
 L 4 Leak Detection Pump Assembly

P 8 Personal Light  
 P 9 Power Window Control SW Front RH  
 P 10 Power Window Master SW  
 P 11 Power Window Motor Front LH  
 P 12 Power Window Motor Front RH  
 P 13 Pretensioner LH  
 P 14 Pretensioner RH  
 P 22 Power Window Motor (Back Window)

R 4 Rear Combination Light LH  
 R 5 Rear Combination Light RH  
 R 6 Rear Door Speaker LH  
 R 7 Rear Door Speaker RH  
 R 8 Remote Control Mirror LH  
 R 9 Remote Control Mirror RH  
 R 10 Remote Control Mirror SW

S 20 Stereo Component Amplifier  
 S 21 Stereo Component Amplifier

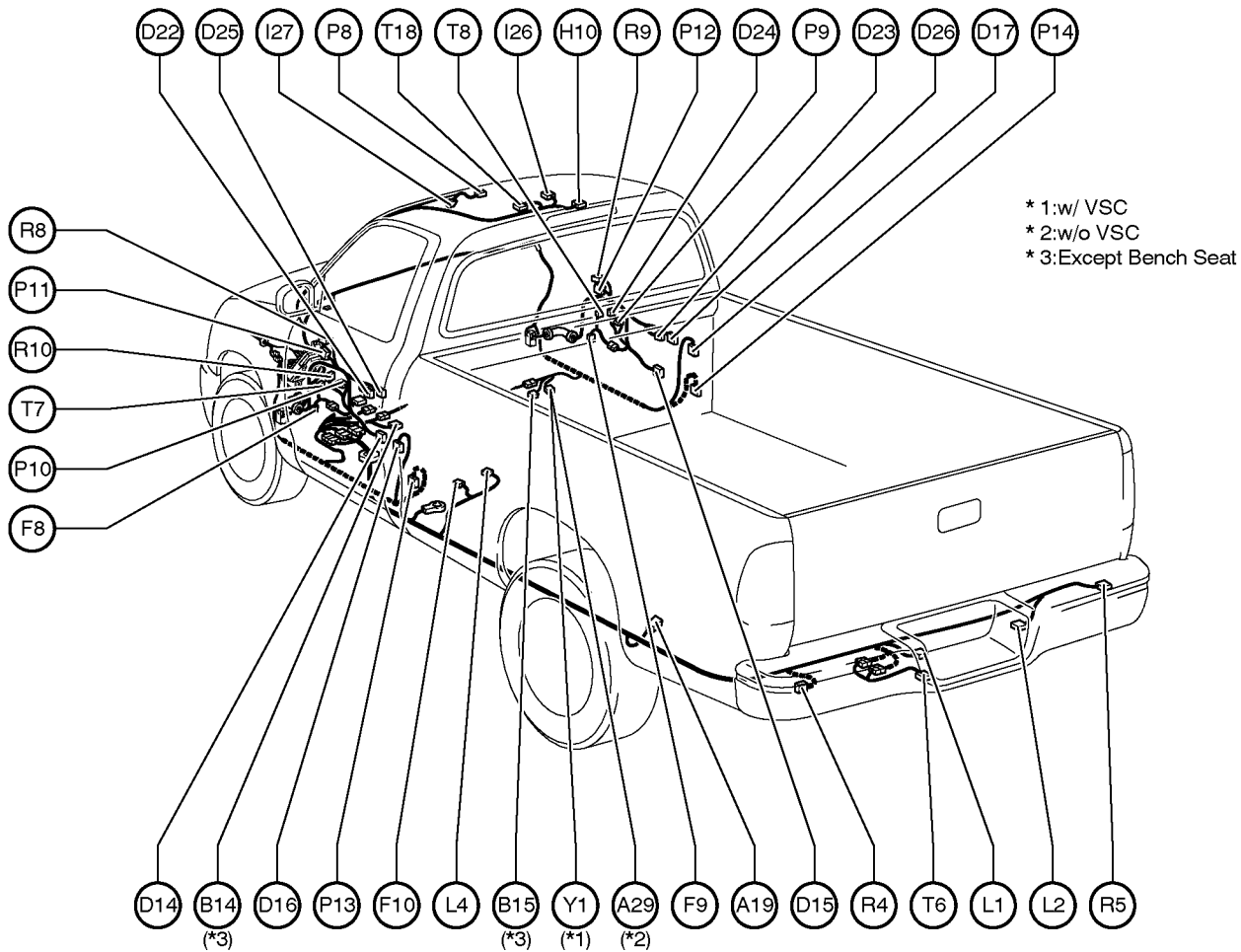
T 6 Trailer Socket  
 T 7 Tweeter LH  
 T 8 Tweeter RH  
 T 18 Tire Pressure Monitor Receiver

V 6 Vanity Light LH  
 V 7 Vanity Light RH

Y 1 Yaw Rate Sensor

## Position of Parts in Body

### [Standard Cab]



A 19 ABS Speed Sensor Rear  
A 29 ABS Deceleration Sensor

B 14 Buckle SW LH  
Seat Position Airbag Sensor  
B 15 Buckle SW RH  
Occupant Detection SW

D 14 Door Courtesy Light Front LH  
D 15 Door Courtesy Light Front RH  
D 16 Door Courtesy SW Front LH  
D 17 Door Courtesy SW Front RH  
D 22 Door Key Lock and Unlock SW LH  
D 23 Door Key Lock and Unlock SW RH  
D 24 Door Lock Control SW RH  
D 25 Door Lock Motor  
Door Unlock Detection SW LH  
D 26 Door Lock Motor  
Door Unlock Detection SW RH

F 8 Front Door Speaker LH  
F 9 Front Door Speaker RH  
F 10 Fuel Pump  
Sender

H 10 Cargo Light  
High Mounted Stop Light

I 26 Interior Light  
I 27 Inner Mirror

L 1 License Plate Light LH  
L 2 License Plate Light RH  
L 4 Leak Detection Pump Assembly

P 8 Personal Light  
P 9 Power Window Control SW Front RH  
P 10 Power Window Master SW  
P 11 Power Window Motor Front LH  
P 12 Power Window Motor Front RH  
P 13 Pretensioner LH  
P 14 Pretensioner RH

R 4 Rear Combination Light LH  
R 5 Rear Combination Light RH  
R 8 Remote Control Mirror LH  
R 9 Remote Control Mirror RH  
R 10 Remote Control Mirror SW

T 6 Trailer Socket  
T 7 Tweeter LH  
T 8 Tweeter RH  
T 18 Tire Pressure Monitor Receiver

Y 1 Yaw Rate Sensor

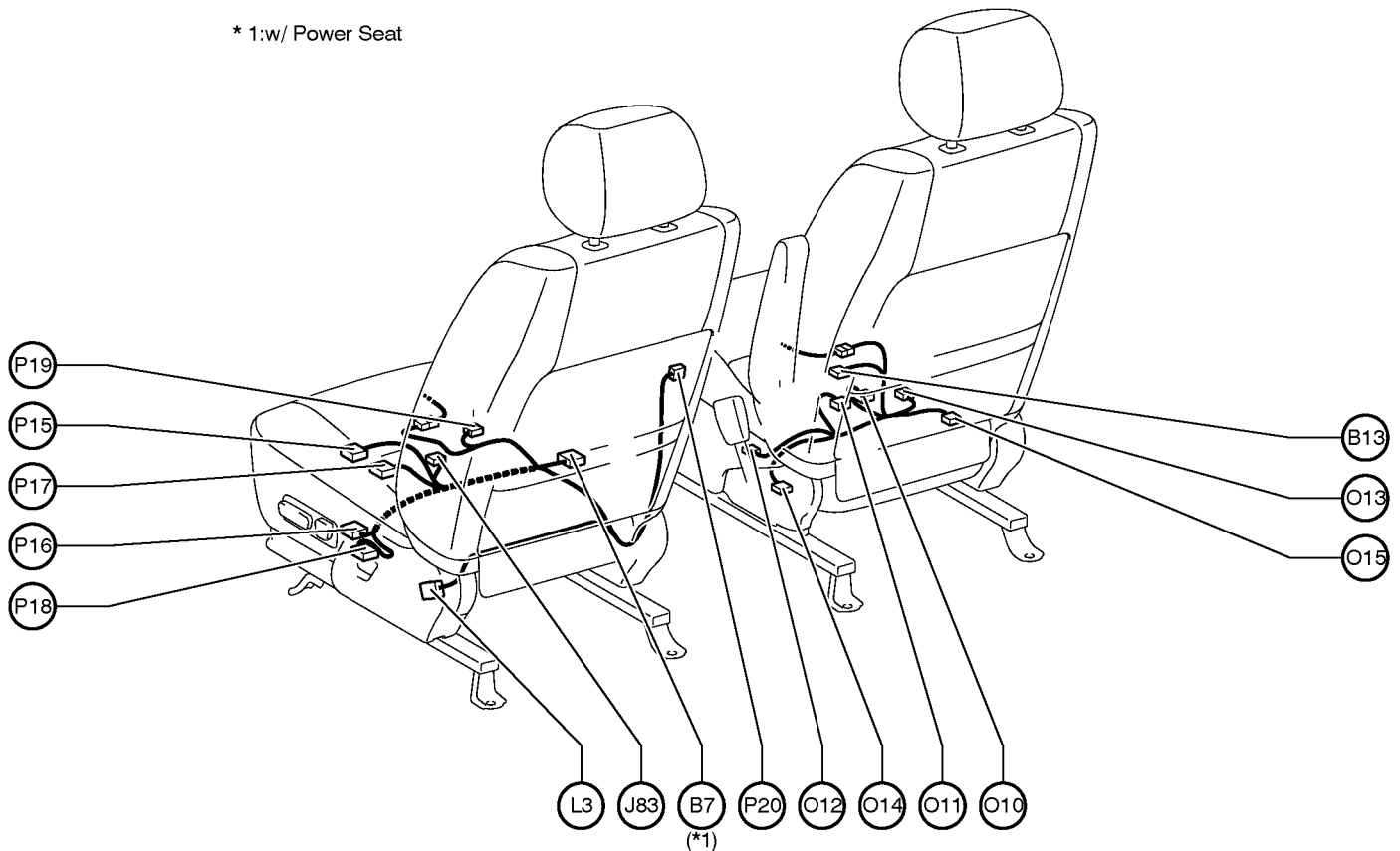


# G ELECTRICAL WIRING ROUTING

## Position of Parts in Seat

### [Access Cab : Captain Seat]

\* 1:w/ Power Seat



B 7 Buckle SW LH  
B 13 Buckle SW RH

J 83 Junction Connector

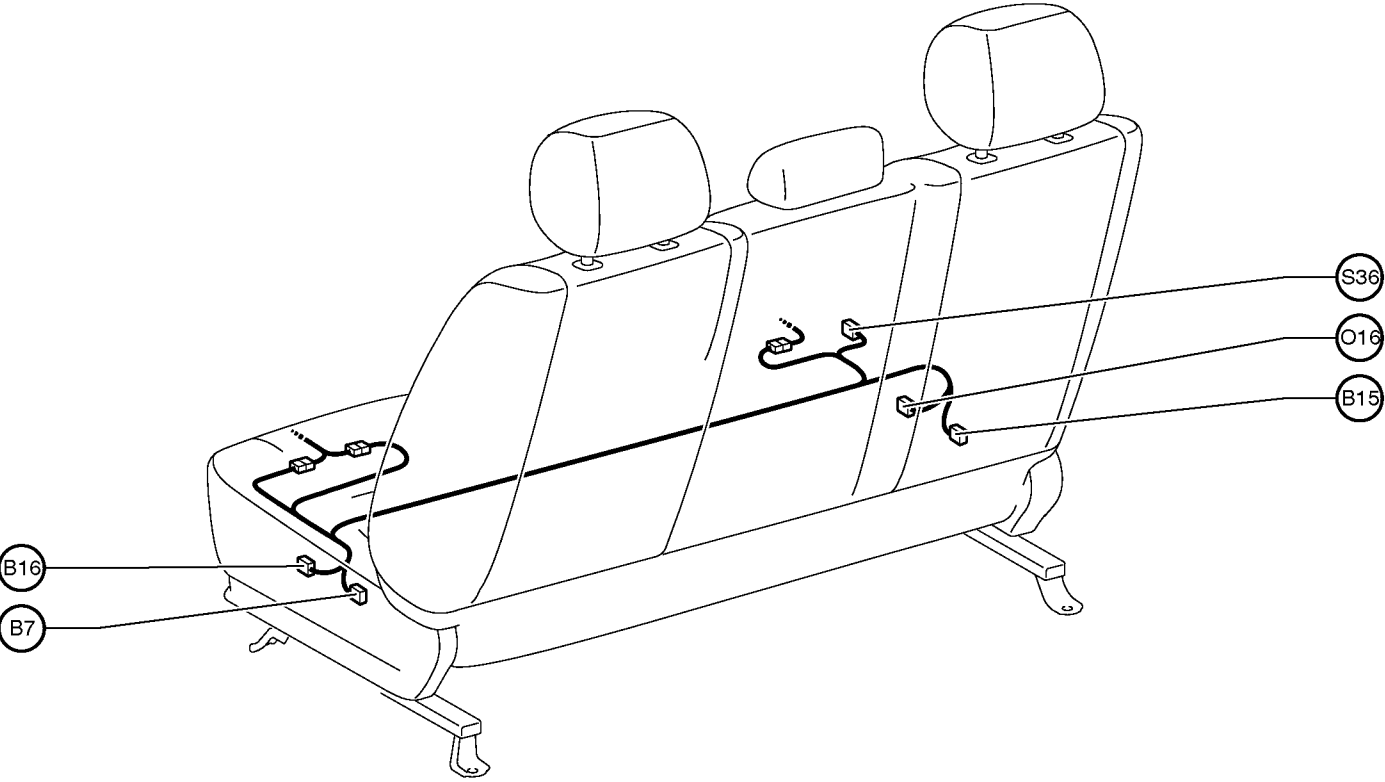
L 3 Lumbar Support Control SW (Driver's Seat)

O10 Occupant Classification ECU  
O11 Occupant Classification ECU  
O12 Occupant Classification Sensor Front LH  
O13 Occupant Classification Sensor Front RH  
O14 Occupant Classification Sensor RearLH  
O15 Occupant Classification Sensor RearRH

P15 Power Seat Motor (Driver's Seat Front Vertical Control)  
P16 Power Seat Control SW (Driver's Seat)  
P17 Power Seat Motor (Driver's Seat Rear Vertical Control)  
P18 Power Seat Motor (Driver's Seat Reclining Control)  
P19 Power Seat Motor (Driver's Seat Slide Control)  
P20 Power Seat Motor  
(Driver's Seat Lumbar Support Control)

**Position of Parts in Seat**

**[Standard Cab : Bench Seat]**



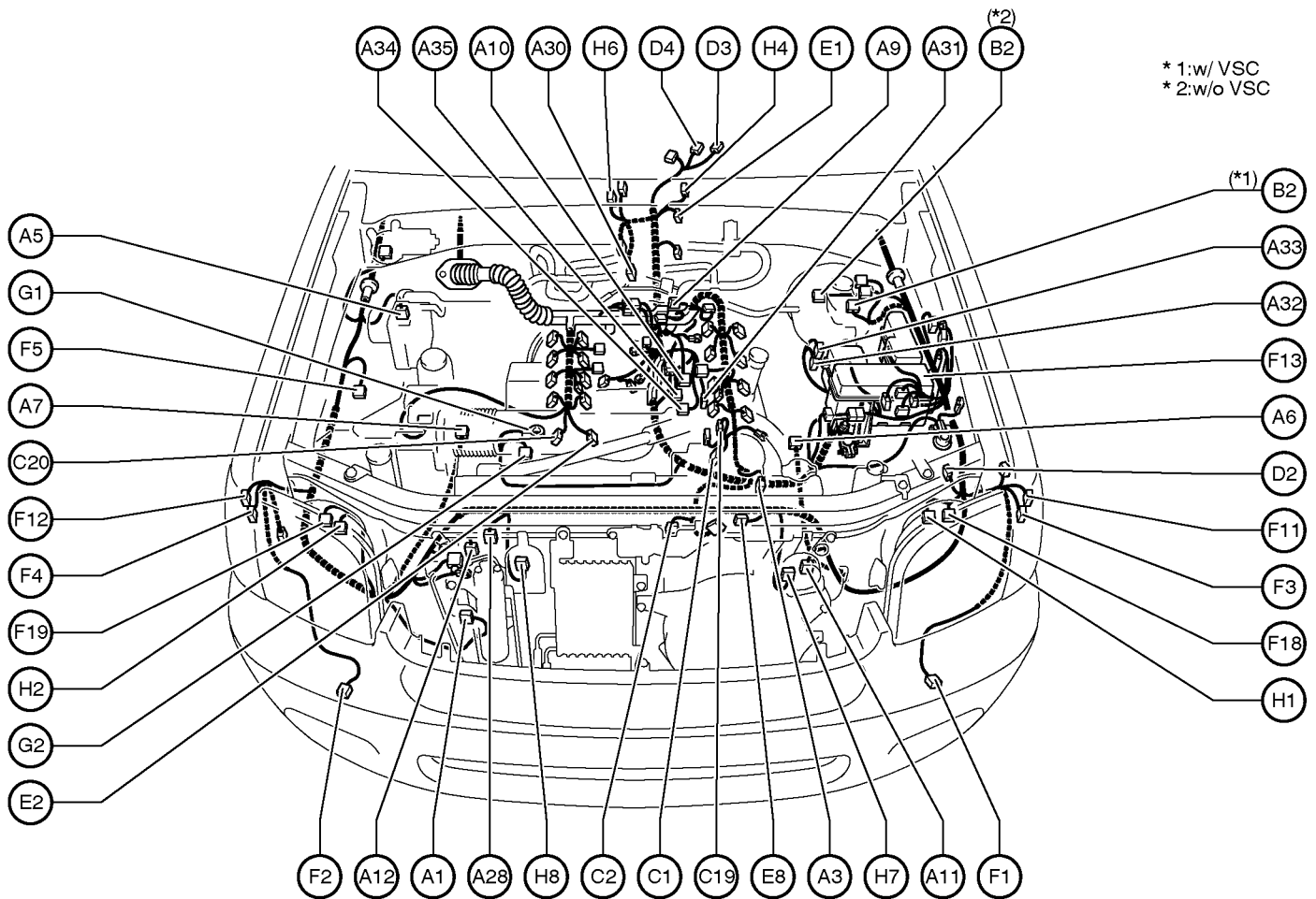
- B 7 Buckle SW LH
- B15 Buckle SW RH
- Occupant Detection SW
- B16 Buckle SW LH

- O16 Occupant Detection Sensor
- S36 Seat Position Airbag Sensor

# G ELECTRICAL WIRING ROUTING

## Position of Parts in Engine Compartment

[Double Cab]

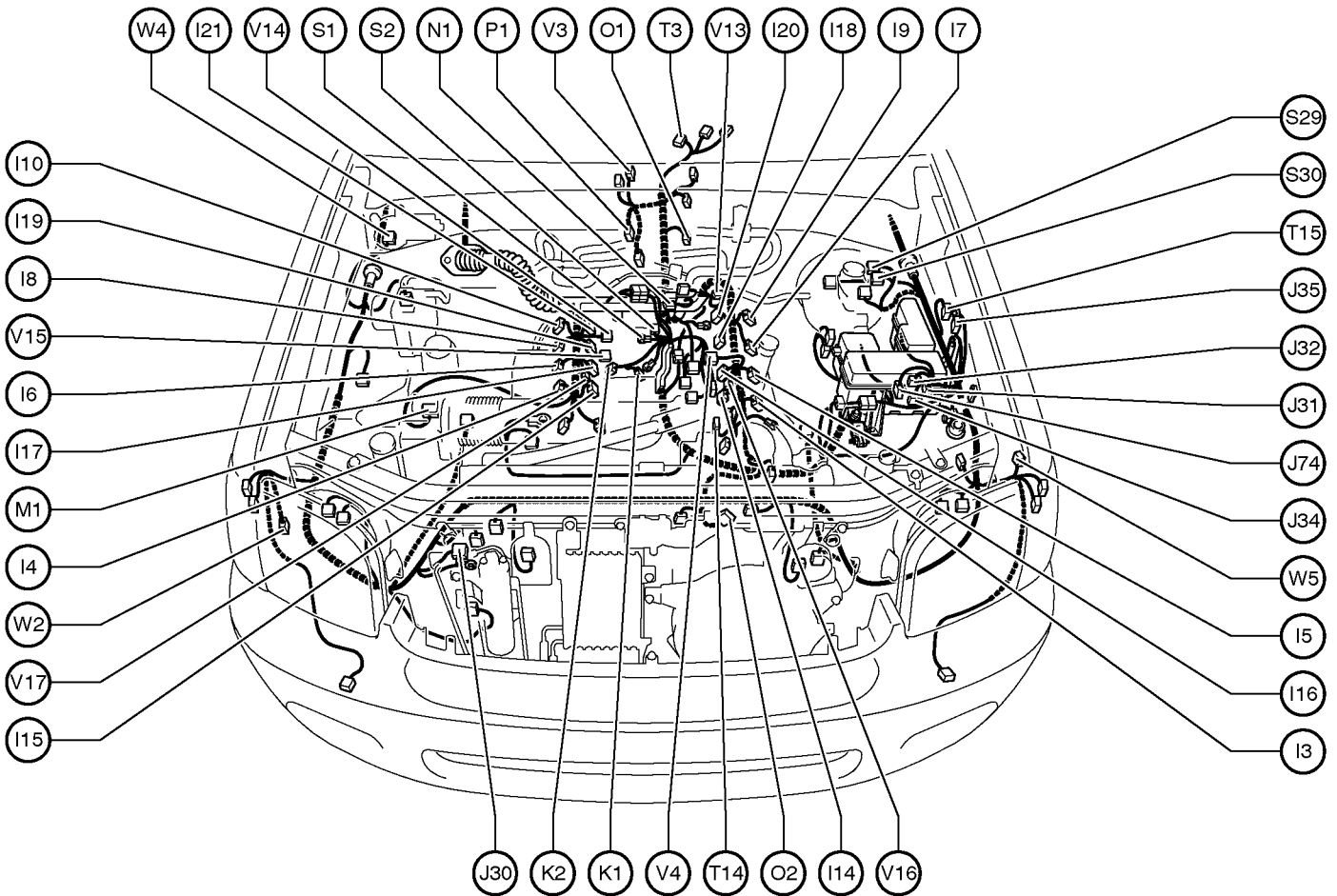


\* 1:w/ VSC  
\* 2:w/o VSC

- |  |  |
|--|--|
| A 1 Pressure SW                              | E 1 Electronically Controlled Transmission Solenoid    |
| A 3 A/C Magnetic Clutch and Lock Sensor      | E 2 Engine Coolant Temp. Sensor                        |
| A 5 ABS Actuator with ECU                    | E 8 Engine Hood Courtesy SW                            |
| A 6 ABS Speed Sensor Front LH                | F 1 Front Fog Light LH                                 |
| A 7 ABS Speed Sensor Front RH                | F 2 Front Fog Light RH                                 |
| A 9 ADD Actuator                             | F 3 Front Turn Signal Light and Parking Light LH       |
| A 10 Air Fuel Ratio Sensor (Bank 1 Sensor 1) | F 4 Front Turn Signal Light and Parking Light RH       |
| A 11 Airbag Sensor Front LH                  | F 5 Fuel Pump Resistor                                 |
| A 12 Airbag Sensor Front RH                  | F 11 Front Turn Signal Light and Parking Light LH No.2 |
| A 28 Ambient Temp. Sensor                    | F 12 Front Turn Signal Light and Parking Light RH No.2 |
| A 30 Air Fuel Ratio Sensor (Bank 2 Sensor 1) | F 13 Fusible Link Block                                |
| A 31 Air Switching Valve                     | F 18 Front Parking Light LH No.3                       |
| A 32 Air Injection Control Driver            | F 19 Front Parking Light RH No.3                       |
| A 33 Air Injection Control Driver            | G 1 Generator  |
| A 34 Air Pressure Sensor                     | G 2 Generator  |
| A 35 Air Pump                                |  |
| B 2 Brake Fluid Level Warning SW             |  |
| C 1 Camshaft Position Sensor                 | H 1 Headlight LH                                       |
| C 2 Crankshaft Position Sensor               | H 2 Headlight RH                                       |
| C 19 Camshaft Timing Oil Control Valve LH    | H 4 Heated Oxygen Sensor (Bank 1 Sensor 2)             |
| C 20 Camshaft Timing Oil Control Valve RH    | H 6 Heated Oxygen Sensor (Bank 2 Sensor 2)             |
| D 2 Daytime Running Light Resistor           | H 7 Horn LH  |
| D 3 Detection SW (Transfer 4WD Position)     | H 8 Horn RH  |
| D 4 Detection SW (Transfer L4 Position)      |  |

## Position of Parts in Engine Compartment

### [Double Cab]



I 3 Igniter and Ignition Coil No.1  
 I 4 Igniter and Ignition Coil No.2  
 I 5 Igniter and Ignition Coil No.3  
 I 6 Igniter and Ignition Coil No.4  
 I 7 Igniter and Ignition Coil No.5  
 I 8 Igniter and Ignition Coil No.6  
 I 9 Igniter and Ignition Coil No.7  
 I 10 Igniter and Ignition Coil No.8  
 I 14 Injector No.1  
 I 15 Injector No.2  
 I 16 Injector No.3  
 I 17 Injector No.4  
 I 18 Injector No.5  
 I 19 Injector No.6  
 I 20 Injector No.7  
 I 21 Injector No.8

J 30 Junction Connector  
 J 31 Junction Connector  
 J 32 Junction Connector  
 J 34 Junction Connector  
 J 35 Junction Connector  
 J 74 Junction Connector

K 1 Knock Sensor (Bank 1)  
 K 2 Knock Sensor (Bank 2)

M 1 Mass Air Flow Meter

N 1 Noise Filter

O 1 O/D Direct Clutch Speed Sensor  
 O 2 Oil Pressure SW

P 1 Park/Neutral Position SW

S 1 Starter  
 S 2 Starter  
 S29 Skid Control ECU with Actuator  
 S30 Skid Control ECU with Actuator

T 3 Transfer Shift Actuator  
 T 14 Throttle Control Motor and Throttle Position Sensor  
 T 15 Theft Deterrent Horn

V 3 Vehicle Speed Sensor  
(Electronically Controlled Transmission)

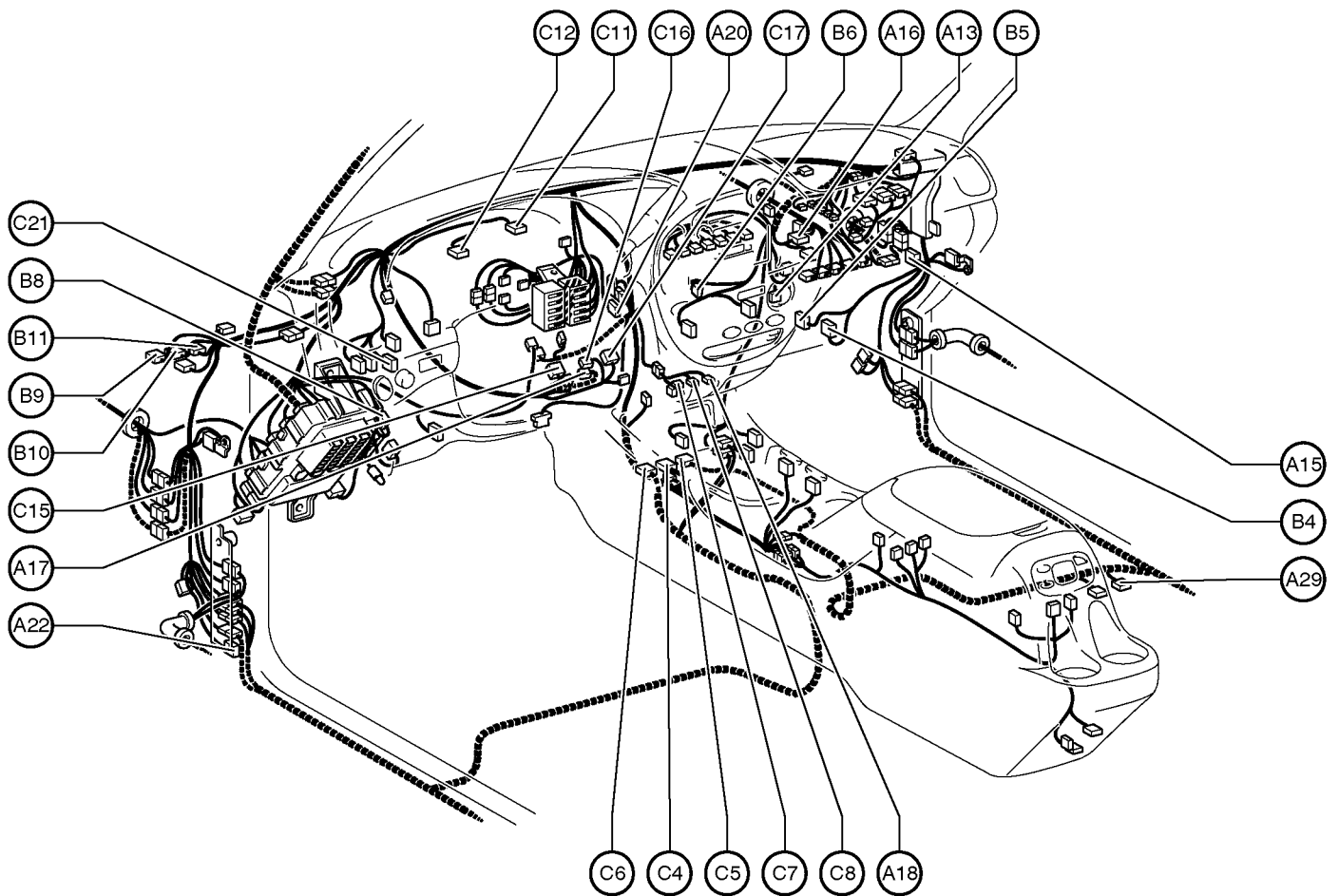
V 4 VSV (EVAP)  
 V 13 VSV (ACIS)  
 V 14 VSV (Air Switching Valve Bank 1)  
 V 15 VSV (Air Switching Valve Bank 2)  
 V 16 VVT Sensor LH  
 V 17 VVT Sensor RH

W 2 Washer Motor and Washer Level Sensor  
 W 4 Wiper Motor  
 W 5 Wireless Door Lock Buzzer

# G ELECTRICAL WIRING ROUTING

## Position of Parts in Instrument Panel

[Double Cab]



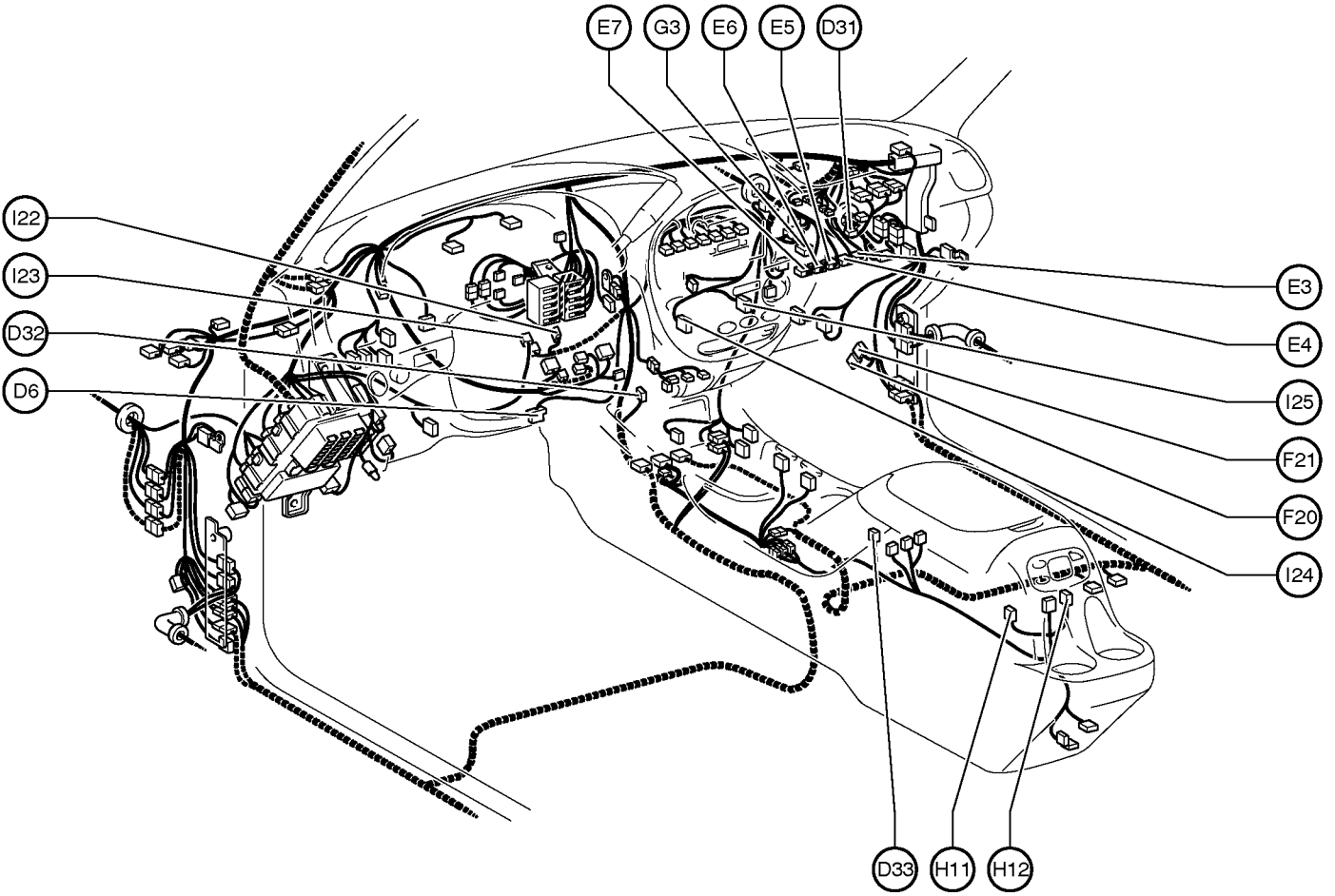
- A 13 A/C Thermistor
- A 15 Air Inlet Control Servo Motor
- A 16 Airbag Squib (Front Passenger Airbag Assembly)
- A 17 Airbag Squib (Steering Wheel Pad)
- A 18 Ashtray Illumination
- A 20 Accelerator Pedal Position Sensor
- A 22 ACC Cut Relay
- A 29 ABS Deceleration Sensor

- B 4 Blower Motor
- B 5 Blower Resistor
- B 6 Blower SW and Defroster Mode SW
- B 8 Back Window Relay
- B 9 Body ECU
- B 10 Body ECU
- B 11 Body ECU

- C 4 Center Airbag Sensor Assembly
- C 5 Center Airbag Sensor Assembly
- C 6 Center Airbag Sensor Assembly
- C 7 Cigarette Lighter
- C 8 Cigarette Lighter Illumination
- C 11 Combination Meter
- C 12 Combination Meter
- C 15 Combination SW
- C 16 Combination SW
- C 17 Combination SW
- C 21 Curtain Airbag Cut Off SW

**Position of Parts in Instrument Panel**

**[Double Cab]**



- D 6 Data Link Connector 3
- D31 Diode (Parking Brake SW)
- D32 Door Lock Control Receiver
- D33 DVD Player

- G 3 Glove Box Light

- E 3 Engine Control Module
- E 4 Engine Control Module
- E 5 Engine Control Module
- E 6 Engine Control Module
- E 7 Engine Control Module

- H11 Headphone Terminal LH
- H12 Headphone Terminal RH

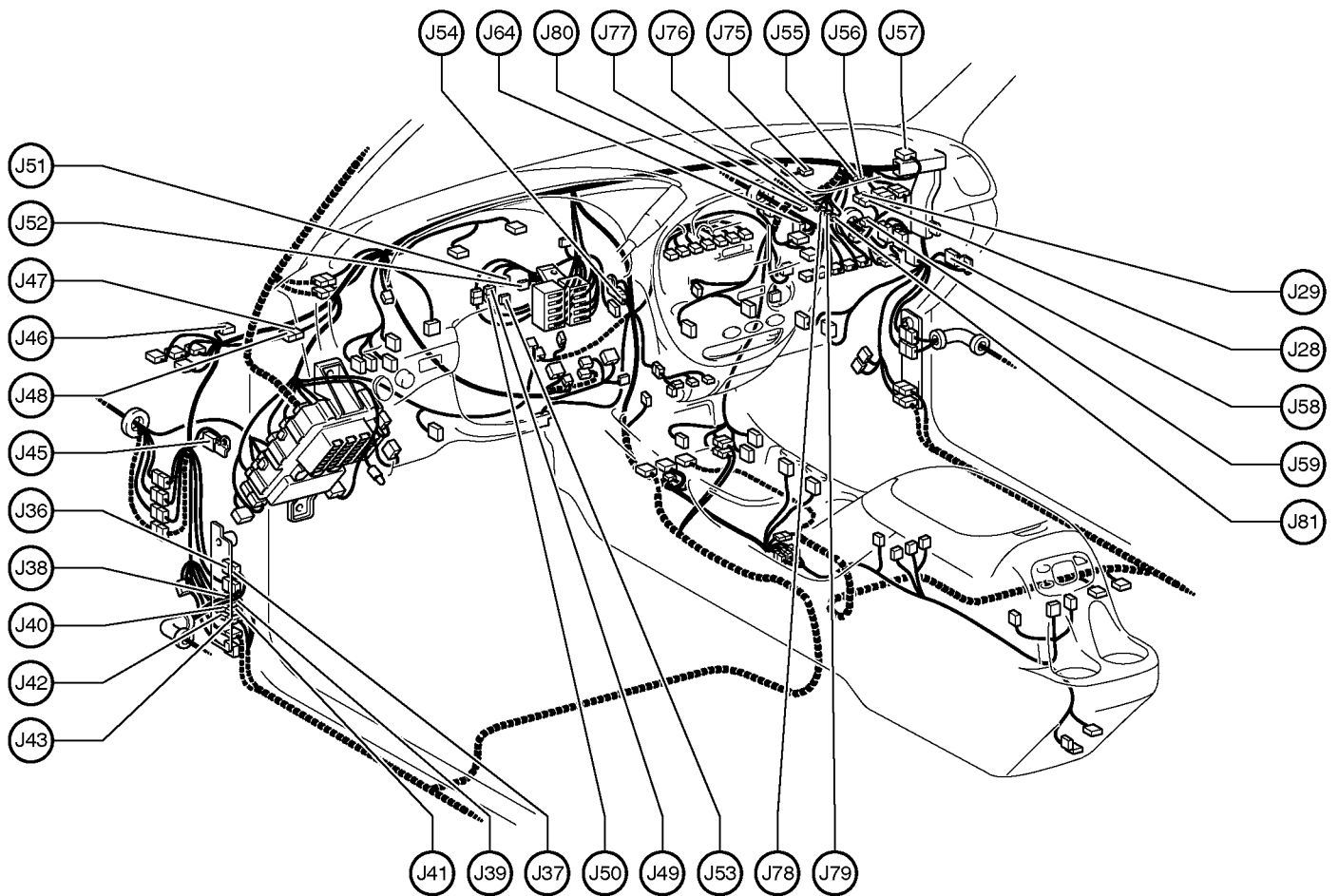
- F20 4WD Control ECU
- F21 4WD Control ECU

- I 22 Ignition Key Cylinder Light
- I 23 Ignition SW
- I 24 Integration Control and Panel
- I 25 Integration Control and Panel

# G ELECTRICAL WIRING ROUTING

## Position of Parts in Instrument Panel

[Double Cab]

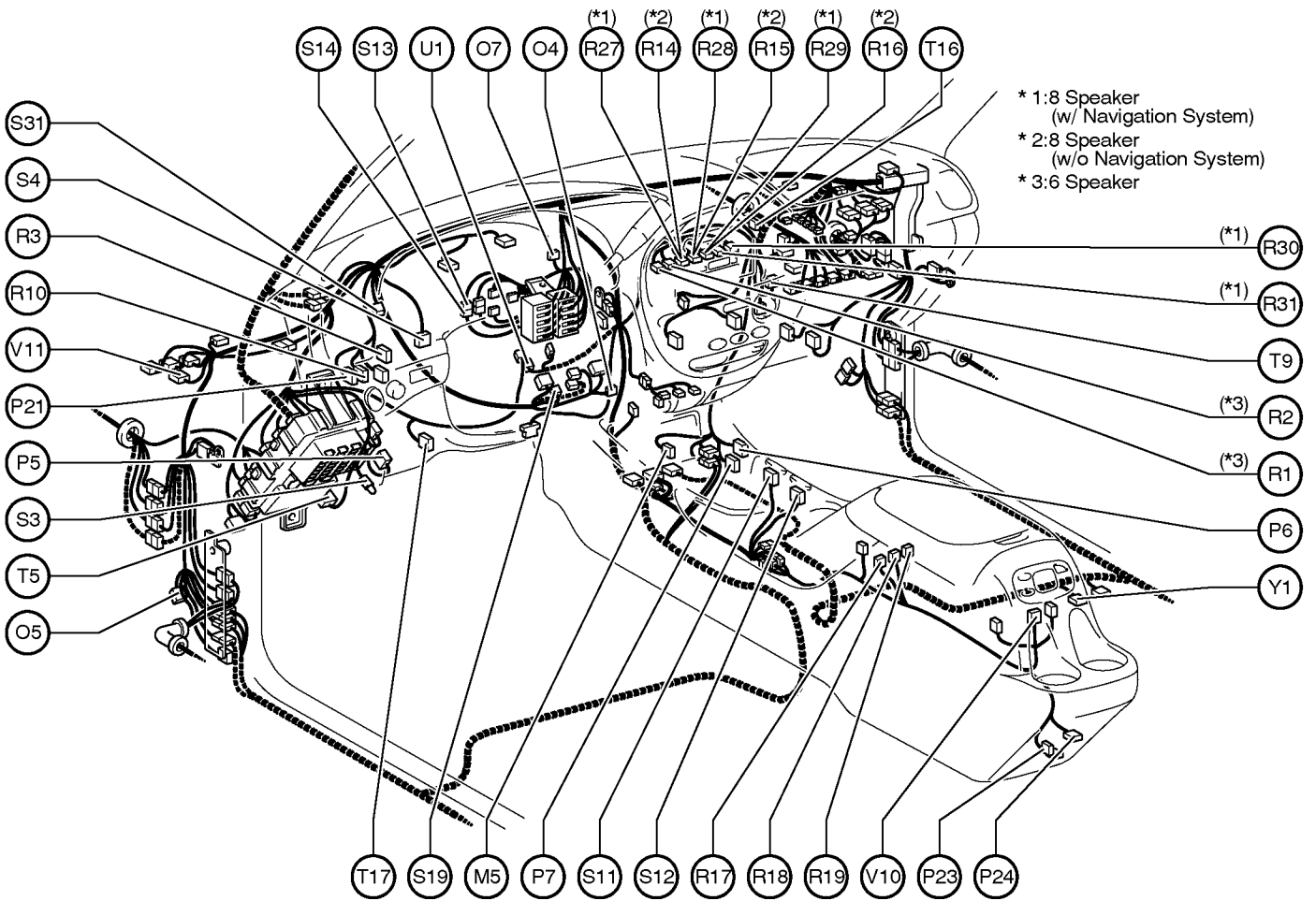


J 28 Junction Connector  
 J 29 Junction Connector  
 J 36 Junction Connector  
 J 37 Junction Connector  
 J 38 Junction Connector  
 J 39 Junction Connector  
 J 40 Junction Connector  
 J 41 Junction Connector  
 J 42 Junction Connector  
 J 43 Junction Connector  
 J 45 Junction Connector  
 J 46 Junction Connector  
 J 47 Junction Connector  
 J 48 Junction Connector  
 J 49 Junction Connector  
 J 50 Junction Connector  
 J 51 Junction Connector

J 52 Junction Connector  
 J 53 Junction Connector  
 J 54 Junction Connector  
 J 55 Junction Connector  
 J 56 Junction Connector  
 J 57 Junction Connector  
 J 58 Junction Connector  
 J 59 Junction Connector  
 J 64 Junction Connector  
 J 75 Junction Connector  
 J 76 Junction Connector  
 J 77 Junction Connector  
 J 78 Junction Connector  
 J 79 Junction Connector  
 J 80 Junction Connector  
 J 81 Junction Connector

**Position of Parts in Instrument Panel**

**[Double Cab]**



M 5 Main SW

O 4 O/D Main SW  
 O 5 Option Connector  
 O 7 Option Connector (Grass Breakage Sensor)

P 5 Parking Brake SW  
 P 6 Power Outlet  
 P 7 Power Outlet  
 P21 Power Window Control SW (Back Window)  
 P23 Power Outlet (115V)  
 P24 Power Outlet (Rear)

R 1 Radio and Player  
 R 2 Radio and Player  
 R 3 Rheostat  
 R10 Remote Control Mirror SW  
 R14 Radio and Player  
 R15 Radio and Player  
 R16 Radio and Player  
 R17 Rear Seat Entertainment ECU  
 R18 Rear Seat Entertainment ECU  
 R19 Rear Seat Entertainment ECU  
 R27 Radio and Player with Display  
 R28 Radio and Player with Display  
 R29 Radio and Player with Display  
 R30 Radio and Player with Display  
 R31 Radio and Player with Display

S 3 Step Light  
 S 4 Stop Light SW  
 S 11 Seat Heater SW (Driver's Seat)  
 S 12 Seat Heater SW (Front Passenger's Seat)  
 S 13 Short Connector  
 S 14 Short Connector  
 S 19 Steering Sensor  
 S 31 Stop Light Relay

T 5 Turn Signal Flasher  
 T 9 Trailer Converter  
 T 16 Tire Pressure Monitor ECU  
 T 17 Tire Pressure Warning Standardization SW

U 1 Unlock Warning SW

V 10 Video Terminal  
 V 11 VSC Warning Buzzer

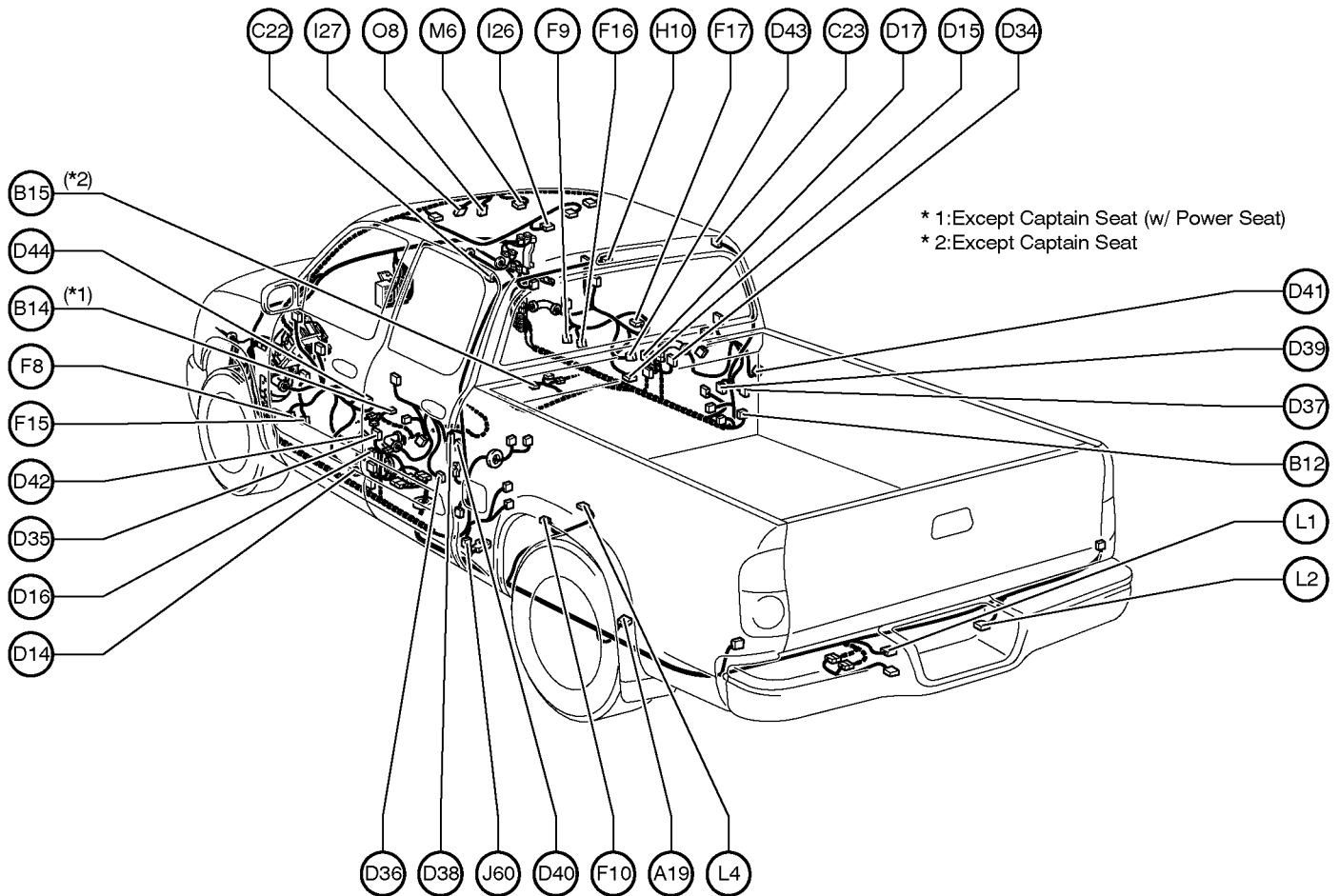
Y 1 Yaw Rate Sensor



# G ELECTRICAL WIRING ROUTING

## Position of Parts in Body

[Double Cab]

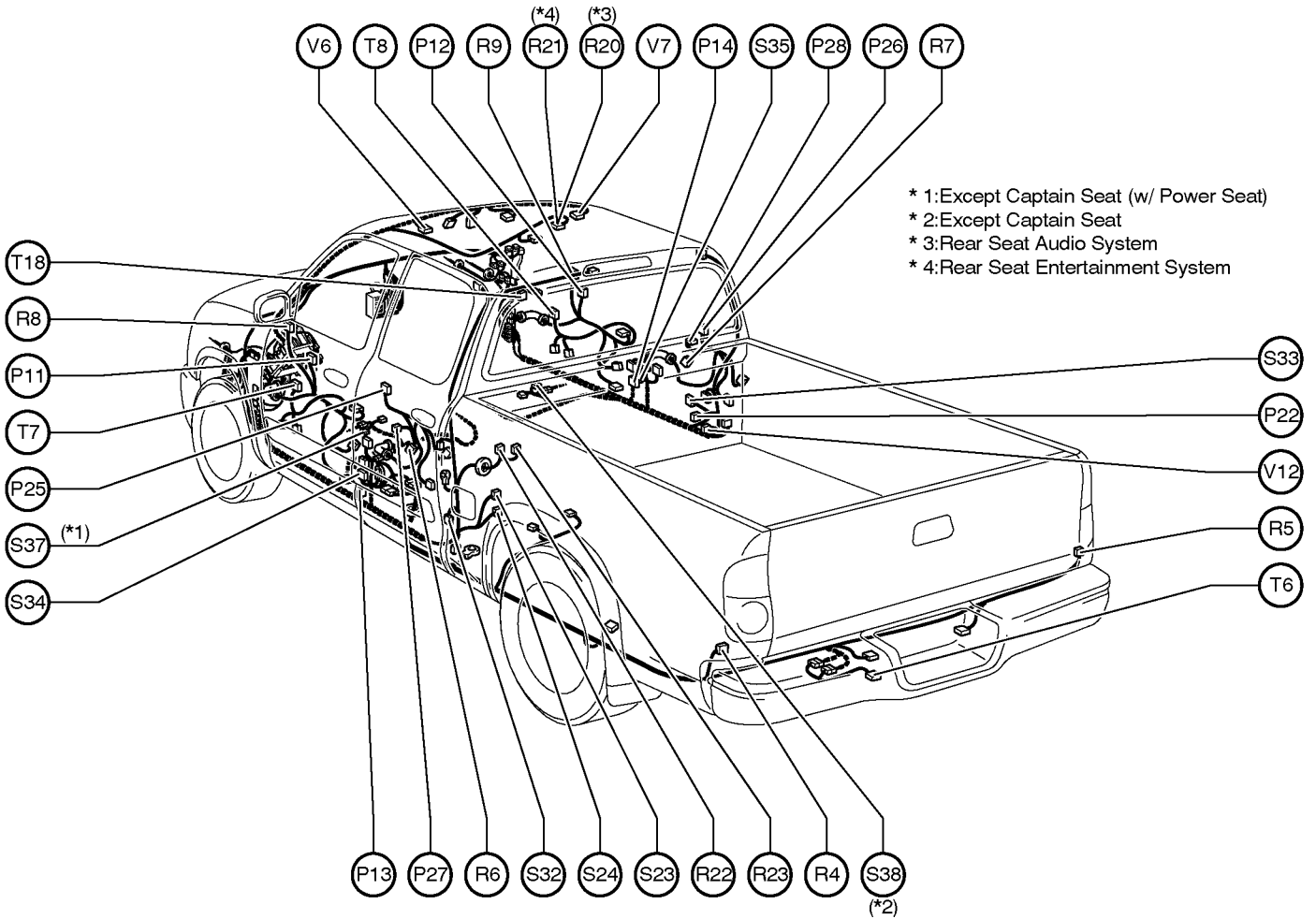


\* 1:Except Captain Seat (w/ Power Seat)  
\* 2:Except Captain Seat

- |  |  |
|--|--|
| A 19 ABS Speed Sensor Rear   | F 8 Front Door Speaker LH                    |
| B 12 Back Window Control Relay   | F 9 Front Door Speaker RH                    |
| B 14 Buckle SW LH<br>Seat Position Airbag Sensor                                       | F 10 Fuel Pump and Sender                    |
| B 15 Buckle SW RH<br>Occupant Detection SW   | F 15 Front Door Speaker LH (Woofer)          |
| C 22 Curtain Shield Airbag Squib LH  | F 16 Front Door Speaker RH (Woofer)          |
| C 23 Curtain Shield Airbag Squib RH  | F 17 Front Passenger Door ECU                |
| D 14 Door Courtesy Light Front LH  | H 10 High Mounted Stop Light and Cargo Light |
| D 15 Door Courtesy Light Front RH  | I 26 Interior Light                          |
| D 16 Door Courtesy SW Front LH   | I 27 Inner Mirror                            |
| D 17 Door Courtesy SW Front RH   | J 60 Junction Connector                      |
| D 34 Diode (Door Courtesy No.1)  | L 1 License Plate Light LH                   |
| D 35 Diode (Door Courtesy No.2)  | L 2 License Plate Light RH                   |
| D 36 Door Courtesy Light Rear LH   | L 4 Leak Detection Pump Assembly             |
| D 37 Door Courtesy Light Rear RH   | M 6 Moon Roof Control ECU and Motor          |
| D 38 Door Courtesy SW Rear LH  | O 8 Overhead Module                          |
| D 39 Door Courtesy SW Rear RH  |  |
| D 40 Door Lock Motor<br>Door Unlock Detection SW Rear LH                               |  |
| D 41 Door Lock Motor<br>Door Unlock Detection SW Rear RH                               |  |
| D 42 Door Lock Motor, Door Key Lock and Unlock SW<br>Door Unlock Detection SW Front LH |  |
| D 43 Door Lock Motor, Door Key Lock and Unlock SW<br>Door Unlock Detection SW Front RH |  |
| D 44 Driver Door ECU   |  |

**Position of Parts in Body**

**[Double Cab]**



- P 11 Power Window Motor Front LH
- P 12 Power Window Motor Front RH
- P 13 Pretensioner LH
- P 14 Pretensioner RH
- P 22 Power Window Motor (Back Window)
- P 25 Power Window Control SW Rear LH
- P 26 Power Window Control SW Rear RH
- P 27 Power Window Motor Rear LH
- P 28 Power Window Motor Rear RH

- R 4 Rear Combination Light LH
- R 5 Rear Combination Light RH
- R 6 Rear Door Speaker LH
- R 7 Rear Door Speaker RH
- R 8 Remote Control Mirror LH
- R 9 Remote Control Mirror RH
- R 20 Rear Seat Audio Controller
- R 21 Rear Seat Entertainment Display
- R 22 Rear Window Defogger
- R 23 Rear Window Defogger

- S 23 Stereo Component Amplifier
- S 24 Stereo Component Amplifier
- S 32 Side Airbag Sensor Rear LH
- S 33 Side Airbag Sensor Rear RH
- S 34 Side Airbag Sensor LH
- S 35 Side Airbag Sensor RH
- S 37 Side Airbag Squib LH
- S 38 Side Airbag Squib RH

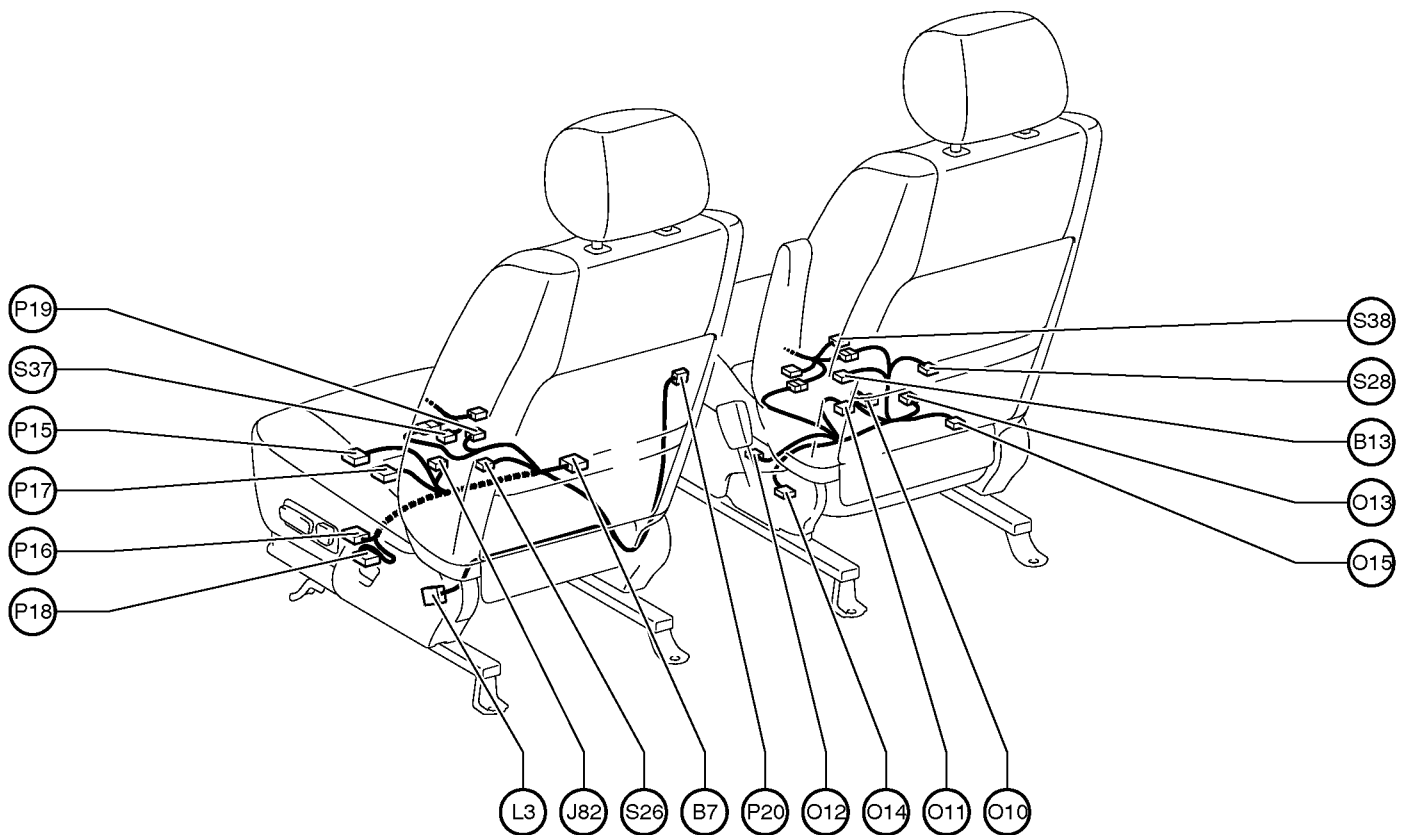
- T 6 Trailer Socket
- T 7 Tweeter LH
- T 8 Tweeter RH
- T 18 Tire Pressure Monitor Receiver

- V 6 Vanity Light LH
- V 7 Vanity Light RH
- V 12 Voltage Inverter

# G ELECTRICAL WIRING ROUTING

## Position of Parts in Seat

[Double Cab]



B 7 Buckle SW LH  
B 13 Buckle SW RH

J 82 Junction Connector

L 3 Lumbar Support Control SW (Driver's Seat)

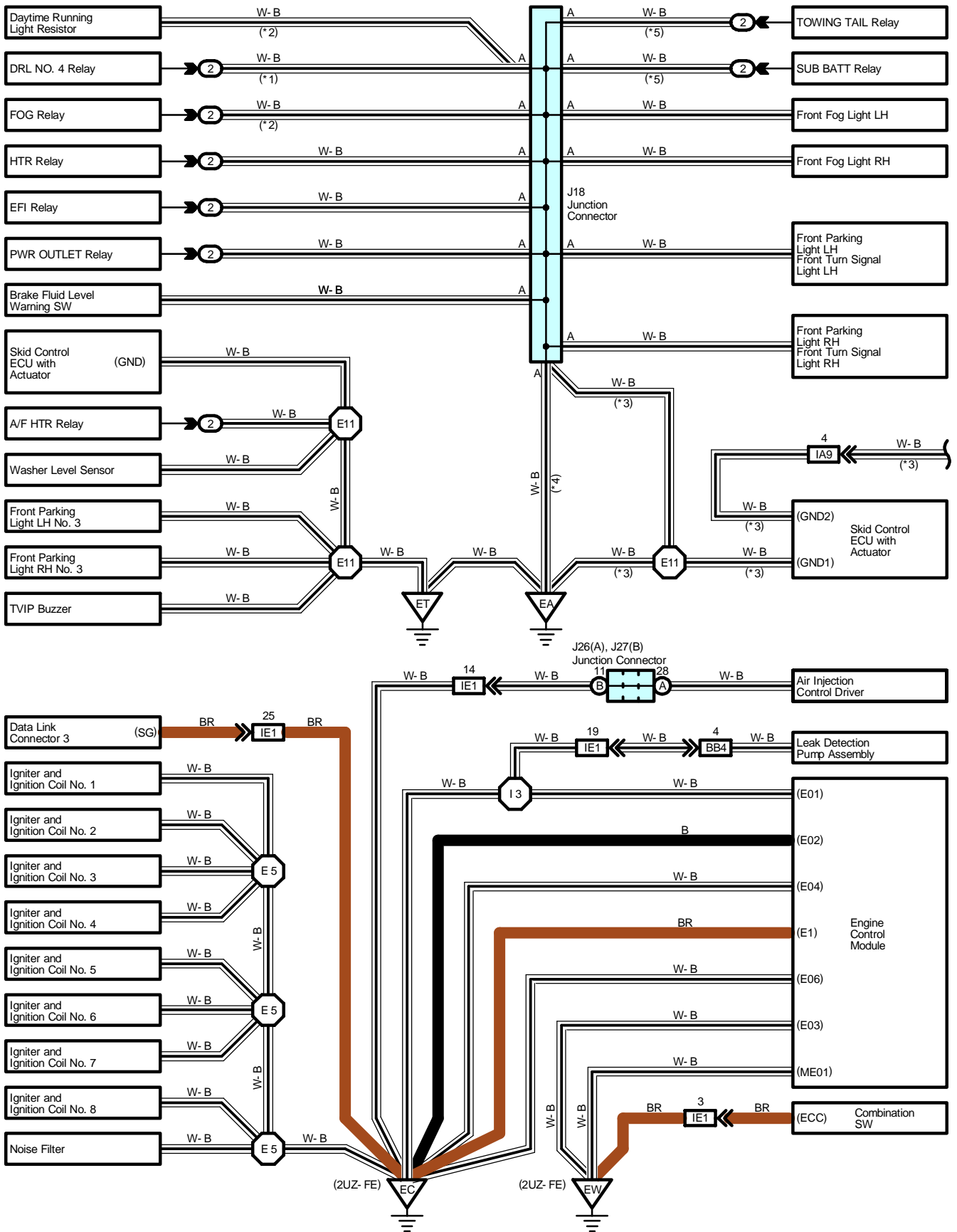
O10 Occupant Classification ECU  
O11 Occupant Classification ECU  
O12 Occupant Classification Sensor Front LH  
O13 Occupant Classification Sensor Front RH  
O14 Occupant Classification Sensor RearLH  
O15 Occupant Classification Sensor RearRH

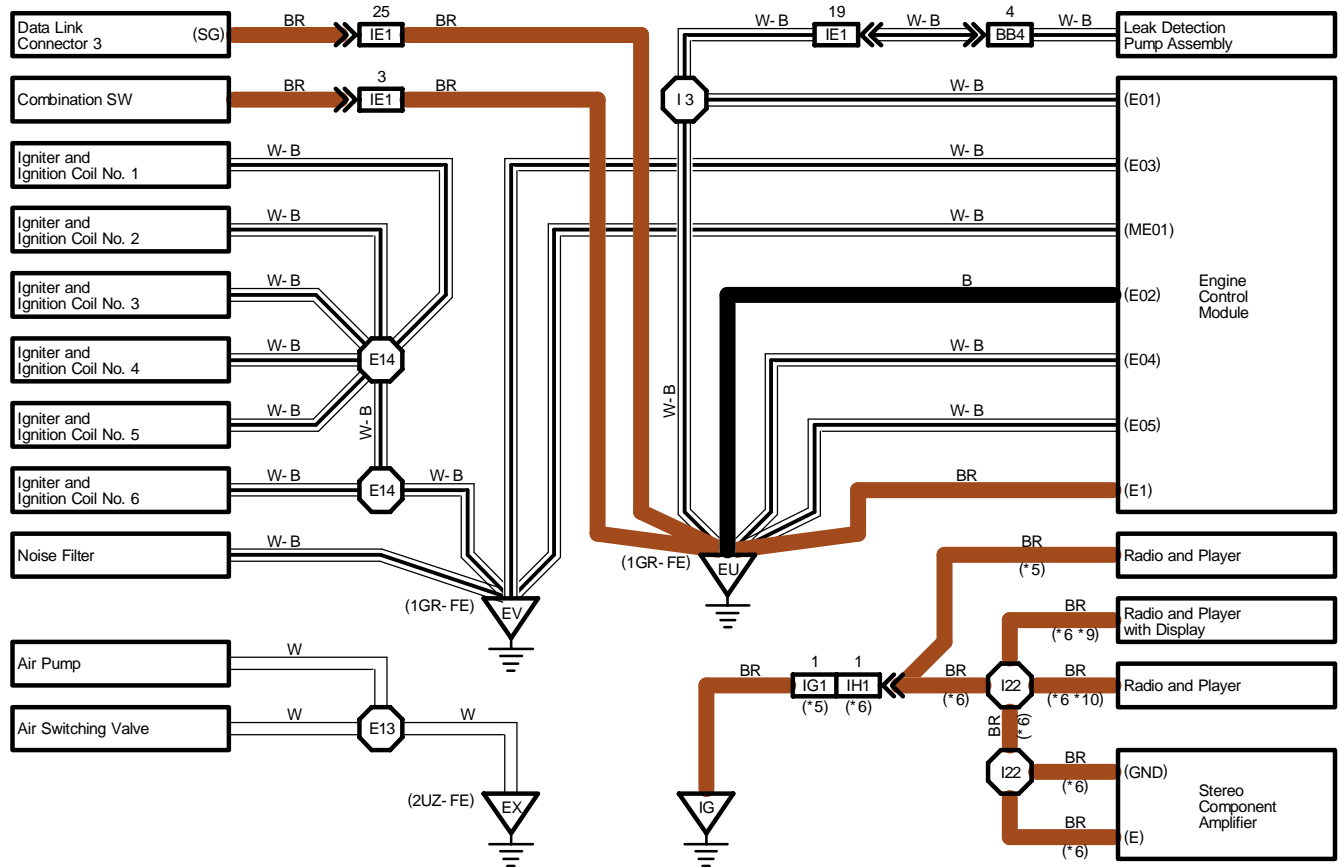
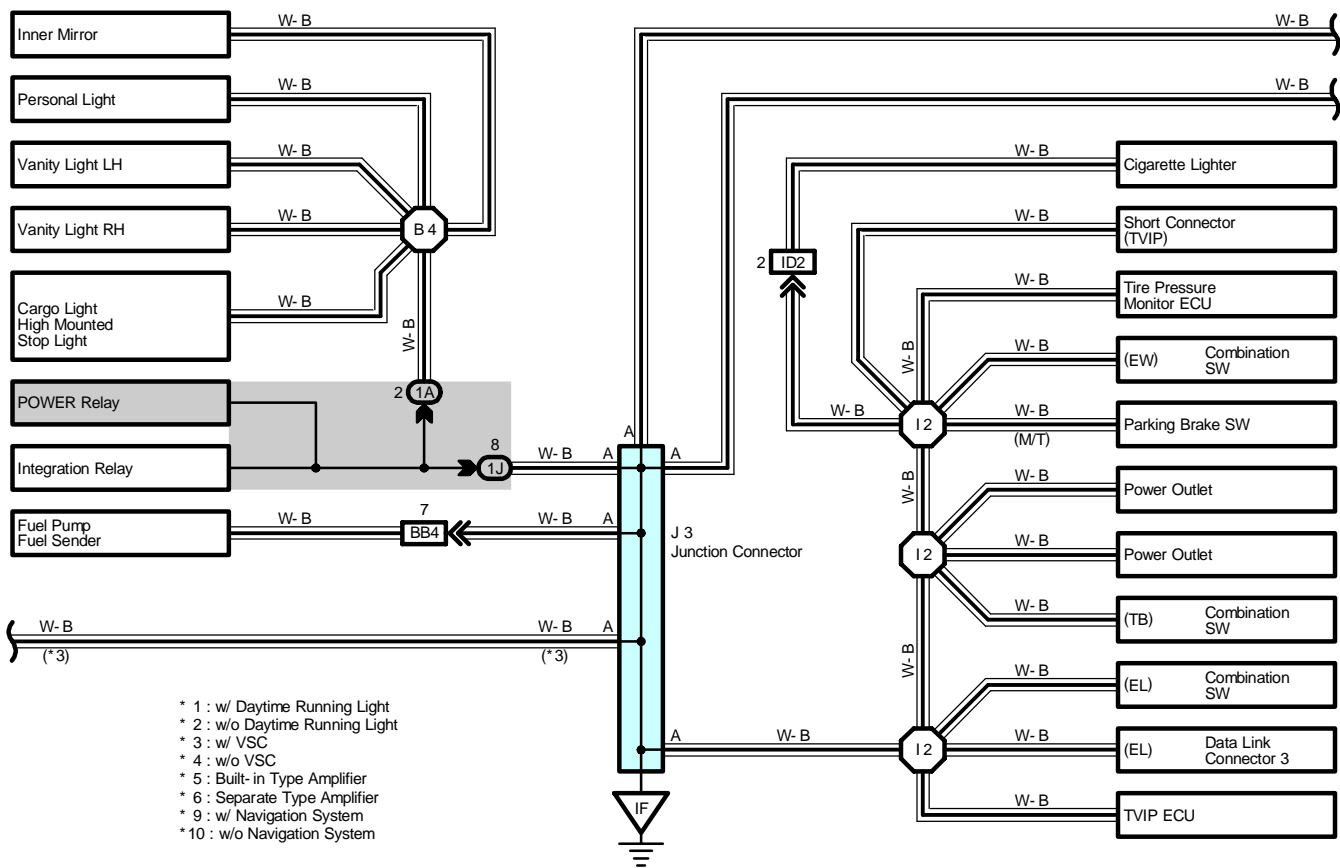
P15 Power Seat Motor (Driver's Seat Front Vertical Control)  
P16 Power Seat Control SW (Driver's Seat)  
P17 Power Seat Motor (Driver's Seat Rear Vertical Control)  
P18 Power Seat Motor (Driver's Seat Reclining Control)  
P19 Power Seat Motor (Driver's Seat Slide Control)  
P20 Power Seat Motor  
(Driver's Seat Lumbar Support Control)

S26 Seat Heater (Driver's Seat)  
S28 Seat Heater (Front Passenger's Seat)  
S37 Side Airbag Squib LH  
S38 Side Airbag Squib RH

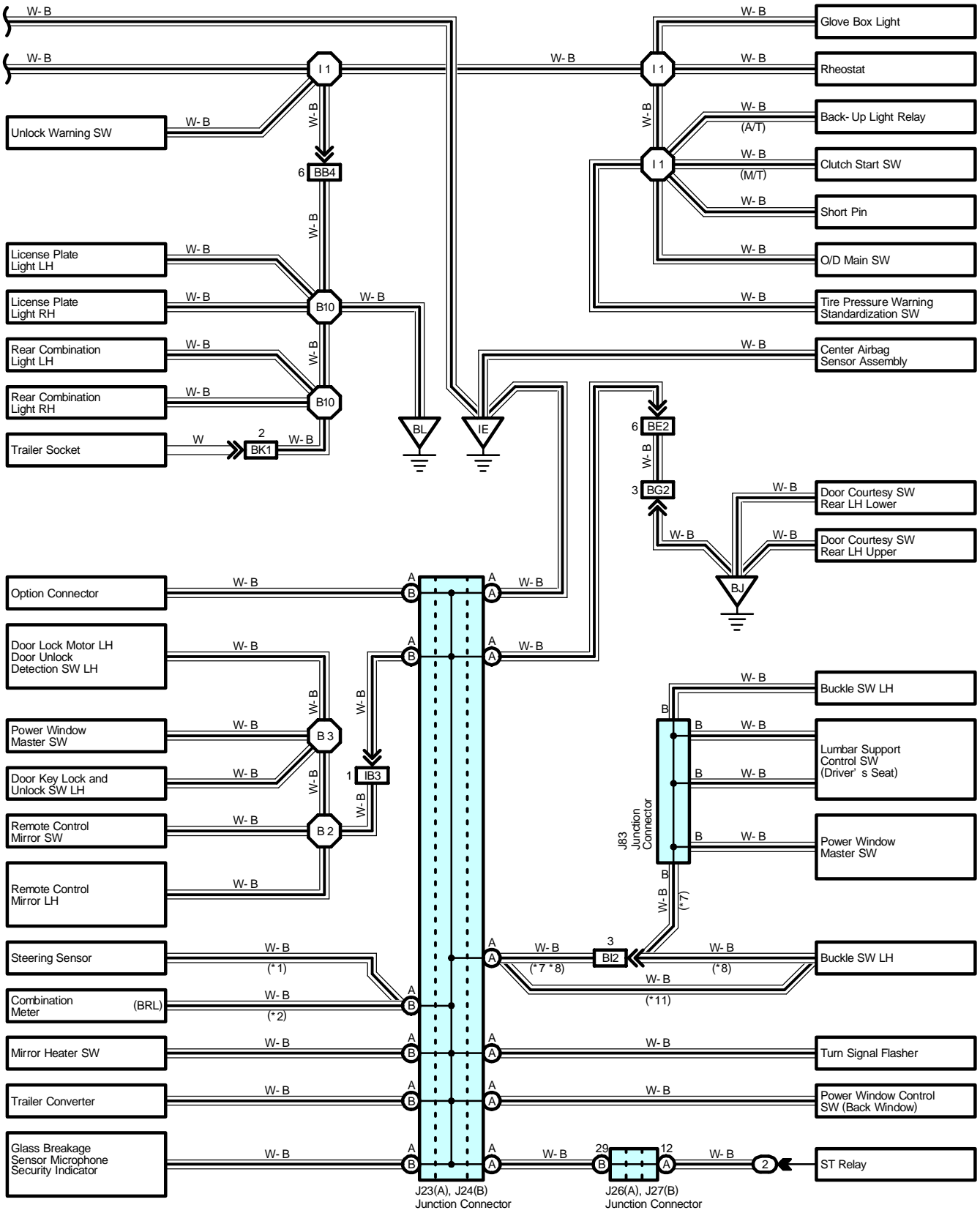


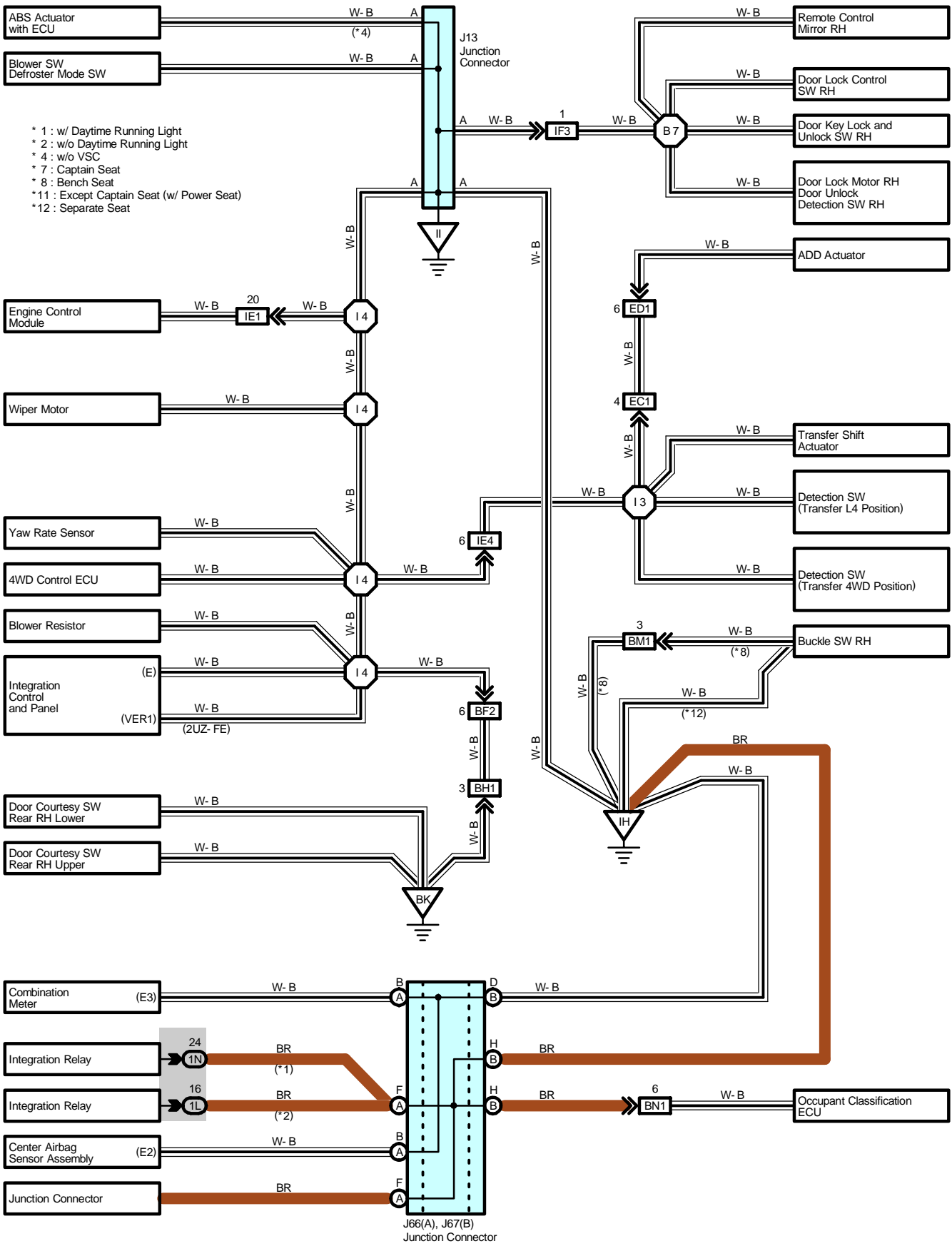
# I GROUND POINT (Access/Standard Cab)





# I GROUND POINT (Access/Standard Cab)







# I GROUND POINT (Access/Standard Cab)

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
J3	58	J23	A 58	J66	A 58
J13	58	J24	B 58	J67	B 58
J18	53 (2UZ-FE)	J26	A 58	J83	62 (*7)
	55 (1GR-FE)	J27	B 58		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24 (*2)	Roof Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1J	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1L	25 (*2)	
1N	29 (*1)	

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EC1	74 (2UZ-FE)	Engine No.2 Wire and Engine Wire (Near the Starter)
ED1	74 (2UZ-FE)	Engine No.2 Wire and Differential Wire (Near the Transmission)
IA9	78	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IB3	78	Front Door LH Wire and Cowl Wire (Left Kick Panel)
ID2	78	Cigarette Lighter Wire and Cowl Wire (Instrument Panel Brace LH)
IE1	80	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IE4		
IF3	80	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IG1	80	Cowl Wire and Instrument Panel No.2 Wire (Instrument Panel Brace RH)
IH1	80	Cowl Wire and Floor No.3 Wire (Instrument Panel Brace RH)
BB4	82 (*3)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	84 (*4)	
BE2	82 (*3)	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BF2	82 (*3)	Floor No.1 Wire and Cowl Wire (Center of Right Rocker Panel)
BG2	82 (*3)	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)
BH1	82 (*3)	Floor No.1 Wire and Rear Door No.1 Wire (Under the Right Quarter Panel)
BI2	86 (*6)	Cowl Wire and Seat No.2 Wire (Under the Driver's Seat)
	88 (*5)	
BK1	82 (*3)	Frame Wire and Frame No.3 Wire (Near the License Plate Light)
	84 (*4)	
BM1	88 (*5)	Cowl Wire and Seat No.1 Wire (Under the Passenger's Seat)
BN1	86 (*6)	Seat No.1 Wire and Cowl Wire (Under the Passenger's Seat)

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

 : **Ground Points**

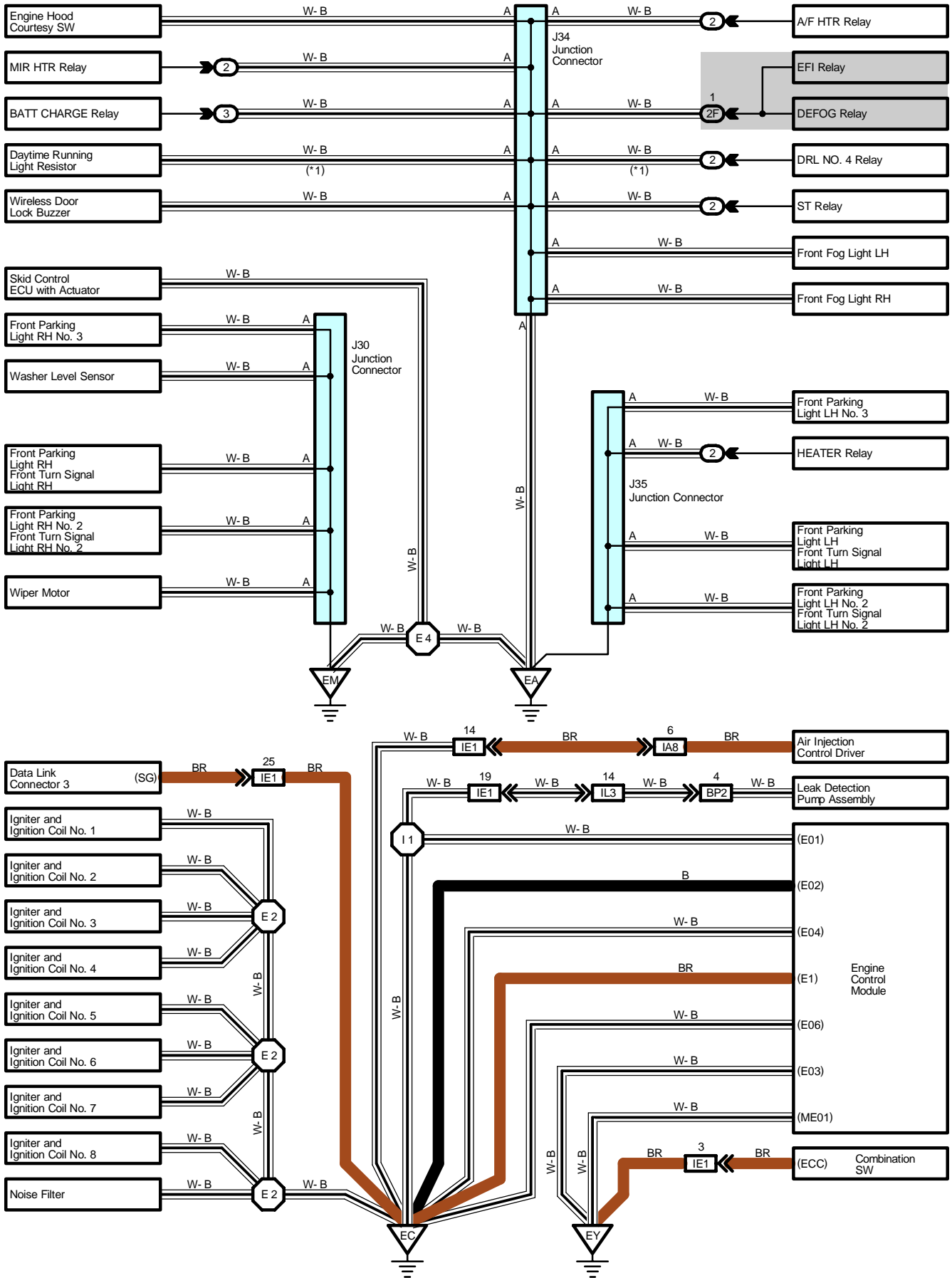
Code	See Page	Ground Points Location
EA	74 (2UZ-FE)	Front Left Fender
	76 (1GR-FE)	
EC	74 (2UZ-FE)	Rear Bank of Left Cylinder Head
ET	74 (2UZ-FE)	Front Right Fender
	76 (1GR-FE)	
EU	76 (1GR-FE)	Rear Bank of Right Cylinder Head
EV	76 (1GR-FE)	Rear Bank of Left Cylinder Head
EW	74 (2UZ-FE)	Front Left Side of Cylinder Head
EX	74 (2UZ-FE)	Left Side of Cylinder Block
IE	78	Left Kick Panel
IF		
IG	78	Instrument Panel Brace RH
IH	78	Right Kick Panel
II		
BJ	82 (*3)	Inside of Rear Door LH
BK	82 (*3)	Inside of Rear Door RH
BL	82 (*3)	Surrounding of the Front of the Fuel Tank
	84 (*4)	

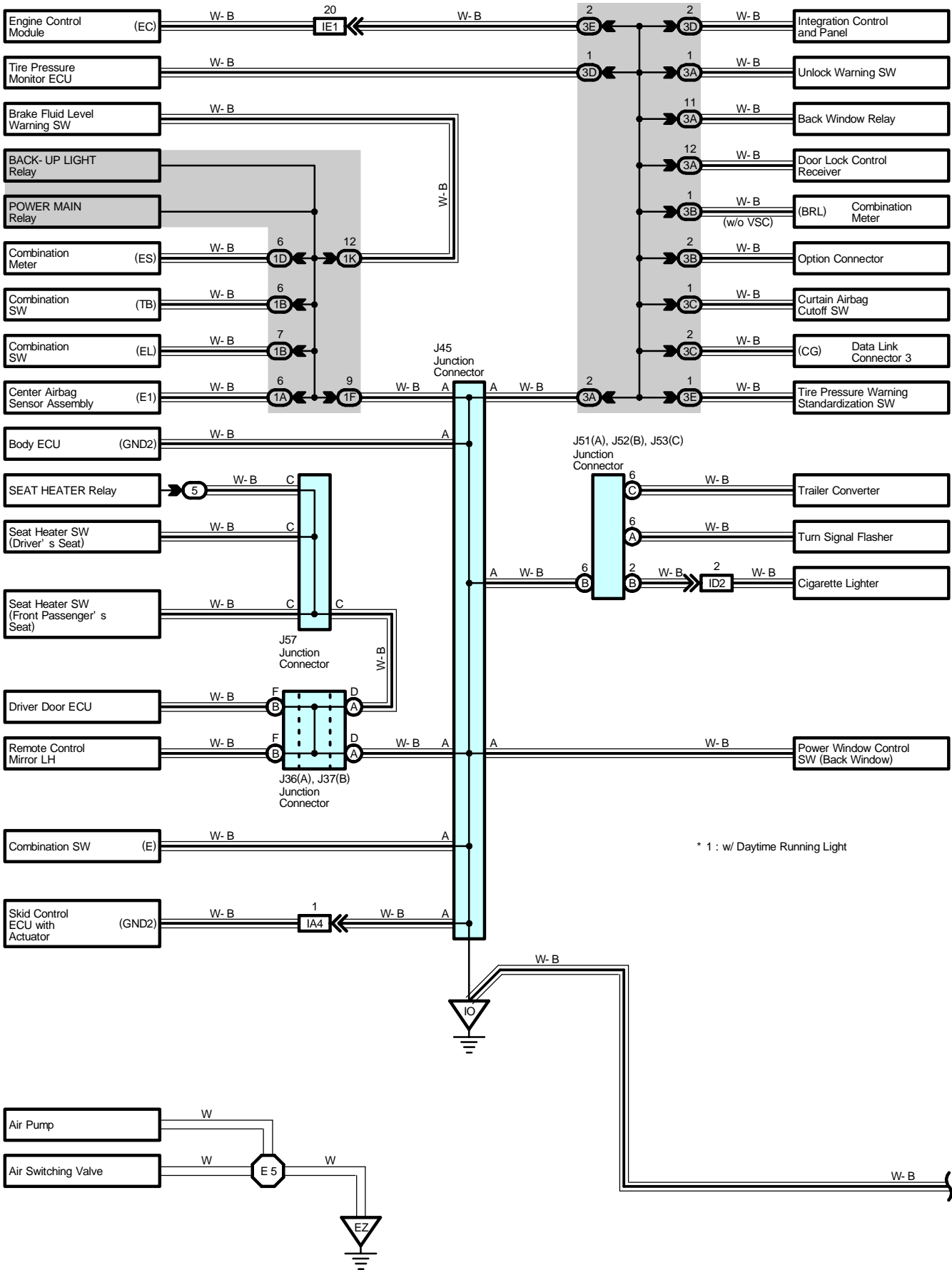
 : **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E5	74 (2UZ-FE)	Engine Wire	B2	82 (*3)	Front Door LH Wire
E11	74 (2UZ-FE)	Engine Room Main Wire		84 (*4)	
	76 (1GR-FE)				
E13	74 (2UZ-FE)	Engine No.2 Wire	B3	82 (*3)	
E14	76 (1GR-FE)	Engine Wire	B4	84 (*4)	Roof Wire
				80	Cowl Wire
I1	80	Cowl Wire	B7	82 (*3)	Front Door RH Wire
I2					
I3	80	Engine Wire	B10	82 (*3)	Frame Wire
I4	80	Cowl Wire		84 (*4)	
I22	80	Floor No.3 Wire			

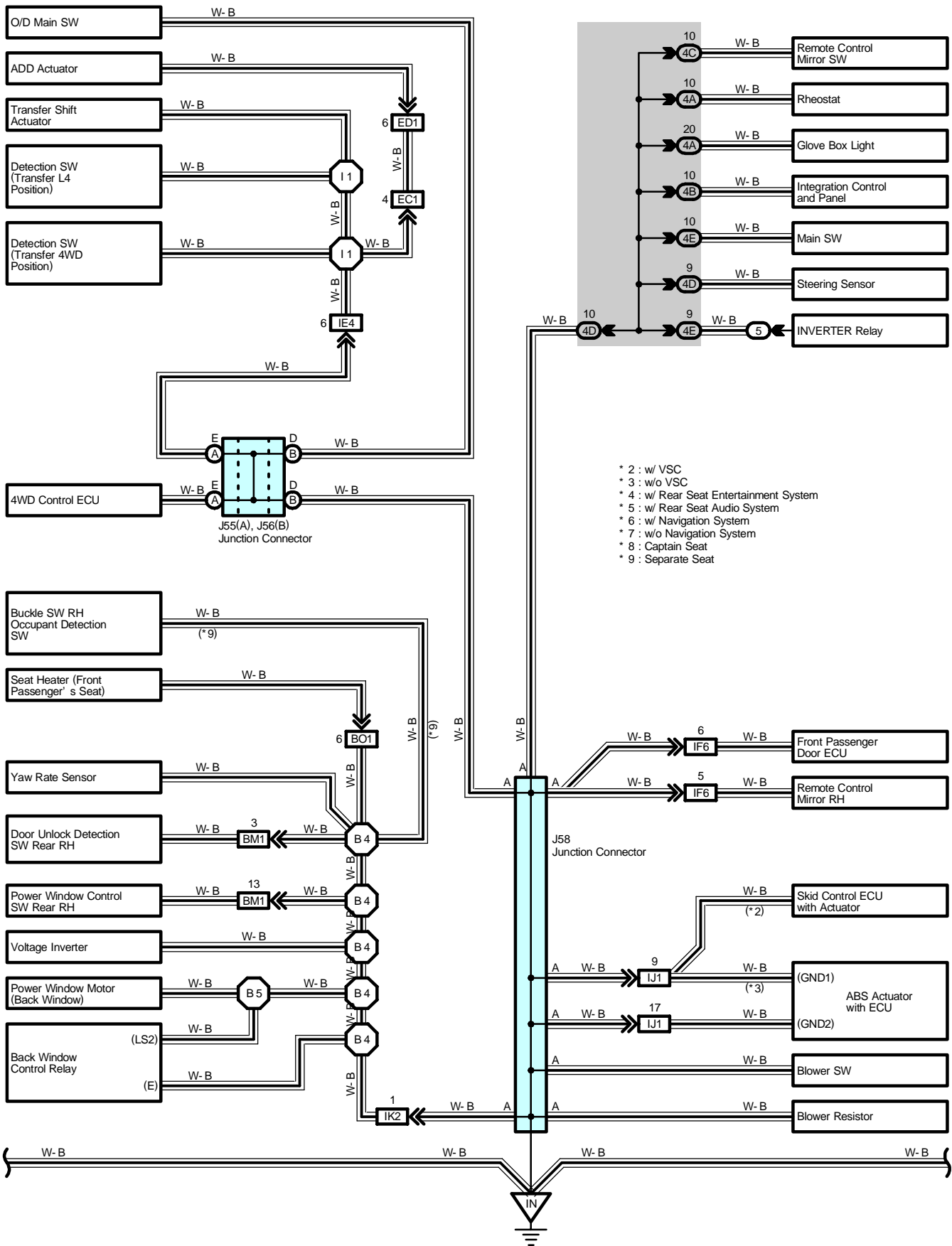
\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

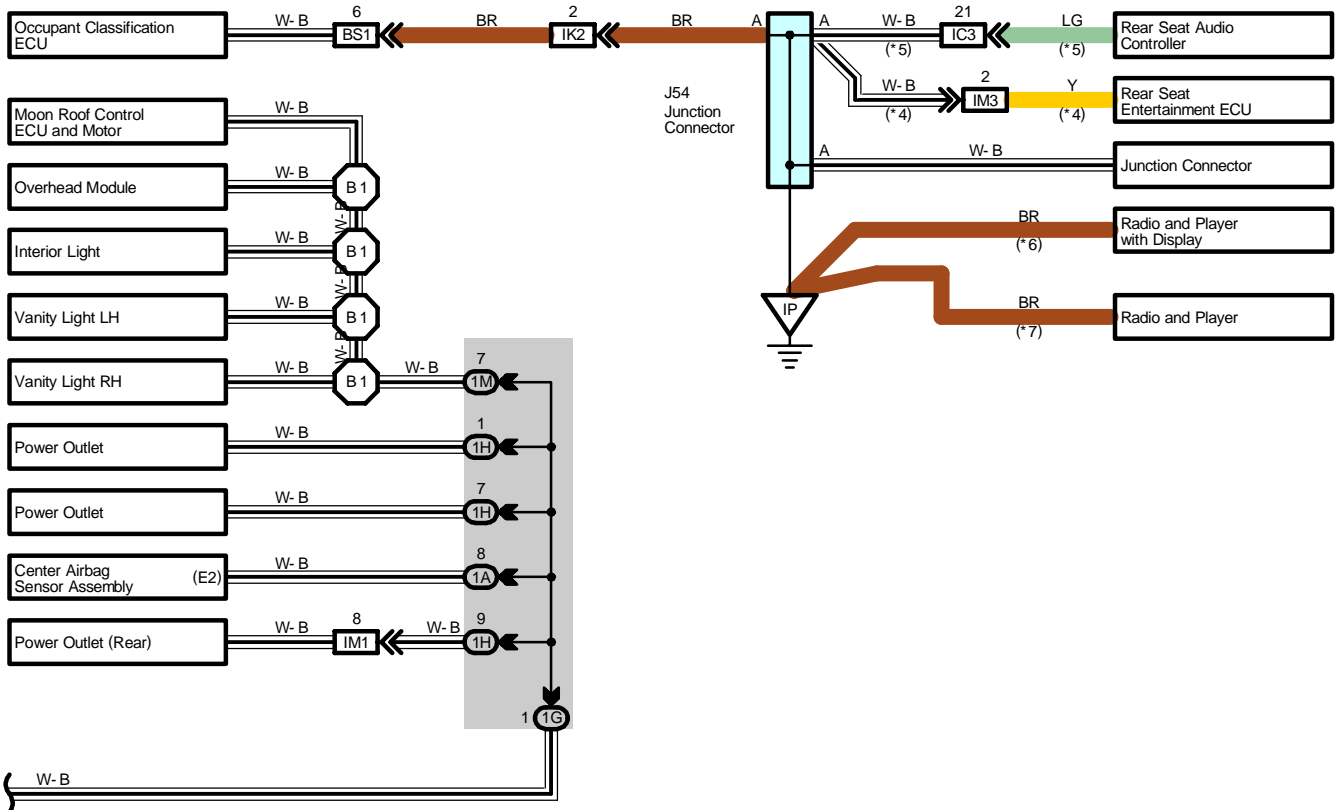
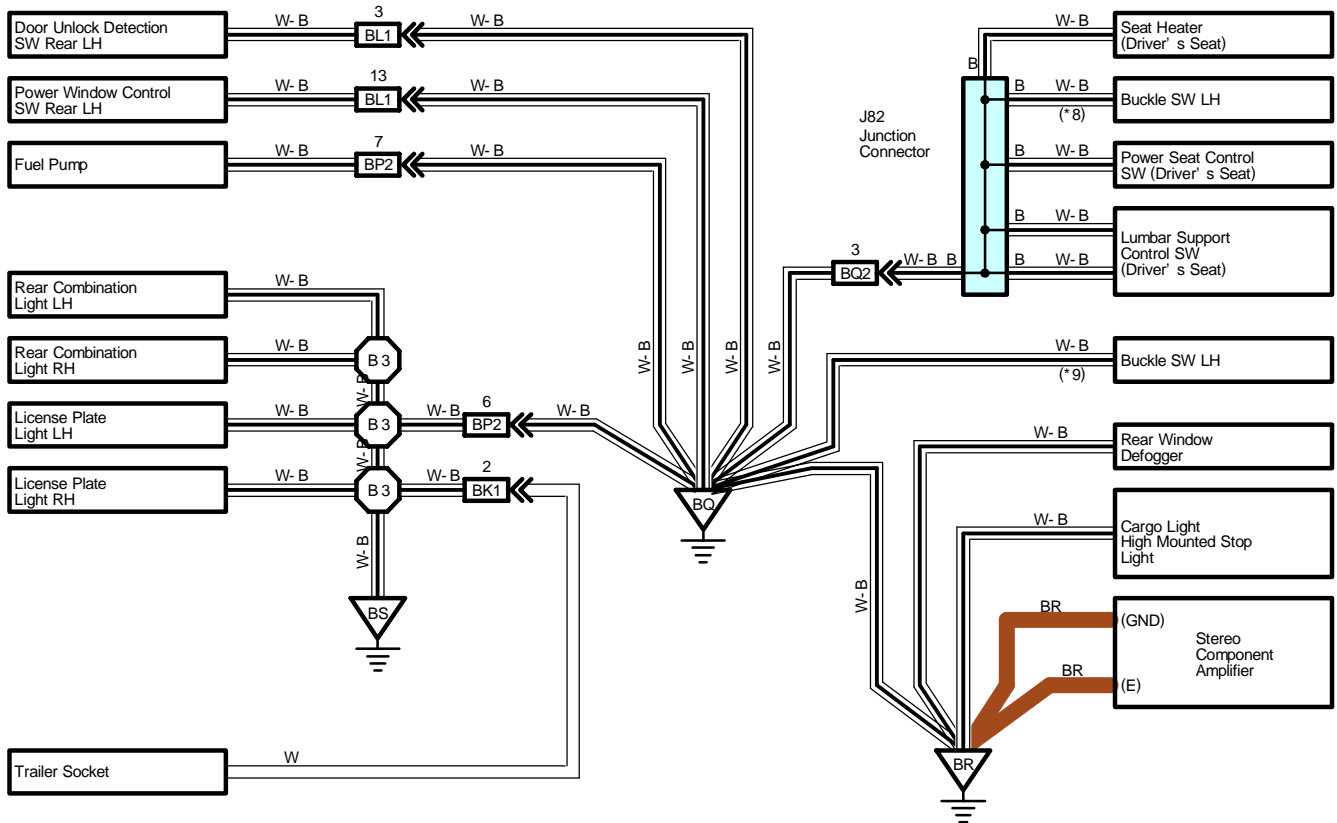
# I GROUND POINT (Double Cab)





# I GROUND POINT (Double Cab)





# I GROUND POINT (Double Cab)

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
J30	65	J45	68	J55	A 68
J34	65	J51	A 68	J56	B 68
J35	65	J52	B 68	J57	68
J36	A 68	J53	C 68	J58	68
J37	B 68	J54	68	J82	72

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	38	Engine Room R/B No.2 (Engine Compartment Left)
3	39	Engine Room R/B No.3 (Engine Compartment Left)
5	39	Driver Side R/B (Under the Instrument Panel J/B)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1B		
1D		
1F		
1G		
1H		
1K	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1M	45	Roof Wire and Driver Side J/B (Lower Finish Panel)
2F	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3B		
3C		
3D		
3E		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4B		
4C		
4D		
4E		

 : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EC1	90	Engine No.2 Wire and Engine Wire (Near the Starter)
ED1	90	Engine No.2 Wire and Differential Wire (Near the Transmission)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA8		
IC3	92	Cowl Wire and Roof Wire (Left Side of Instrument Panel)
ID2	92	Cigarette Lighter Wire and Cowl Wire (Instrument Panel Brace LH)
IE1	94	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IE4		
IF6	94	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IJ1	94	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)
IK2	94	Floor Wire and Cowl Wire (Right Kick Panel)
IL3	94	Floor No.2 Wire and Cowl Wire (Instrument Panel Brace RH)
IM1	92	Console Box Wire and Cowl Wire (Rear Console)
IM3		
BK1	96	Frame Wire and Frame No.3 Wire (Near the License Plate Light)
BL1	96	Rear Door No.1 Wire LH and Floor No.2 Wire (Left Side of Center Pillar)
BM1	96	Rear Door No.1 Wire RH and Floor Wire (Right Side of Center Pillar)
BO1	98	Floor Wire and Seat No.1 Wire (Under the Front Passenger's Seat)
BP2	96	Frame Wire and Floor No.2 Wire (Under the Driver's Seat)
BQ2	98	Floor No.2 Wire and Seat No.2 Wire (Under the Driver's Seat)
BS1	98	Seat No.1 Wire and Floor Wire (Under the Front Passenger's Seat)

 : Ground Points

Code	See Page	Ground Points Location
EA	90	Front Left Fender Apron
EC	90	Rear Bank of Left Cylinder Head
EM	90	Radiator Side Support RH
EY	90	Front Left Side of Cylinder Head
EZ	90	Left Side of Cylinder Block
IN	92	Right Kick Panel
IO	92	Left Kick Panel
IP	92	Instrument Panel Brace LH
BQ	96	Left Side of Center Pillar
BR	96	Back Panel Left
BS	96	Surrounding of the Front of the Fuel Tank

 : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E2	90	Engine Wire	B1	96	Roof Wire
E4	90	Engine Room Main Wire	B3	96	Frame Wire
E5	90	Engine No.2 Wire	B4	96	Floor Wire
I1	94	Engine Wire	B5		



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.

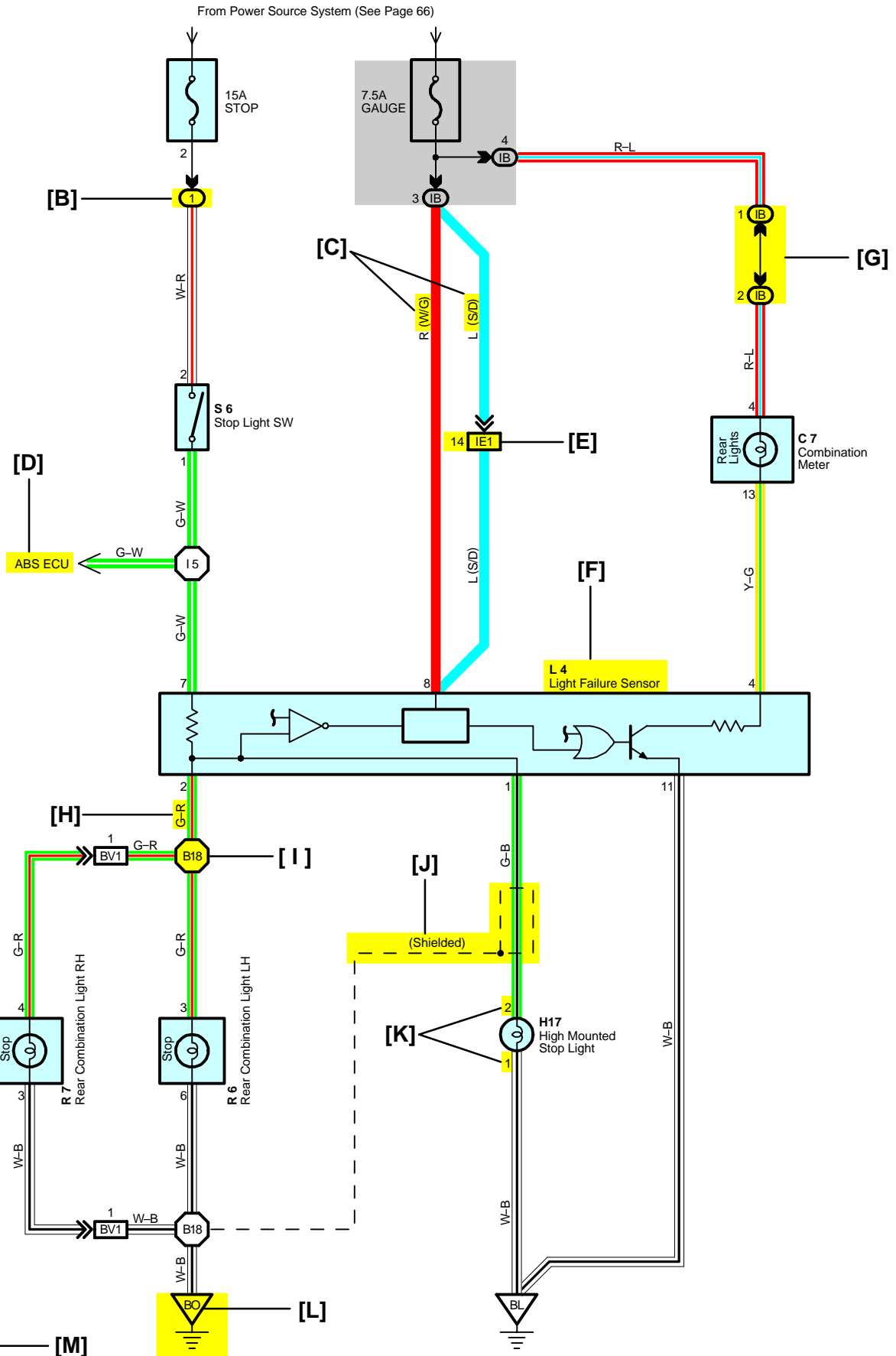
When the circuit operation is understood, begin troubleshooting of the problem circuit to isolate the cause. Use Relay Location and Electrical Wiring Routing sections to find each part, junction block and wiring harness connectors, wiring harness and wiring harness connectors, splice points, and ground 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.

# B HOW TO USE THIS MANUAL

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

[A]  
**Stop Light**



**[A]** : System Title

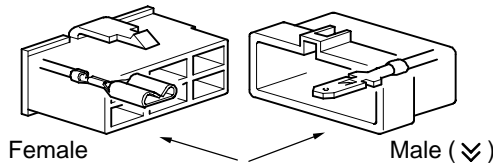
**[B]** : Indicates a Relay Block. No shading is used and only the Relay Block No. is shown to distinguish it from the J/B

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.



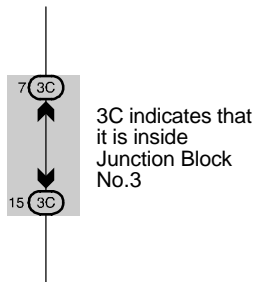
The first letter of the code for each wiring harness and wiring harness connector(s) indicates the component's location, e.g, "E" for the Engine Compartment, "I" for the Instrument Panel and Surrounding area, and "B" for the Body and Surrounding area.

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:



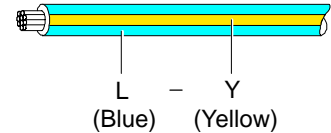
**[H]** : Indicates the wiring color.

Wire colors are indicated by an alphabetical code.

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

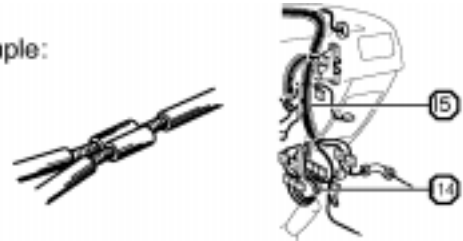
The first letter indicates the basic wire color and the second letter indicates the color of the stripe.

Example: L - Y



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

Example:



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

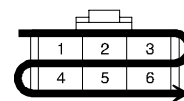
**[J]** : Indicates a shielded cable.



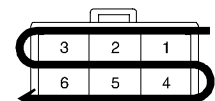
**[K]** : Indicates the pin number of the connector. The numbering system is different for female and male connectors.

Example: Numbered in order from upper left to lower right

Numbered in order from upper right to lower left



Female



Male

**[L]** : 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.

**[M]** : Page No.

## B HOW TO USE THIS MANUAL

### [N] 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.

### [O] 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

### [P] ○ : Parts Location

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

### [Q] ○ : Relay Blocks

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

### [R] ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
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 Brace LH)

### [S] □ : 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 Room Left)

### [T] ▽ : Ground Points

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

### [U] ○ : 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

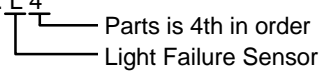
**[N]** : Explains the system outline.

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

**[P]** : 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.

Example : L 4  


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

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

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

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

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

Example : Connector "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.

**[T]** : 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.

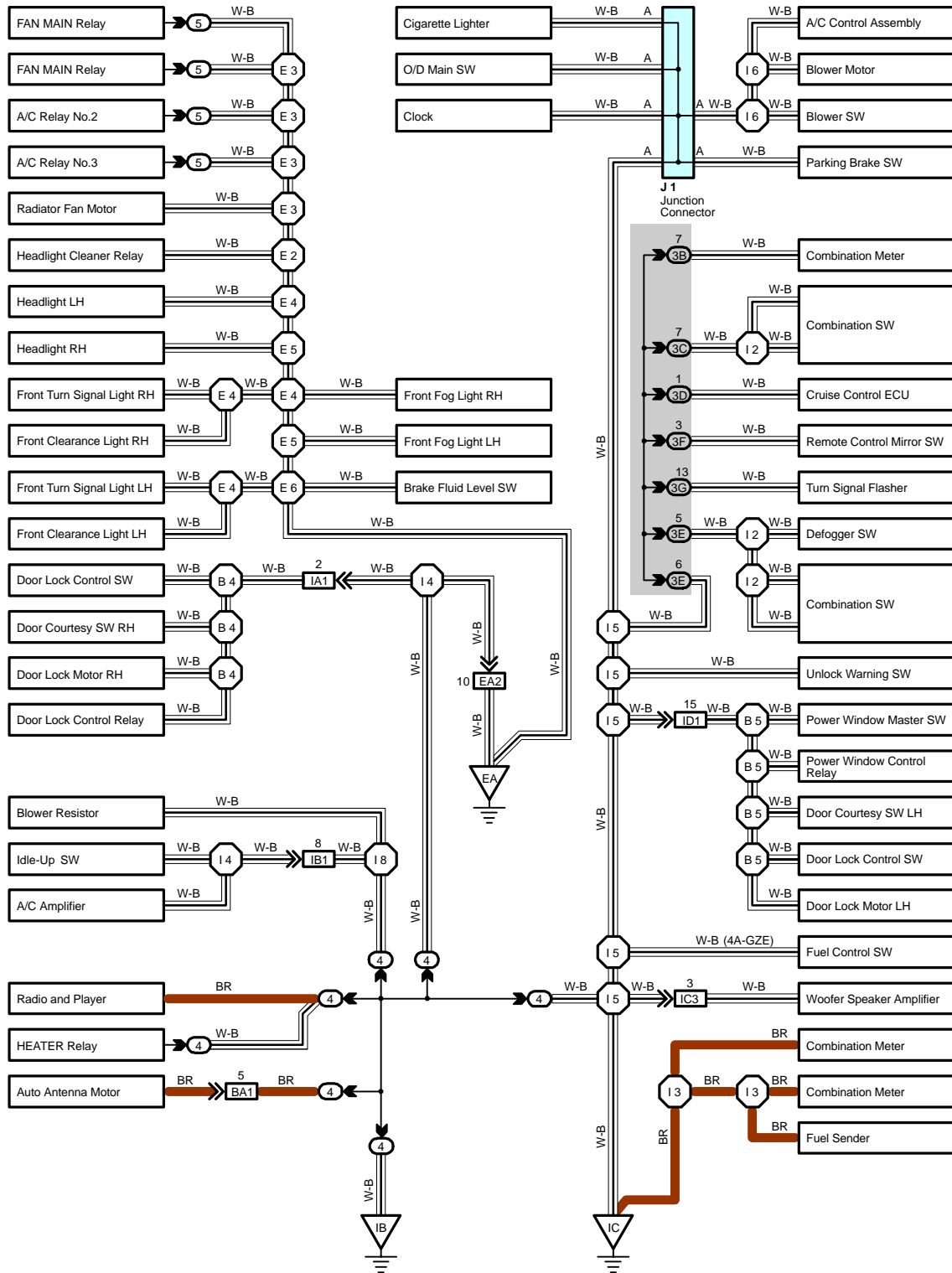
**[U]** : Indicates the reference page showing the position of the splice points on the vehicle.

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 (  $\nabla_{EA}$ ,  $\nabla_{IB}$  and  $\nabla_{IC}$  shown below) can also be checked this way.

## I GROUND POINT

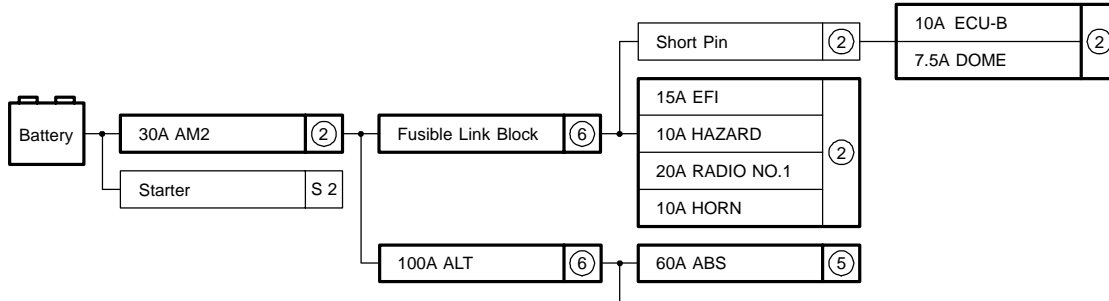


\* The system shown here is an EXAMPLE ONLY. It is different to the actual circuit shown in the SYSTEM CIRCUITS SECTION.

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)

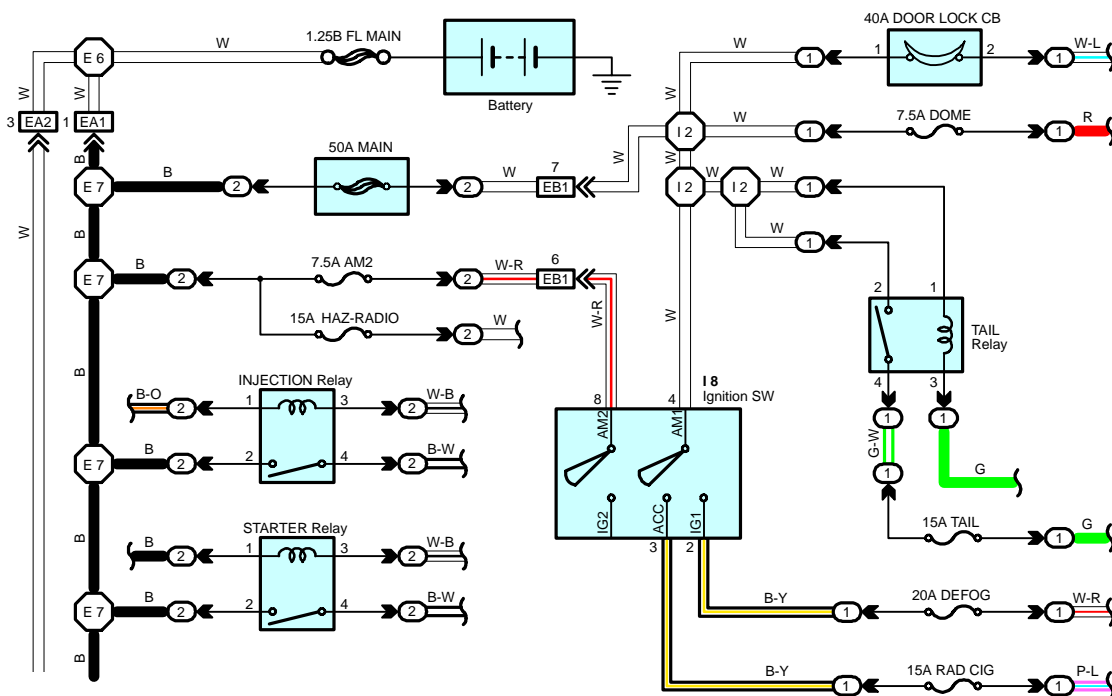
The chart below shows the route by which current flows from the battery to each electrical source (Fusible Link, Circuit Breaker, Fuse, etc.) and other parts.



### Engine Room R/B (See Page 20)

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

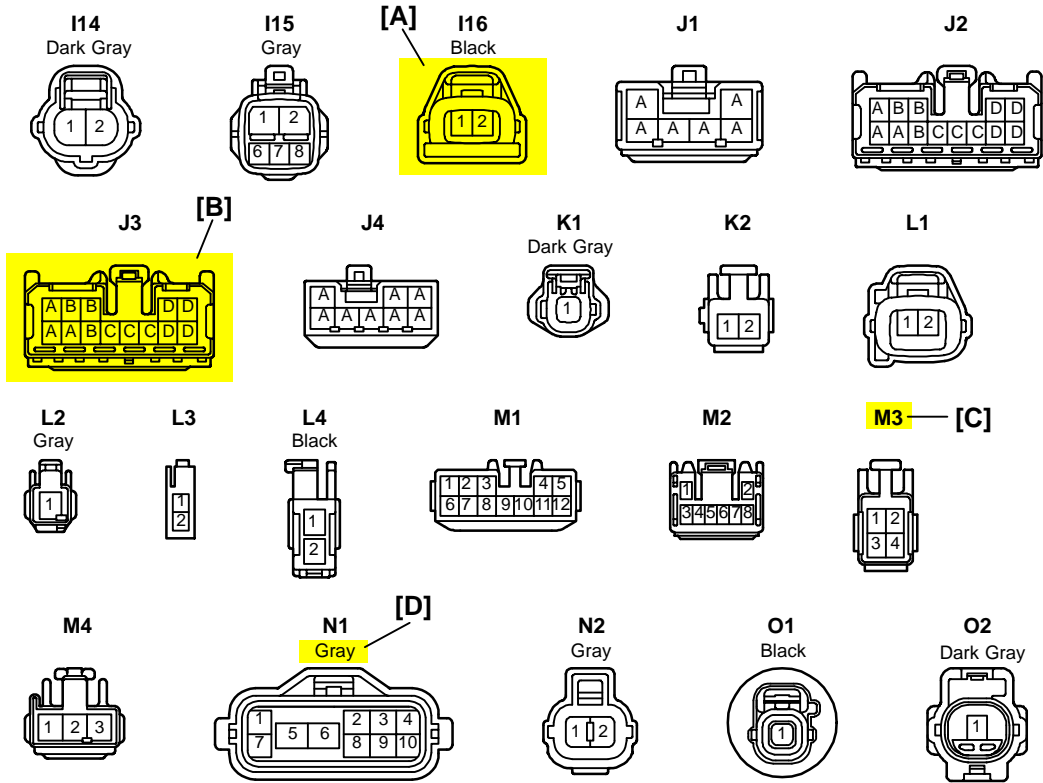
### Power Source



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

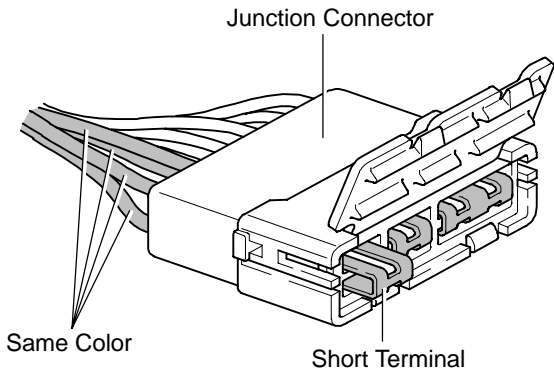
# B HOW TO USE THIS MANUAL

## K CONNECTOR LIST



**[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	Code	Part Name	Part Number
A 1	A/C Ambient Temp. Sensor	90980-1 1070	D 4	Diode (Courtesy)	90980-1 1608
A 2	A/C Condenser Fan Motor	90980-1 1237	D 5	Diode (Interior Light)	90980-10962
A 3	A/C Condenser Fan Relay	90980-10940	D 6	Diode (Moon Roof)	90980-1 1608
A 4	A/C Condenser Fan Resistor	90980-10928	D 7	Door Lock Control Relay	90980-10848
A 5	A/C Magnetic Clutch	90980-1 1271	D 8	Door Lock Control SW LH	90980-1 1148
A 6	A/T Oil Temp. Sensor	90980-1 1413	D 9	Door Lock Control SW RH	
[A]	ABS Actuator [B]	909-1 151	D10	Door Courtesy SW LH	90980-1 1097
A 8	ABS Actuator	90980-1 1009	D11	Door Courtesy SW RH	
A 9	ABS Speed Sensor Front LH	90980-10941	D12	Door Courtesy SW Front LH	90980-1 1156
A10	ABS Speed Sensor Front RH	90980-1 1002	D13	Door Courtesy SW Front RH	
A11	Airbag Sensor Front LH	90980-1 1856	D14	Door Courtesy SW Rear LH	
A12	Airbag Sensor Front RH		D15	Door Courtesy SW Rear RH	
A13	Airbag Sensor Front LH	90980-1 1194	D16	Door Courtesy SW Front LH	90980-1 1170
		90980-1 1194			

**[A]** : Part Code

**[B]** : Part Name

**[C]** : Part Number

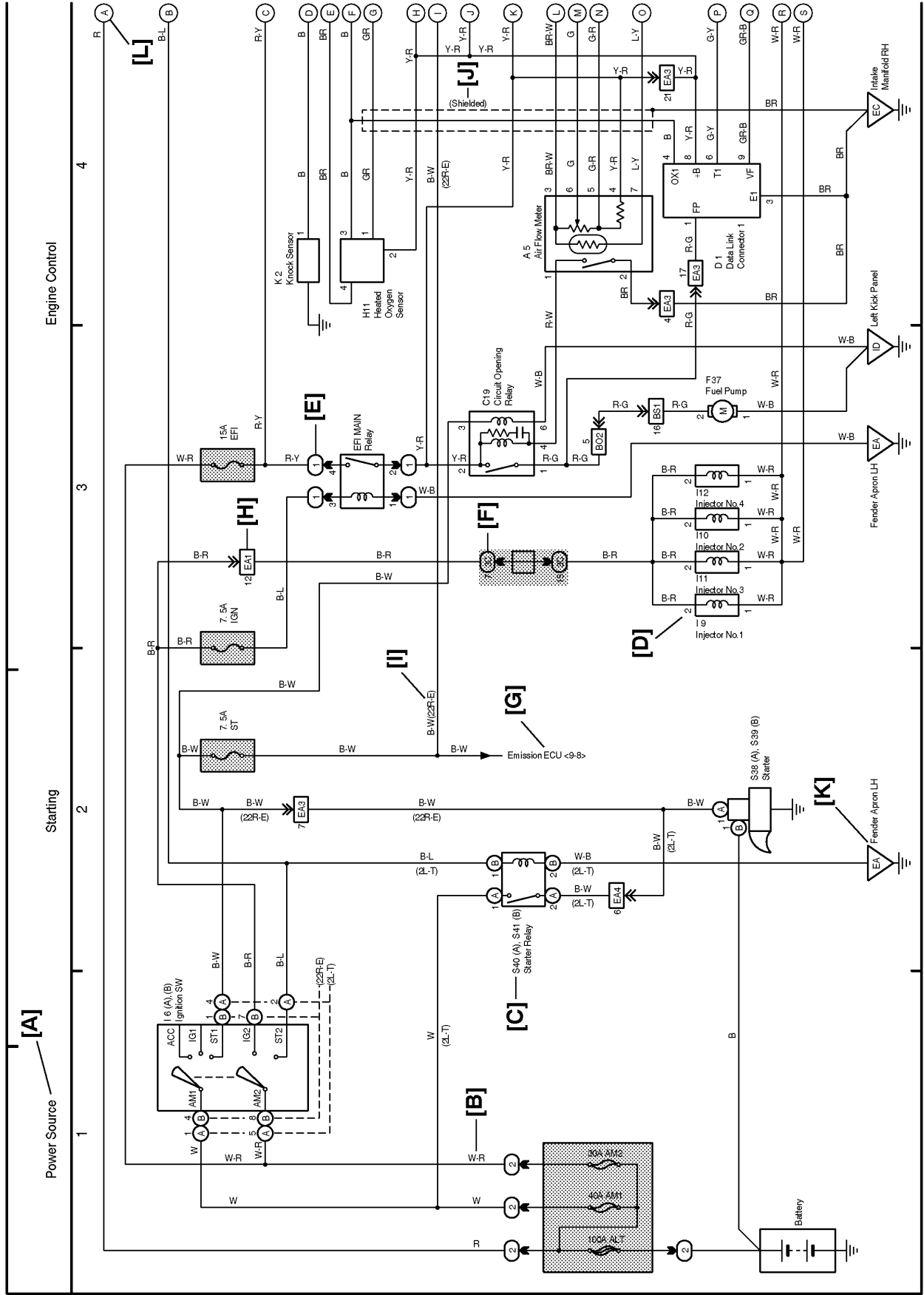
Toyota Part Number are indicated.

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

# M OVERALL ELECTRICAL WIRING DIAGRAM

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

**HOW TO READ THIS SECTION**



**[A]** : System Title

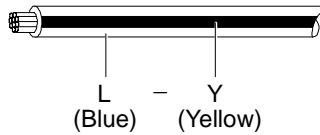
**[B]** : Indicates the wiring color.

Wire colors are indicated by an alphabetical code.

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

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

Example: L - Y

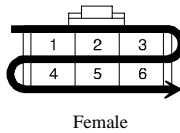


**[C]** : The position of the parts is the same as shown in the wiring diagram and wire routing.

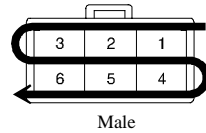
**[D]** : Indicates the pin number of the connector. The numbering system is different for female and male connectors.

Example : Numbered in order from upper left to lower right

Numbered in order from upper right to lower left



Female



Male

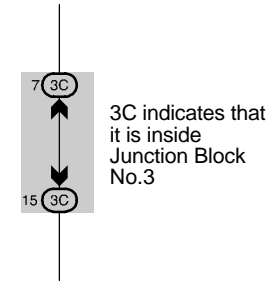
The numbering system for the overall wiring diagram is the same as above

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

Example : ① Indicates Relay Block No.1

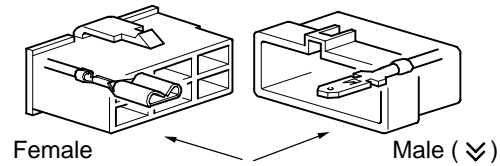
**[F]** : Junction Block (The number in the circle is the J/B No. and the connector code is shown beside it). Junction Blocks are shaded to clearly separate them from other parts.

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 occurring on the next page indicates that the wire harness is continuous.

# SYSTEM INDEX [Access Cab, Standard Cab]

SYSTEMS	LOCATION	SYSTEMS	LOCATION
ABS .....	17-2	Ignition (2UZ-FE) .....	2-2
Air Conditioning .....	32-2	Illumination .....	9-2
Audio System (Built-in Type Amplifier) .....	30-2	Interior Light .....	10-2
Audio System (Separate Type Amplifier w/ Navigation System) ..	28-2	Key Reminder .....	26-4
Audio System (Separate Type Amplifier w/o Navigation System) .	29-2	Light Auto Turn Off System (w/ Daytime Running Light) .....	20-4
Automatic Glare-Resistant EC Mirror .....	34-2	Light Auto Turn Off System (w/o Daytime Running Light) .....	21-4
Back-Up Light .....	12-3	Mirror Heater .....	13-2
Cargo Light .....	32-8	Multiplex Communication System (CAN) .....	16-8
Center Cluster Integration Control System .....	32-6	Power Outlet .....	24-2
Charging .....	1-4	Power Seat .....	25-2
Cigarette Lighter .....	24-3	Power Source .....	1~34-1
Clock .....	24-4	Power Window .....	22-2
Combination Meter .....	31-2	Remote Control Mirror .....	27-2
Cruise Control (1GR-FE) .....	5-16	Seat Belt Warning .....	26-4
Cruise Control (2UZ-FE) .....	4-16	SRS .....	18-2
Door Lock Control (w/ Daytime Running Light) .....	20-2	Starting .....	1-2
Door Lock Control (w/o Daytime Running Light) .....	21-2	Stop Light .....	13-4
Electronically Controlled Transmission and A/T Indicator (1GR-FE) .....	15-2	Taillight .....	8-2
Electronically Controlled Transmission and A/T Indicator (2UZ-FE) .....	14-2	Tire Pressure Warning System .....	34-3
Engine Control (1GR-FE) .....	5-2	Trailer Towing .....	33-3
Engine Control (2UZ-FE) .....	4-2	Turn Signal and Hazard Warning Light .....	11-2
Fog Light (w/ Daytime Running Light) .....	12-2	TVIP .....	23-2
Fog Light (w/o Daytime Running Light) .....	7-4	VSC .....	16-2
Headlight (w/ Daytime Running Light) .....	6-2	Wiper and Washer .....	26-2
Headlight (w/o Daytime Running Light) .....	7-2	Wireless Door Lock Control .....	23-2
Horn .....	27-4	4WD (2UZ-FE) .....	19-2
Ignition (1GR-FE) .....	3-2		

# SYSTEM INDEX [Double Cab]

SYSTEMS	LOCATION	SYSTEMS	LOCATION
ABS .....	48-2	* Headlight	
Accessory Meter .....	44-4	* Horn	
Air Conditioning .....	62-2	* Interior Light	
Audio System (Rear Seat Entertainment System) .....	57-2	* Key Reminder	
Audio System (w/ Navigation and Rear Seat Entertainment System) .....	56-2	* Light Auto Turn Off System	
Audio System (6 Speaker) .....	60-2	* Power Window	
Audio System (8 Speaker) .....	59-2	* Theft Deterrent	
Audio System (8 Speaker w/ Navigation System) .....	58-2	* Wireless Door Lock Control	
Automatic Glare-Resistant EC Mirror .....	63-2	Multiplex Communication System (CAN) .....	47-8
Back-Up Light .....	42-2	Power Outlet (115V) .....	55-2
Cargo Light .....	62-8	Power Outlet (12V) .....	54-2
Center Cluster Integration Control System .....	62-6	Power Seat .....	45-2
Charging .....	35-4	Power Source .....	35~63-1
Cigarette Lighter .....	54-2	Rear Window Defogger .....	53-2
Combination Meter .....	61-2	Remote Control Mirror .....	51-2
Cruise Control .....	37-16	Seat Belt Warning .....	54-3
Electronically Controlled Transmission and A/T Indicator .....	46-2	Seat Heater .....	53-4
Engine Control .....	37-2	SRS .....	49-2
Garage Door Opener .....	44-4	Starting .....	35-2
Ignition .....	36-2	Stop Light .....	42-3
Illumination .....	41-2	Taillight .....	40-2
Mirror Heater .....	53-2	Tire Pressure Warning System .....	63-3
Moon Roof .....	44-2	Trailer Towing .....	52-3
Multiplex Communication System (BEAN) .....	38-2	Turn Signal and Hazard Warning Light .....	39-2
* Door Lock Control		VSC .....	47-2
* Fog Light		Wiper and Washer .....	43-2
		4WD .....	50-2

2006 TOYOTA TUNDRA (EMD611U)

# L PART NUMBER OF CONNECTORS

Code	Part Name	Part Number	Code	Part Name	Part Number
A 1	Pressure SW	90980-11149	B11	Body ECU	90980-11877
A 3	A/C Magnetic Clutch and Lock Sensor	90980-11016	B12	Back Window Control Relay	90980-10803
A 5	ABS Actuator with ECU	90980-12426	B13	Buckle SW RH	90980-11486
A 6	ABS Speed Sensor Front LH (w/ VSC)	90980-11156	B14	Buckle SW LH	90980-12381
	ABS Speed Sensor Front LH (w/o VSC)	90980-11075		Seat Position Airbag Sensor	
A 7	ABS Speed Sensor Front RH (w/ VSC)	90980-11156	B15	Buckle SW RH (Bench Seat)	90980-10794
	ABS Speed Sensor Front RH (w/o VSC)	90980-11075		Buckle SW RH (Separate Seat)	90980-11950
A 9	ADD Actuator	90980-11858		Occupant Detection SW (Bench Seat)	90980-10794
A10	Air Fuel Ratio Sensor (Bank 1 Sensor 1)	90980-10869		Occupant Detection SW (Separate Seat)	90980-11950
A11	Airbag Sensor Front LH	90980-11856	B16	Buckle SW LH	90980-11486
A12	Airbag Sensor Front RH		C 1	Camshaft Position Sensor	90980-11016
A13	A/C Thermistor	90980-11918	C 2	Crankshaft Position Sensor (1GR-FE)	90980-12028
A15	Air Inlet Control Servo Motor	90980-11909		Crankshaft Position Sensor (2UZ-FE)	90980-11162
A16	Airbag Squib (Front Passenger Airbag Assembly)	90980-12160	C 4	Center Airbag Sensor Assembly	90980-12391
	A17		Airbag Squib (Steering Wheel Pad)	C 5	Center Airbag Sensor Assembly (Access Cab, Standard Cab)
A18	Ashtray Illumination	-			Center Airbag Sensor Assembly (Double Cab)
A19	ABS Speed Sensor Rear	90980-10942	C 6	Center Airbag Sensor Assembly (Access Cab, Standard Cab)	90980-12450
A20	Accelerator Pedal Position Sensor (A/T)	90980-11858			Center Airbag Sensor Assembly (Double Cab)
		Accelerator Pedal Position Sensor (M/T)	90980-11144	C 7	Cigarette Lighter
A22	ACC Cut Relay	82660-53010	C 8	Cigarette Lighter Illumination	90980-11148
A28	Ambient Temp. Sensor	90980-11070	C10	Clutch Start SW	90980-10825
A29	ABS Deceleration Sensor	90980-10845	C11	Combination Meter	90980-12557
A30	Air Fuel Ratio Sensor (Bank 2 Sensor 1)	90980-10869	C12	Combination Meter	90980-12554
A31	Air Switching Valve	90980-11149	C15	Combination SW	90980-11672
A32	Air Injection Control Driver	90980-11858	C16	Combination SW	90980-12552
A33	Air Injection Control Driver	90980-12068	C17	Combination SW	90980-11594
A34	Air Pressure Sensor	90980-10845	C19	Camshaft Timing Oil Control Valve LH	90980-11162
A35	Air Pump	90980-11032	C20	Camshaft Timing Oil Control Valve RH	
A36	Airbag Cut Off SW	90980-12063	C21	Curtain Airbag Cut Off SW	90980-10797
B 1	Back-Up Light SW	90980-11250	C22	Curtain Shield Airbag Squib LH	90980-11886
B 2	Brake Fluid Level Warning SW (w/ VSC)	90980-11156	C23	Curtain Shield Airbag Squib RH	
		Brake Fluid Level Warning SW (w/o VSC)	90980-11207	D 2	Daytime Running Light Resistor
B 3	Back-Up Light Relay	82660-20340	D 3	Detection SW (Transfer 4WD Position)	90980-11250
B 4	Blower Motor (Access Cab, Standard Cab)	90980-10214	D 4	Detection SW (Transfer L4 Position)	90980-11025
	Blower Motor (Double Cab)	90980-10903	D 6	Data Link Connector 3	90980-11665
B 5	Blower Resistor	90980-10171	D 8	Diode (A/T)	90980-11071
B 6	Blower SW	90980-10877	D 9	Diode (Door Courtesy)	90980-11608
	Defroster Mode SW		D11	Diode (Power Window System)	90980-10962
B 7	Buckle SW LH (Bench Seat)	90980-10859	D14	Door Courtesy Light Front LH	90980-11148
	Buckle SW LH (Captain Seat (w/ Power Seat))	90980-11950	D15	Door Courtesy Light Front RH	
	Buckle SW LH (Separate Seat, Captain Seat (w/o Power Seat))	90980-12374	D16	Door Courtesy SW Front LH	90980-10871
B 8	Back Window Relay	82660-20340	D17	Door Courtesy SW Front RH	
B 9	Body ECU	90980-11974			
B10	Body ECU	90980-11973			

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	
D18	Door Courtesy SW Rear LH Lower	90980-11003	F 3	Front Parking Light LH	90980-11020	
D19	Door Courtesy SW Rear LH Upper			Front Turn Signal Light LH		
D20	Door Courtesy SW Rear RH Lower		F 4	Front Parking Light RH		
D21	Door Courtesy SW Rear RH Upper			Front Turn Signal Light RH		
D22	Door Key Lock and Unlock SW LH	90980-11245	F 5	Fuel Pump Resistor (1GR-FE)	90980-10901	
D23	Door Key Lock and Unlock SW RH			Fuel Pump Resistor (2UZ-FE)	90980-11156	
D24	Door Lock Control SW RH	90980-10797	F 8	Front Door Speaker LH	90980-10935	
D25	Door Lock Motor LH	90980-11150	F 9	Front Door Speaker RH		
	Door Unlock Detection SW LH		F10	Fuel Pump	90980-11077	
D26	Door Lock Motor RH			Fuel Sender		
	Door Unlock Detection SW RH		F11	Front Parking Light LH No.2	90980-11020	
D27	Diode (Step Light)	Front Turn Signal Light LH No.2				
D28	Diode (Door Lock)	90980-10962	F12	Front Parking Light RH No.2		
D29	Diode (TVIP)			Front Turn Signal Light RH No.2		
D30	Diode (Unlock Warning)	90980-10962	F13	Fusible Link Block	82620-0C010	
D31	Diode (Parking Brake SW)		F15	Front Door Speaker LH (Woofer)	90980-10795	
D32	Door Lock Control Receiver	90980-11909	F16	Front Door Speaker RH (Woofer)		
D33	DVD Player	90980-12266	F17	Front Passenger Door ECU	90980-11469	
D34	Diode (Door Courtesy No.1)	90980-11071	F18	Front Parking Light LH No.3 (Access Cab, Standard Cab)	90980-11075	
D35	Diode (Door Courtesy No.2)			Front Parking Light LH No.3 (Double Cab)	90980-11156	
D36	Door Courtesy Light Rear LH	90980-11148	F19	Front Parking Light RH No.3 (Access Cab, Standard Cab)	90980-11075	
D37	Door Courtesy Light Rear RH			Front Parking Light RH No.3 (Double Cab)	90980-11156	
D38	Door Courtesy SW Rear LH	90980-10871	F20	4WD Control ECU	90980-12149	
D39	Door Courtesy SW Rear RH		F21	4WD Control ECU	90980-12150	
D40	Door Lock Motor Rear LH	90980-12226	G 1	Generator (1GR-FE)	90980-09372	
	Door Unlock Detection SW Rear LH			Generator (2UZ-FE)	90980-09365	
D41	Door Lock Motor Rear RH		G 2	Generator	90980-11964	
	Door Unlock Detection SW Rear RH		G 3	Glove Box Light	90980-11148	
D42	Door Key Lock and Unlock SW Front LH	90980-11858	H 1	Headlight LH	90980-11314	
	Door Lock Motor Front LH		H 2	Headlight RH		
	Door Unlock Detection SW Front LH		H 4	Heated Oxygen Sensor (Bank 1 Sensor 2)	90980-11028	
D43	Door Key Lock and Unlock SW Front RH			H 6		Heated Oxygen Sensor (Bank 2 Sensor 2)
	Door Lock Motor Front RH			H 7		Horn LH
D44	Door Unlock Detection SW Front RH		H 8	Horn RH		
	D44	Driver Door ECU	90980-11877	H10	Cargo Light	90980-11296
E 1	Electronically Controlled Transmission Solenoid	90980-12293	High Mounted Stop Light			
E 2	Engine Coolant Temp. Sensor	90980-10735	H11	Headphone Terminal LH	90980-12263	
E 3	Engine Control Module	90980-12525	H12	Headphone Terminal RH		
E 4	Engine Control Module	90980-12529	I 3	Igniter and Ignition Coil No.1	90980-11885	
E 5	Engine Control Module	90980-12526		I 4		Igniter and Ignition Coil No.2
E 6	Engine Control Module	90980-12528		I 5		Igniter and Ignition Coil No.3
E 7	Engine Control Module	90980-12527		I 6		Igniter and Ignition Coil No.4
E 8	Engine Hood Courtesy SW	90980-11189		I 7		Igniter and Ignition Coil No.5
F 1	Front Fog Light LH	90980-11096		I 8		Igniter and Ignition Coil No.6
F 2	Front Fog Light RH					

## L PART NUMBER OF CONNECTORS

Code	Part Name	Part Number	Code	Part Name	Part Number
I 9	Igniter and Ignition Coil No.7	90980-11885	J36	Junction Connector	90980-11661
I10	Igniter and Ignition Coil No.8		J37	Junction Connector	
I14	Injector No.1	90980-11875	J38	Junction Connector	90980-12319
I15	Injector No.2		J39	Junction Connector	
I16	Injector No.3		J40	Junction Connector	90980-12078
I17	Injector No.4		J41	Junction Connector	
I18	Injector No.5		J42	Junction Connector	90980-12076
I19	Injector No.6		J43	Junction Connector	
I20	Injector No.7		J45	Junction Connector	90980-11686
I21	Injector No.8		J46	Junction Connector	90980-11529
I22	Ignition Key Cylinder Light (Access Cab, Standard Cab)	90980-10906	J47	Junction Connector	90980-11661
	Ignition Key Cylinder Light (Double Cab)	90980-10825	J48	Junction Connector	
I23	Ignition SW (Access Cab, Standard Cab)	90980-11615	J49	Junction Connector	
	Ignition SW (Double Cab)	90980-11778	J50	Junction Connector	
I24	Integration Control and Panel	90980-11915	J51	Junction Connector	90980-10957
I25	Integration Control and Panel	90980-11973	J52	Junction Connector	90980-10933
I26	Interior Light (Access Cab, Standard Cab)	90980-10935	J53	Junction Connector	90980-11686
	Interior Light (Double Cab w/ Vanity Light)	90980-11950	J54	Junction Connector	90980-11661
	Interior Light (Double Cab w/o Vanity Light)	90980-10908	J55	Junction Connector	
I27	Inner Mirror	90980-11794	J56	Junction Connector	90980-11542
J 1	Junction Connector	90980-11714	J57	Junction Connector	90980-11686
J 2	Junction Connector		J58	Junction Connector	
J 3	Junction Connector	90980-10976	J59	Junction Connector	90980-11398
J 4	Junction Connector	90980-11915	J60	Junction Connector	
J 5	Junction Connector		J63	Junction Connector	90980-11915
J 7	Junction Connector		J64	Junction Connector	
J 8	Junction Connector		J65	Junction Connector	
J 9	Junction Connector		J66	Junction Connector	
J10	Junction Connector		J67	Junction Connector	90980-12355
J12	Junction Connector		J68	Junction Connector	
J13	Junction Connector		90980-10976	J69	
J18	Junction Connector	90980-11542	J70	Junction Connector	
J21	Junction Connector	90980-11661	J71	Junction Connector	90980-10871
J22	Junction Connector		J72	Junction Connector	
J23	Junction Connector		J73	Junction Connector	90980-11542
J24	Junction Connector		90980-12320	J74	Junction Connector
J26	Junction Connector	J75		Junction Connector	90980-12355
J27	Junction Connector	90980-11915	J76	Junction Connector	
J28	Junction Connector	90980-11194	J77	Junction Connector	
J29	Junction Connector		J78	Junction Connector	
J30	Junction Connector	90980-11542	J79	Junction Connector	90980-10871
J31	Junction Connector		J80	Junction Connector	
J32	Junction Connector		90980-11194	J81	Junction Connector
J34	Junction Connector	J82		Junction Connector	
J35	Junction Connector	90980-11194	J83	Junction Connector	

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
K 1	Knock Sensor (Bank 1)	90980-11875	P14	Pretensioner RH (Access Cab)	90980-12452
K 2	Knock Sensor (Bank 2)			Pretensioner RH (Double Cab)	90980-12253
L 1	License Plate Light LH	90980-11162		Pretensioner RH (Standard Cab)	90980-11862
L 2	License Plate Light RH		P15	Power Seat Motor (Driver's Seat Front Vertical Control)	90980-10825
L 3	Lumbar Support Control SW (Driver's Seat)	90980-10789	P16	Power Seat Control SW (Driver's Seat)	90980-10997
L 4	Leak Detection Pump Assembly	90980-12380	P17	Power Seat Motor (Driver's Seat Rear Vertical Control)	90980-10825
M 1	Mass Air Flow Meter (1GR-FE)	90980-11317	P18	Power Seat Motor (Driver's Seat Reclining Control)	
	Mass Air Flow Meter (2UZ-FE)	90980-12292	P19	Power Seat Motor (Driver's Seat Slide Control)	
M 4	Mirror Heater SW	90980-10797	P20	Power Seat Motor (Driver's Seat Lumbar Support Control)	
M 5	Main SW	90980-10957	P21	Power Window Control SW (Back Window)	90980-10996
M 6	Moon Roof Control ECU and Motor	90980-10997	P22	Power Window Motor (Back Window) (Access Cab, Standard Cab)	90980-10860
N 1	Noise Filter	90980-10843		Power Window Motor (Back Window) (Double Cab)	90980-11012
O 1	O/D Direct Clutch Speed Sensor	90980-11156	P23	Power Outlet (115V)	90980-10601
O 2	Oil Pressure SW	90980-11363	P24	Power Outlet (Rear)	90980-10760
O 4	O/D Main SW	90980-11470	P25	Power Window Control SW Rear LH	90980-10797
O 5	Option Connector	90980-11603	P26	Power Window Control SW Rear RH	
O 7	Option Connector (Glass Breakage Sensor)	90980-10871	P27	Power Window Motor Rear LH	
O 8	Overhead Module	90980-10805	P28	Power Window Motor Rear RH	
O10	Occupant Classification ECU	90980-12356	R 1	Radio and Player	90980-10996
O11	Occupant Classification ECU	90980-12357	R 2	Radio and Player	90980-10997
O12	Occupant Classification Sensor Front LH	90980-12353	R 3	Rheostat	90980-10216
O13	Occupant Classification Sensor Front RH	90980-12354	R 4	Rear Combination Light LH	90980-10988
O14	Occupant Classification Sensor RearLH		R 5	Rear Combination Light RH	
O15	Occupant Classification Sensor RearRH	90980-12353	R 6	Rear Door Speaker LH	90980-10935
O16	Occupant Detection Sensor	90980-10825	R 7	Rear Door Speaker RH	
P 1	Park/Neutral Position SW	90980-12362	R 8	Remote Control Mirror LH (Access Cab, Standard Cab w/ Mirror Heater)	90980-11452
P 2	Power Steering Oil Pressure SW	90980-11428		Remote Control Mirror LH (Access Cab, Standard Cab w/o Mirror Heater)	90980-10907
P 5	Parking Brake SW (A/T)	90980-10871		Remote Control Mirror LH (Double Cab)	90980-11487
	Parking Brake SW (M/T)	90980-10825	R 9	Remote Control Mirror LH (Access Cab, Standard Cab w/ Mirror Heater)	90980-11452
P 6	Power Outlet (Access Cab, Standard Cab)	90980-10760		Remote Control Mirror RH (Access Cab, Standard Cab w/o Mirror Heater)	90980-10907
	Power Outlet (Double Cab Captain seat)	90980-10905		Remote Control Mirror RH (Double Cab)	90980-11487
	Power Outlet (Double Cab Except Captain seat)		R10	Remote Control Mirror SW	90980-11657
P 7	Power Outlet	90980-10905	R12	Radio and Player	90980-12038
P 8	Personal Light	90980-10908	R13	Radio and Player	90980-12259
P 9	Power Window Control SW Front RH	90980-10789	R14	Radio and Player	90980-12038
P10	Power Window Master SW	90980-10997	R15	Radio and Player	90980-12259
P11	Power Window Motor Front LH (Access Cab, Standard Cab)	90980-10860			
	Power Window Motor Front LH (Double Cab)	90980-11011			
P12	Power Window Motor Front RH	90980-10860			
P13	Pretensioner LH (Access Cab)	90980-12452			
	Pretensioner LH (Double Cab)	90980-12253			
	Pretensioner LH (Standard Cab)	90980-11862			

## L PART NUMBER OF CONNECTORS

Code	Part Name	Part Number	Code	Part Name	Part Number
R16	Radio and Player	90980-12552	S37	Side Airbag Squib LH	90980-11864
R17	Rear Seat Entertainment ECU	90980-12267	S38	Side Airbag Squib RH	
R18	Rear Seat Entertainment ECU	90980-12268	T 3	Transfer Shift Actuator	90980-11858
R19	Rear Seat Entertainment ECU	90980-12266	T 5	Turn Signal Flasher	90980-10799
R20	Rear Seat Audio Controller	90980-12267	T 6	Trailer Socket (Except Towing Package)	82824-34040
R21	Rear Seat Entertainment Display	90980-12156		Trailer Socket (Towing Package)	82824-34050
R22	Rear Window Defogger	90980-10359	T 7	Tweeter LH (Access Cab, Standard Cab)	90980-10906
R23	Rear Window Defogger		Tweeter LH (Double Cab)	90980-11012	
R24	Radio and Player with Display	90980-12038	T 8	Tweeter RH (Access Cab, Standard Cab)	90980-10906
R25	Radio and Player with Display	90980-12259		Tweeter RH (Double Cab)	90980-11012
R26	Radio and Player with Display	90980-11909	T 9	Trailer Converter	90980-11535
R27	Radio and Player with Display	90980-12038	T10	TVIP Buzzer	90980-11051
R28	Radio and Player with Display	90980-12259	T11	TVIP ECU	90980-11424
R29	Radio and Player with Display	90980-12552	T12	TVIP ECU	90980-11392
R30	Radio and Player with Display	90980-11909	T13	TVIP ECU	90980-10799
R31	Radio and Player with Display	90980-12209	T14	Throttle Control Motor and Throttle Position Sensor	90980-11858
S 1	Starter (1GR-FE (Cold Area Spec.))	90980-09507	T15	Theft Deterrent Horn	90980-10916
	Starter (1GR-FE (Except Cold Area Spec.))	90980-09463	T16	Tire Pressure Monitor ECU	90980-12553
	Starter (2UZ-FE)	90980-09585	T17	Tire Pressure Warning Standardization SW	90980-10906
S 2	Starter	90980-11400	T18	Tire Pressure Monitor Receiver	90980-11909
S 3	Step Light	81945-33010	U 1	Unlock Warning SW	90980-10860
S 4	Stop Light SW (Access Cab, Standard Cab)	90980-11118	V 2	Vehicle Speed Sensor (Combination Meter)	90980-11143
	Stop Light SW (Double Cab)	90980-11013	V 3	Vehicle Speed Sensor (Electronically Controlled Transmission)	90980-11156
S 8	Short Pin	90980-10907	V 4	VSV (EVAP)	
S 9	Short Connector (TVIP)	90980-10908	V 6	Vanity Light LH (Access Cab, Standard Cab)	90980-11368
S10	Glass Breakage Sensor Microphone	90980-11013		Vanity Light LH (Double Cab)	90980-11369
	Security Indicator				
S11	Seat Heater SW (Driver's Seat)	90980-10797	V 7	Vanity Light RH (Access Cab, Standard Cab)	90980-11368
S12	Seat Heater SW (Front Passenger's Seat)	90980-10996		Vanity Light RH (Double Cab)	90980-11369
S13	Short Connector	90980-11910	V10	Video Terminal	90980-12264
S14	Short Connector	90980-11911	V11	VSC Warning Buzzer	90980-10906
S19	Steering Sensor	90980-12553	V12	Voltage Inverter	90980-10799
S20	Stereo Component Amplifier	90980-10803	V13	VSV (ACIS)	90980-11156
S21	Stereo Component Amplifier	90980-12200	V14	VSV (Air Switching Valve Bank 1)	90980-11149
S23	Stereo Component Amplifier				
S24	Stereo Component Amplifier	90980-10821	V15	VSV (Air Switching Valve Bank 2)	
S26	Seat Heater (Driver's Seat)	90980-10795	V16	VVT Sensor LH (1GR-FE)	90980-12353
S28	Seat Heater (Front Passenger's Seat)			VVT Sensor LH (2UZ-FE)	90980-10947
S29	Skid Control ECU with Actuator	90980-12297	V17	VVT Sensor RH (1GR-FE)	90980-12353
S30	Skid Control ECU with Actuator	90980-12294		VVT Sensor RH (2UZ-FE)	90980-10947
S31	Stop Light Relay	82660-53010	W 2	Washer Level Sensor	90980-11177
S32	Side Airbag Sensor Rear LH	90980-12241		Washer Motor	
S33	Side Airbag Sensor Rear RH				
S34	Side Airbag Sensor LH		W 4	Wiper Motor	90980-11599
S35	Side Airbag Sensor RH		W 5	Wireless Door Lock Buzzer	90980-11142
S36	Seat Position Airbag Sensor	90980-12416	Y 1	Yaw Rate Sensor	90980-11904

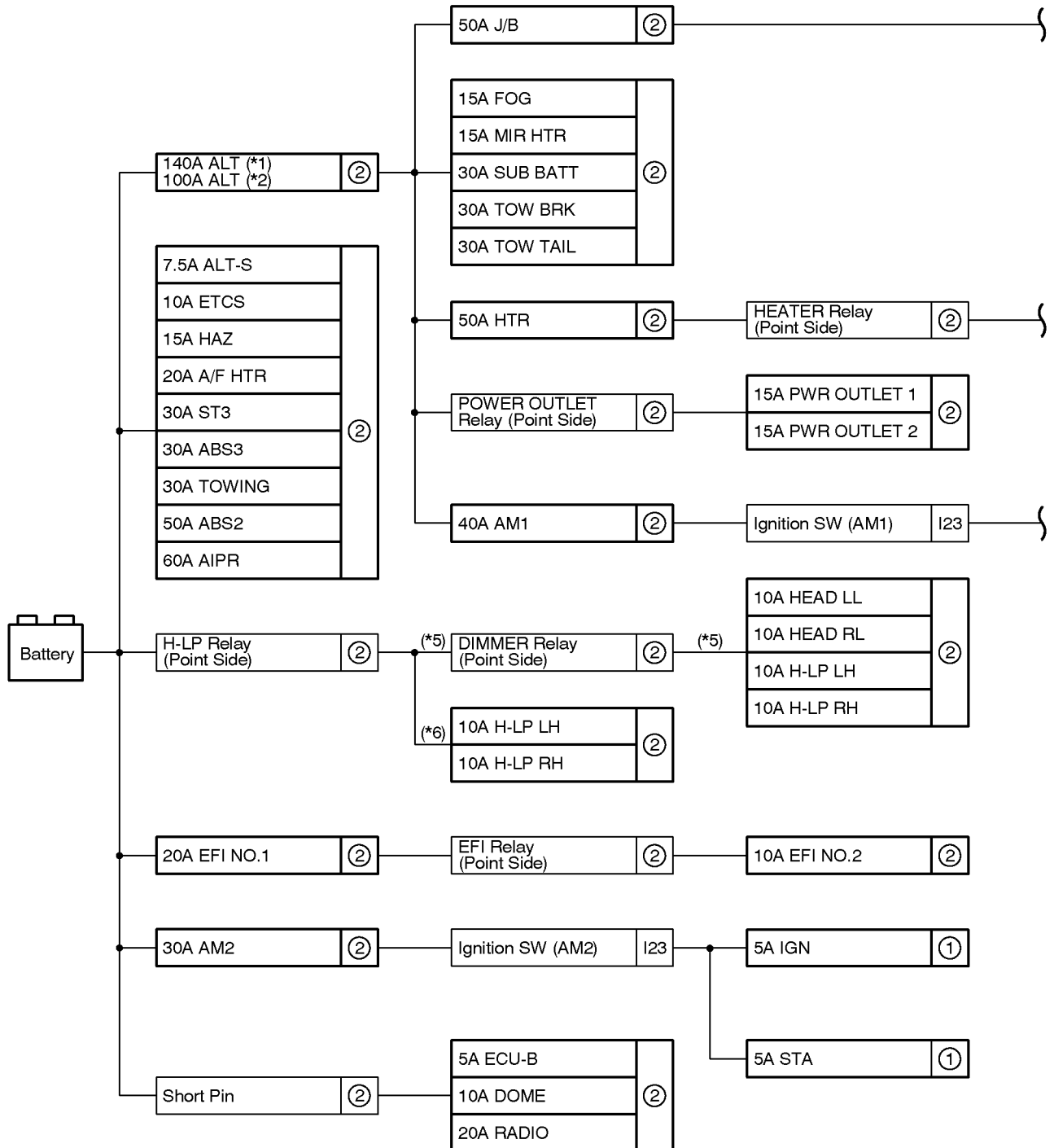
Note: Not all of the above part numbers of the connector are established for the supply.



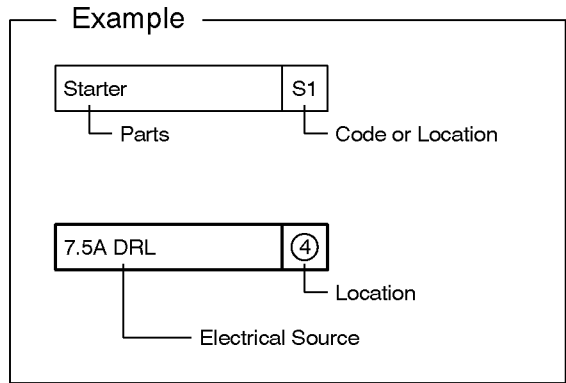
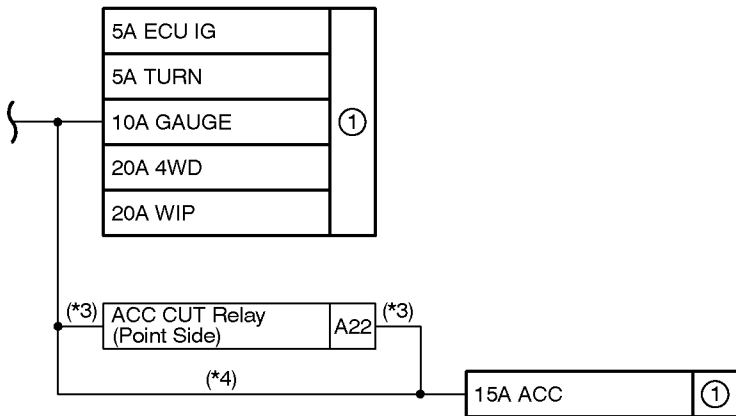
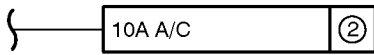
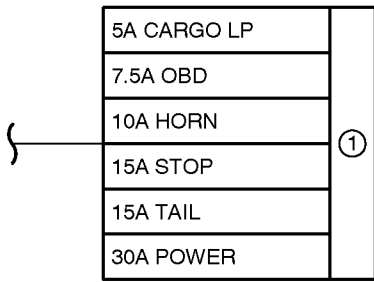
# J POWER SOURCE (Current Flow Chart)

## [Access Cab, Standard Cab]

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 : Driver Side J/B and Integration Relay (See page 24 (\*6), 28 (\*5))  
 ② : Engine Room R/B (See page 23)



- \* 1: Towing Package
- \* 2: Except Towing Package
- \* 3: A/T
- \* 4: M/T
- \* 5: w/ Daytime Running Light
- \* 6: w/o Daytime Running Light

## J POWER SOURCE (Current Flow Chart)

### [Access Cab, Standard Cab]

**Driver Side J/B (See Page 24 w/o Daytime Running Light,  
See Page 28 w/ Daytime Running Light)**

Fuse		System	Page
5A	CARGO LP	Cargo Light	190
		Center Cluster Integration Control System	192
5A	ECU IG	ABS	220
		Door Lock Control (w/ Daytime Running Light)	248
		Door Lock Control (w/o Daytime Running Light)	254
		Headlight (w/ Daytime Running Light)	150
		Light Auto Turn Off System (w/ Daytime Running Light)	178
		Light Auto Turn Off System (w/o Daytime Running Light)	182
		Power Window	268
		Stop Light	176
		Tire Pressure Warning System	224
		TVIP and Wireless Door Lock Control	260
		VSC	212
5A	IGN	Air Conditioning	316
		Audio System (Separate Type Amplifier w/ Navigation System)	300
		Center Cluster Integration Control System	192
		Charging	118
		Combination Meter	310
		Cruise Control (1GR-FE)	230
		Cruise Control (2UZ-FE)	226
		Door Lock Control (w/ Daytime Running Light)	248
		Door Lock Control (w/o Daytime Running Light)	254
		Electronically Controlled Transmission and A/T Indicator (1GR-FE)	204
		Electronically Controlled Transmission and A/T Indicator (2UZ-FE)	198
		Engine Control (1GR-FE)	136
		Engine Control (2UZ-FE)	120
		Interior Light	170
		Key Reminder and Seat Belt Warning	274
		SRS	236
		Tire Pressure Warning System	224
VSC	212		
Wiper and Washer (w/ INT TIME SW)	284		
Wiper and Washer (w/o INT TIME SW)	288		
4WD	242		
5A	STA	Electronically Controlled Transmission and A/T Indicator (1GR-FE)	204
		Electronically Controlled Transmission and A/T Indicator (2UZ-FE)	198
		Engine Control (1GR-FE)	136
		Engine Control (2UZ-FE)	120
		Starting	106

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

Fuse		System	Page
5A	TURN	Trailer Towing	186
		Turn Signal and Hazard Warning Light	174
7.5A	OBD	Engine Control (1GR-FE)	136
		Engine Control (2UZ-FE)	120
10A	GAUGE	ABS	220
		Air Conditioning	316
		Automatic Glare-Resistant EC Mirror	294
		Back-Up Light	160
		Center Cluster Integration Control System	192
		Charging	118
		Combination Meter	310
		Cruise Control (1GR-FE)	230
		Cruise Control (2UZ-FE)	226
		Electronically Controlled Transmission and A/T Indicator (1GR-FE)	204
		Electronically Controlled Transmission and A/T Indicator (2UZ-FE)	198
		Mirror Heater	292
		Trailer Towing	186
VSC	212		
4WD	242		
10A	HORN	Horn	282
		TVIP and Wireless Door Lock Control	260
15A	ACC	ABS	220
		Audio System (Built-In Type Amplifier)	308
		Audio System (Separate Type Amplifier w/ Navigation System)	300
		Audio System (Separate Type Amplifier w/o Navigation System)	304
		Back-Up Light	160
		Center Cluster Integration Control System	192
		Cigarette Lighter and Power Outlet	278
		Clock	280
		Cruise Control (1GR-FE)	230
		Cruise Control (2UZ-FE)	226
		Electronically Controlled Transmission and A/T Indicator (1GR-FE)	204
		Electronically Controlled Transmission and A/T Indicator (2UZ-FE)	198
		Key Reminder and Seat Belt Warning	274
		Remote Control Mirror	296
		SRS	236
Trailer Towing	186		
VSC	212		
4WD	242		
15A	STOP	ABS	220
		Cruise Control (1GR-FE)	230
		Cruise Control (2UZ-FE)	226
		Electronically Controlled Transmission and A/T Indicator (1GR-FE)	204
Electronically Controlled Transmission and A/T Indicator (2UZ-FE)	198		

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

## J POWER SOURCE (Current Flow Chart)

### [Access Cab, Standard Cab]

Fuse		System	Page
15A	STOP	Engine Control (1GR-FE)	136
		Engine Control (2UZ-FE)	120
		Stop Light	176
		Trailer Towing	186
		VSC	212
15A	TAIL	Center Cluster Integration Control System	192
		Engine Control (1GR-FE)	136
		Engine Control (2UZ-FE)	120
		Headlight (w/ Daytime Running Light)	150
		Illumination	166
		Light Auto Turn Off System (w/ Daytime Running Light)	178
		Light Auto Turn Off System (w/o Daytime Running Light)	182
		Taillight	162
		Trailer Towing	186
TVIP and Wireless Door Lock Control	260		
20A	WIP	Wiper and Washer (w/ INT TIME SW)	284
		Wiper and Washer (w/o INT TIME SW)	288
20A	4WD	4WD	242
30A	POWER	Door Lock Control (w/ Daytime Running Light)	248
		Door Lock Control (w/o Daytime Running Light)	254
		Power Seat	298
		Power Window	268
		TVIP and Wireless Door Lock Control	260

### Engine Room R/B (See Page 23)

Fuse		System	Page
5A	ECU-B	Engine Control (1GR-FE)	136
		Engine Control (2UZ-FE)	120
		SRS	236
		TVIP and Wireless Door Lock Control	260
		VSC	212
7.5A	ALT-S	Charging	118
10A	A/C	Air Conditioning	316
		Center Cluster Integration Control System	192
10A	DOME	Center Cluster Integration Control System	192
		Clock	280
		Combination Meter	310
		Door Lock Control (w/ Daytime Running Light)	248
		Door Lock Control (w/o Daytime Running Light)	254
		Interior Light	170
		Key Reminder and Seat Belt Warning	274
		TVIP and Wireless Door Lock Control	260

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



Fuse		System	Page
10A	EFI NO.2	Engine Control (1GR-FE)	136
		Engine Control (2UZ-FE)	120
10A	ETCS	Cruise Control (1GR-FE)	230
		Cruise Control (2UZ-FE)	226
		Engine Control (1GR-FE)	136
		Engine Control (2UZ-FE)	120
10A	HEAD LL	Fog Light (w/ Daytime Running Light)	156
		Headlight (w/ Daytime Running Light)	150
10A	HEAD RL	Headlight (w/ Daytime Running Light)	150
10A	H-LP LH	Fog Light (w/o Daytime Running Light)	158
		Headlight (w/ Daytime Running Light)	150
		Headlight (w/o Daytime Running Light)	154
10A	H-LP RH	Fog Light (w/o Daytime Running Light)	158
		Headlight (w/ Daytime Running Light)	150
		Headlight (w/o Daytime Running Light)	154
15A	FOG	Fog Light (w/ Daytime Running Light)	156
		Fog Light (w/o Daytime Running Light)	158
15A	HAZ	Trailer Towing	186
		Turn Signal and Hazard Warning Light	174
15A	MIR HTR	Mirror Heater	292
15A	PWR OUTLET1	Cigarette Lighter and Power Outlet	278
15A	PWR OUTLET2	Cigarette Lighter and Power Outlet	278
20A	A/F HTR	Engine Control (1GR-FE)	136
		Engine Control (2UZ-FE)	120
20A	EFI NO.1	Cruise Control (1GR-FE)	230
		Cruise Control (2UZ-FE)	226
		Electronically Controlled Transmission and A/T Indicator (1GR-FE)	204
		Electronically Controlled Transmission and A/T Indicator (2UZ-FE)	198
		Engine Control (1GR-FE)	136
		Engine Control (2UZ-FE)	120
20A	RADIO	Audio System (Built-In Type Amplifier)	308
		Audio System (Separate Type Amplifier w/ Navigation System)	300
		Audio System (Separate Type Amplifier w/o Navigation System)	304
30A	ABS3	ABS	220
		VSC	212
30A	AM2	Engine Control (1GR-FE)	136
		Engine Control (2UZ-FE)	120
		Ignition (1GR-FE)	114
		Ignition (2UZ-FE)	110
		Starting	106
30A	ST3	Starting	106
30A	SUB BATT	Trailer Towing	186
30A	TOW BRK	Trailer Towing	186

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

## J POWER SOURCE (Current Flow Chart)

### [Access Cab, Standard Cab]

Fuse		System	Page
30A	TOW TAIL	Trailer Towing	186
30A	TOWING	Trailer Towing	186
40A	AM1	Engine Control (1GR-FE)	136
		Engine Control (2UZ-FE)	120
50A	ABS2	ABS	220
		VSC	212
50A	HTR	Air Conditioning	316
50A	J/B	Illumination	166
		Taillight	162
60A	AIPR	Engine Control (2UZ-FE)	120
100A	ALT (Except Towing Package)	Charging	118
		Cigarette Lighter and Power Outlet	278
		Engine Control (1GR-FE)	136
		Engine Control (2UZ-FE)	120
		Illumination	166
140A	ALT (Towing Package)	Taillight	162
		Charging	118
		Cigarette Lighter and Power Outlet	278
		Engine Control (2UZ-FE)	120
		Illumination	166
		Taillight	162

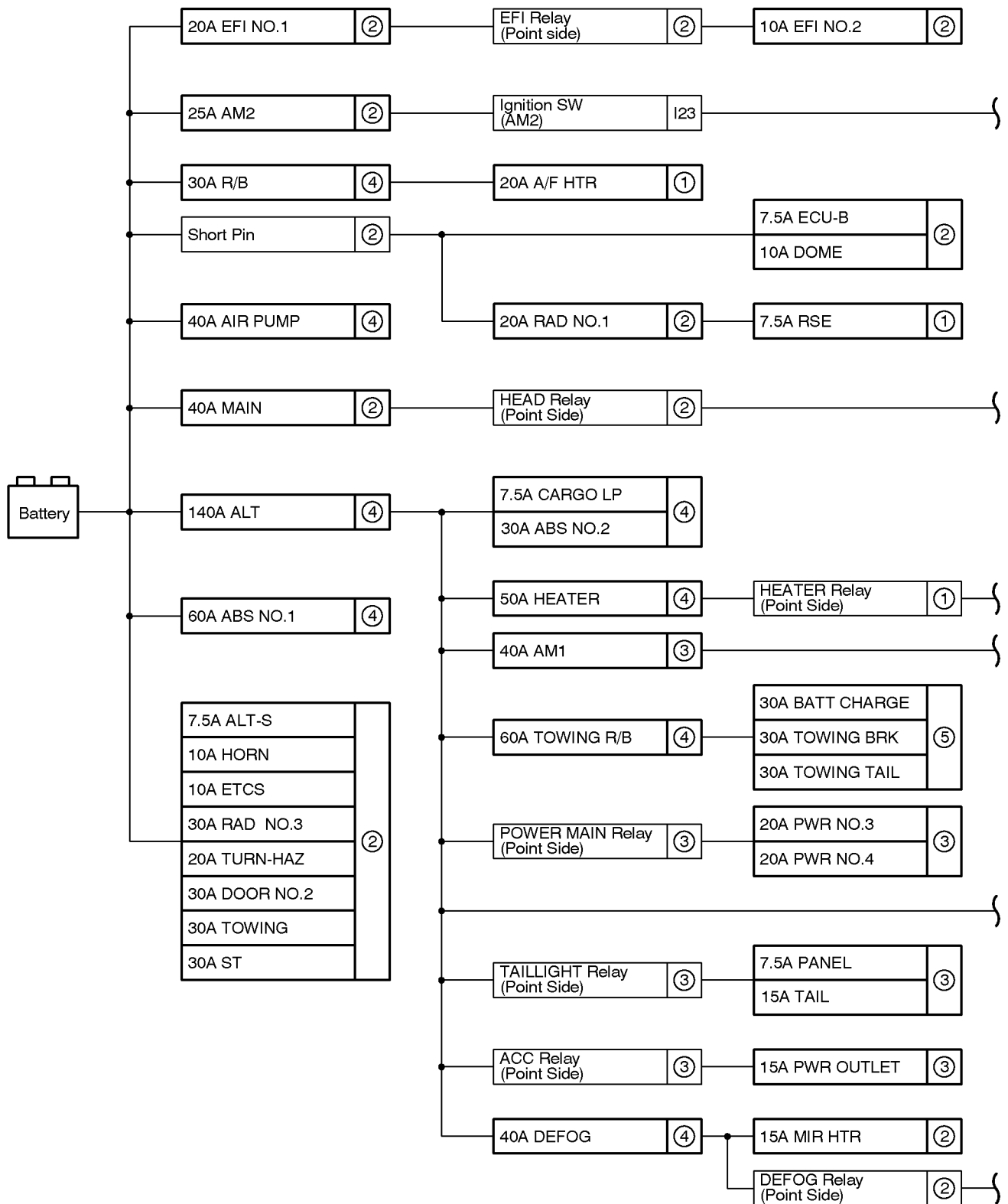
\* These are the page numbers of the first page on which the related system is shown.



# J POWER SOURCE (Current Flow Chart)

## [Double Cab]

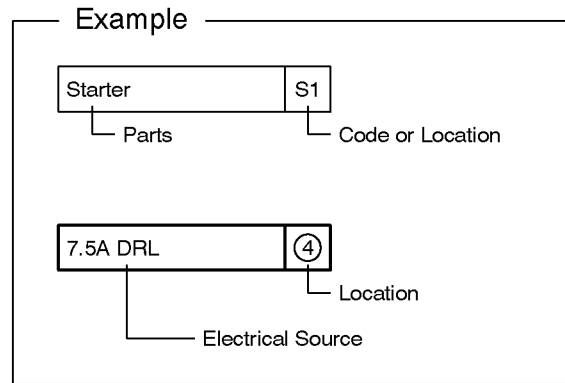
The chart below shows the route by which current flows from the battery to each electrical source (Fusible Link, Circuit Breaker, Fuse, etc.) and other Parts.



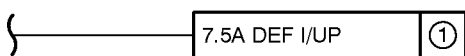
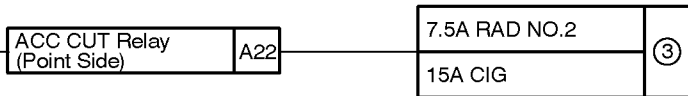
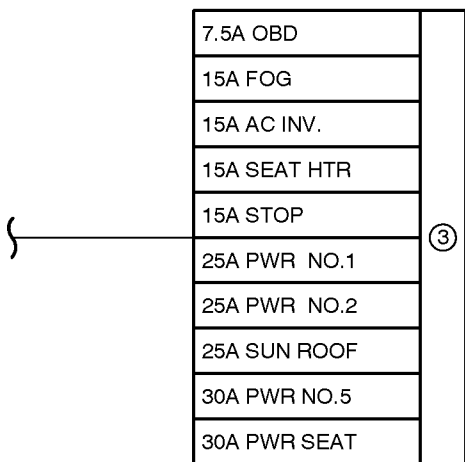
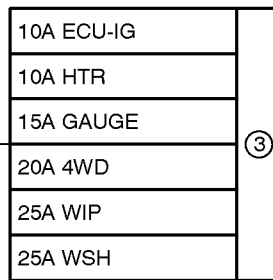
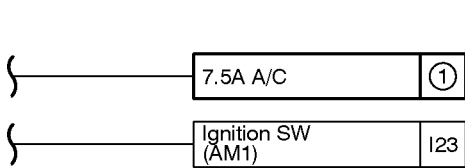
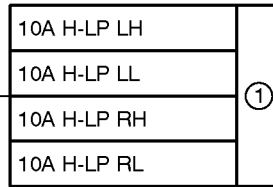
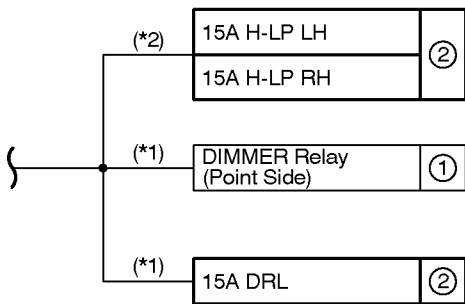
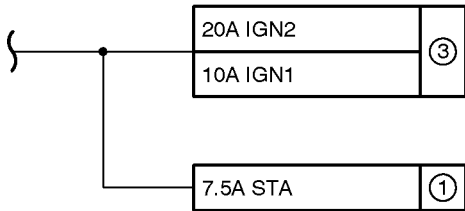
[LOCATION] ① : Engine Room R/B No.2 (See Page 38)

② : Engine Room J/B (See Page 40)

⑤ : Engine Room R/B No.3 (See Page 39)



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



③ : Driver Side J/B (See Page 44)

④ : Fusible Link Block (F13 on See Page 34)

## J POWER SOURCE (Current Flow Chart)

### [Double Cab]

### Engine Room R/B No.2 (See Page 38)

Fuse		System	Page
7.5A	A/C	Air Conditioning	530
		Center Cluster Integration Control System	374
7.5A	DEF I/UP	Engine Control	332
		Rear Window Defogger and Mirror Heater	492
7.5A	STA	Electronically Controlled Transmission and A/T Indicator	438
		Engine Control	332
		Starting	324
10A	H-LP LH	Headlight (w/ Daytime Running Light)	346
		Multiplex Communication System (BEAN)	384
10A	H-LP LL	Fog Light (w/ Daytime Running Light)	352
		Headlight (w/ Daytime Running Light)	346
		Multiplex Communication System (BEAN)	384
10A	H-LP RH	Headlight (w/ Daytime Running Light)	346
		Multiplex Communication System (BEAN)	384
10A	H-LP RL	Headlight (w/ Daytime Running Light)	346
		Multiplex Communication System (BEAN)	384
20A	A/F HTR	Engine Control	332

### Engine Room J/B (See Page 40)

Fuse		System	Page
7.5A	ALT-S	Charging	
7.5A	ECU-B	Door Lock Control and Theft Deterrent	420
		Engine Control	332
		Interior Light	408
		Key Reminder and Seat Belt Warning	404
		Light Auto Turn Off System	400
		Multiplex Communication System (BEAN)	384
		Power Window	414
		VSC	448
10A	DOME	Wireless Door Lock Control	428
		Center Cluster Integration Control System	374
		Combination Meter	524
		Interior Light	408
		Key Reminder and Seat Belt Warning	404
10A	EFI NO.2	Multiplex Communication System (BEAN)	384
10A	ETCS	Engine Control	332
10A	HORN	Cruise Control	444
		Engine Control	332
10A	HORN	Door Lock Control and Theft Deterrent	420
		Horn	482
		Multiplex Communication System (BEAN)	384

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

Fuse		System	Page
15A	DRL	Headlight (w/ Daytime Running Light)	346
		Multiplex Communication System (BEAN)	384
15A	H-LP LH	Fog Light (w/o Daytime Running Light)	354
		Headlight (w/o Daytime Running Light)	350
		Multiplex Communication System (BEAN)	384
15A	H-LP RH	Fog Light (w/o Daytime Running Light)	354
		Headlight (w/o Daytime Running Light)	350
		Multiplex Communication System (BEAN)	384
15A	MIR HTR	Rear Window Defogger and Mirror Heater	492
20A	EFI NO.1	Cruise Control	444
		Electronically Controlled Transmission and A/T Indicator	438
		Engine Control	332
20A	RAD NO.3	Audio System (Rear Seat Entertainment System)	504
		Audio System (w/ Navigation and Rear Seat Entertainment System)	496
		Audio System (8 Speaker)	518
		Audio System (8 Speaker w/ Navigation System)	512
20A	TURN-HAZ	Trailer Towing	366
		Turn Signal and Hazard Warning Light	364
25A	AM2	Engine Control	332
		Ignition	326
		SRS	467
		Starting	324
25A	RAD NO.1	Audio System (Rear Seat Entertainment System)	504
		Audio System (w/ Navigation and Rear Seat Entertainment System)	496
		Audio System (6 Speaker)	522
		Audio System (8 Speaker)	518
		Audio System (8 Speaker w/ Navigation System)	512
30A	DOOR NO.2	Door Lock Control and Theft Deterrent	420
		Multiplex Communication System (BEAN)	384
		Power Window	414
		Wireless Door Lock Control	428
30A	ST	Starting	324
30A	TOWING	Trailer Towing	366
40A	MAIN	Door Lock Control and Theft Deterrent	420
		Headlight (w/ Daytime Running Light)	346
		Headlight (w/o Daytime Running Light)	350
		Light Auto Turn Off System	400
		Multiplex Communication System (BEAN)	384

### Driver Side J/B (See Page 44)

Fuse		System	Page
7.5A	ECU-B	SRS	467
7.5A	OBD	Engine Control	332

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

## J POWER SOURCE (Current Flow Chart)

### [Double Cab]

Fuse		System	Page
7.5A	PANEL	Center Cluster Integration Control System	374
		Combination Meter	524
		Illumination	360
7.5A	RAD NO.2	Audio System (Rear Seat Entertainment System)	504
		Audio System (w/ Navigation and Rear Seat Entertainment System)	496
		Audio System (6 Speaker)	522
		Audio System (8 Speaker)	518
		Audio System (8 Speaker w/ Navigation System)	512
		Center Cluster Integration Control System	374
		Cigarette Lighter and Power Outlet (12V)	478
		Multiplex Communication System (BEAN)	384
Remote Control Mirror	486		
10A	ECU-IG	ABS	454
		Accessory Meter and Garage Door Opener	476
		Automatic Glare-Resistant EC Mirror	494
		Charging	330
		Door Lock Control and Theft Deterrent	420
		Interior Light	408
		Light Auto Turn Off System	400
		Moon Roof	484
		Multiplex Communication System (BEAN)	384
		Power Outlet (115V)	480
		Power Window	414
		Stop Light	372
		Tire Pressure Warning System	458
		Trailer Towing	366
VSC	448		
Wireless Door Lock Control	428		
10A	HTR	Air Conditioning	530
		Center Cluster Integration Control System	374
		Rear Window Defogger and Mirror Heater	492
		Seat Heater	490
10A	IGN	ABS	454
10A	IGN1	Accessory Meter and Garage Door Opener	476
		Air Conditioning	530
		Center Cluster Integration Control System	374
		Charging	330
		Combination Meter	524
		Cruise Control	444
		Electronically Controlled Transmission and A/T Indicator	438
		Engine Control	332
Key Reminder and Seat Belt Warning	404		

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



Fuse		System	Page
10A	IGN1	Multiplex Communication System (BEAN)	384
		Tire Pressure Warning System	458
		VSC	448
		4WD	460
15A	AC INV.	Power Outlet (115V)	480
15A	CIG	Cigarette Lighter and Power Outlet (12V)	478
15A	FOG	Fog Light (w/ Daytime Running Light)	352
		Fog Light (w/o Daytime Running Light)	354
		Multiplex Communication System (BEAN)	384
15A	GAUGE	ABS	454
		Back-Up Light	370
		Cruise Control	444
		Electronically Controlled Transmission and A/T Indicator	438
		Trailer Towing	366
		Turn Signal and Hazard Warning Light	364
		VSC	448
4WD	460		
15A	IGN1	Interior Light	408
15A	PWR OUTLET	Cigarette Lighter and Power Outlet (12V)	478
15A	SEAT HTR	Seat Heater	490
15A	STOP	ABS	454
		Cruise Control	444
		Electronically Controlled Transmission and A/T Indicator	438
		Engine Control	332
		Stop Light	372
		Trailer Towing	366
VSC	448		
15A	TAIL	Engine Control	332
		Taillight	356
		Trailer Towing	366
20A	IGN2	Engine Control	332
		Ignition	326
20A	PWR NO.3	Multiplex Communication System (BEAN)	384
		Power Window	414
20A	PWR NO.4	Multiplex Communication System (BEAN)	384
		Power Window	414
20A	4WD	4WD	460
25A	PWR NO.1	Door Lock Control and Theft Deterrent	420
		Multiplex Communication System (BEAN)	384
		Power Window	414
		Wireless Door Lock Control	428
25A	PWR NO.2	Door Lock Control and Theft Deterrent	420
		Multiplex Communication System (BEAN)	384

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

## J POWER SOURCE (Current Flow Chart)

### [Double Cab]

Fuse		System	Page
25A	PWR NO.2	Power Window	414
		Wireless Door Lock Control	428
25A	SUN ROOF	Moon Roof	484
25A	WIP	Wiper and Washer	436
25A	WSH	Wiper and Washer	436
30A	PWR NO.5	Multiplex Communication System (BEAN)	384
		Power Window	414
30A	PWR SEAT	Power Seat	488
40A	AM1	Engine Control	332

### Fusible Link Block (F13 on See Page 34)

Fuse		System	Page
7.5A	CARGO LP	Cargo Light	378
		Center Cluster Integration Control System	374
30A	ABS NO.2	ABS	454
		VSC	448
40A	AIR PUMP	Engine Control	332
40A	DEFOG	Rear Window Defogger and Mirror Heater	492
50A	HEATER	Air Conditioning	530
60A	ABS NO.1	ABS	454
		VSC	448
140A	ALT	ABS	454
		Charging	330
		Cigarette Lighter and Power Outlet (12V)	478
		Door Lock Control and Theft Deterrent	420
		Engine Control	332
		Illumination	360
		Light Auto Turn Off System	400
		Multiplex Communication System (BEAN)	384
		Power Window	414
		Taillight	356
Wireless Door Lock Control	428		

### Engine Room R/B No.3 (See Page 39)

Fuse		System	Page
7.5A	RSE	Audio System (Rear Seat Entertainment System)	504
		Audio System (w/ Navigation and Rear Seat Entertainment System)	496
		Audio System (8 Speaker)	518
		Audio System (8 Speaker w/ Navigation System)	512
30A	BATT CHARGE	Trailer Towing	366
30A	TOWING BRK	Trailer Towing	366

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

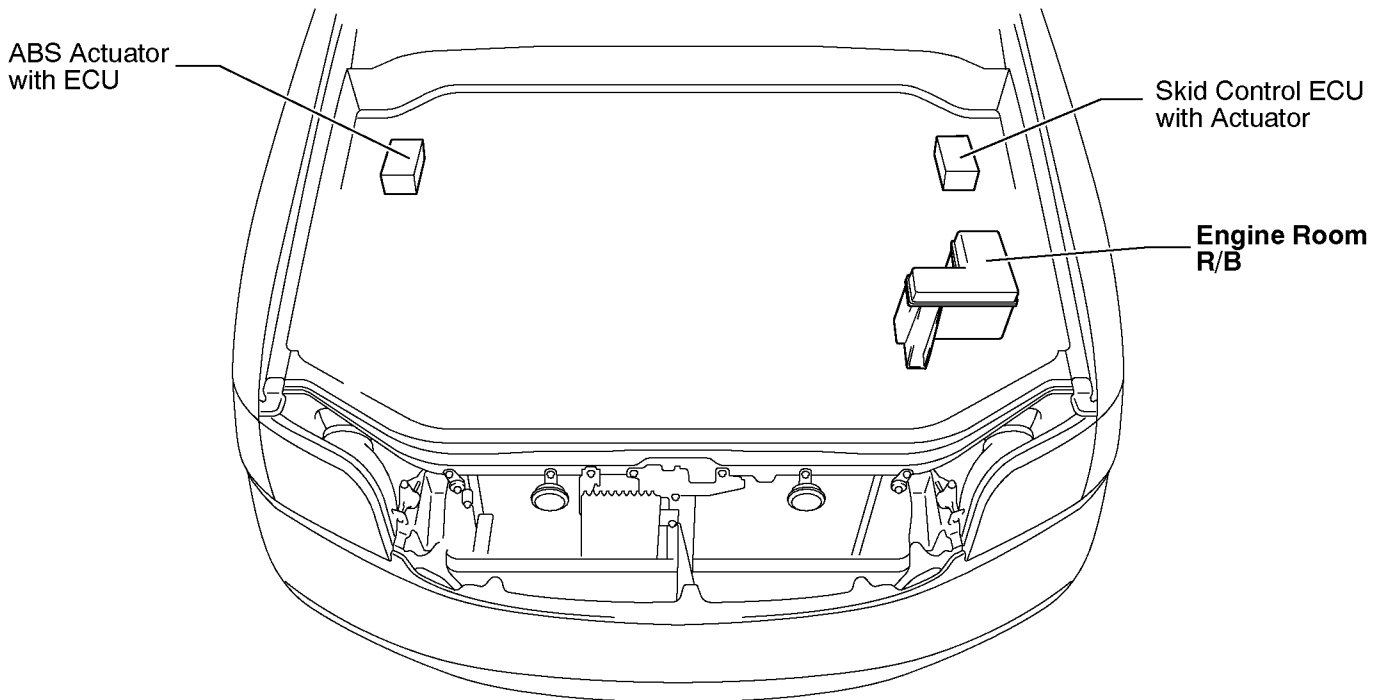
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Fuse		System	Page
30A	TOWING TAIL	Multiplex Communication System (BEAN) Trailer Towing	<a href="#">384</a> <a href="#">366</a>

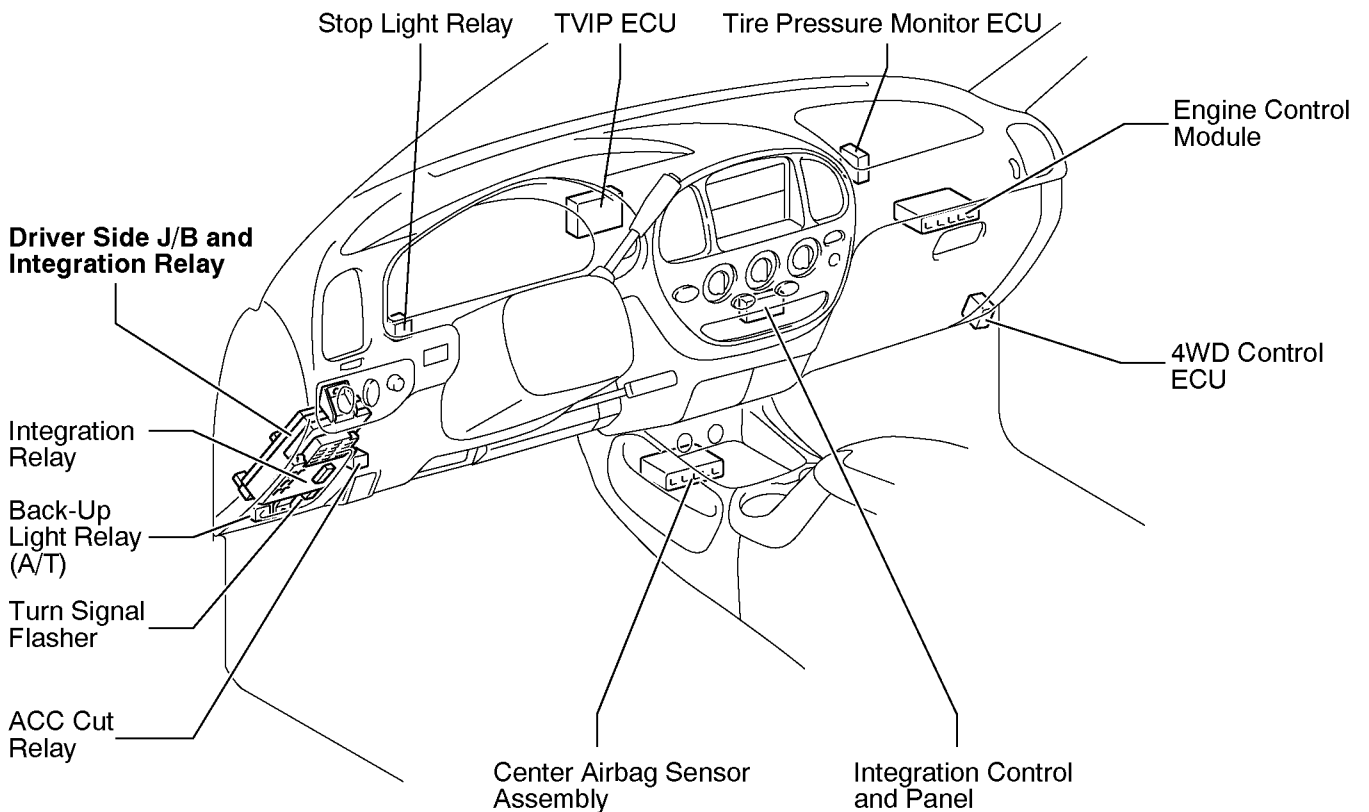
\* These are the page numbers of the first page on which the related system is shown.

# F RELAY LOCATIONS

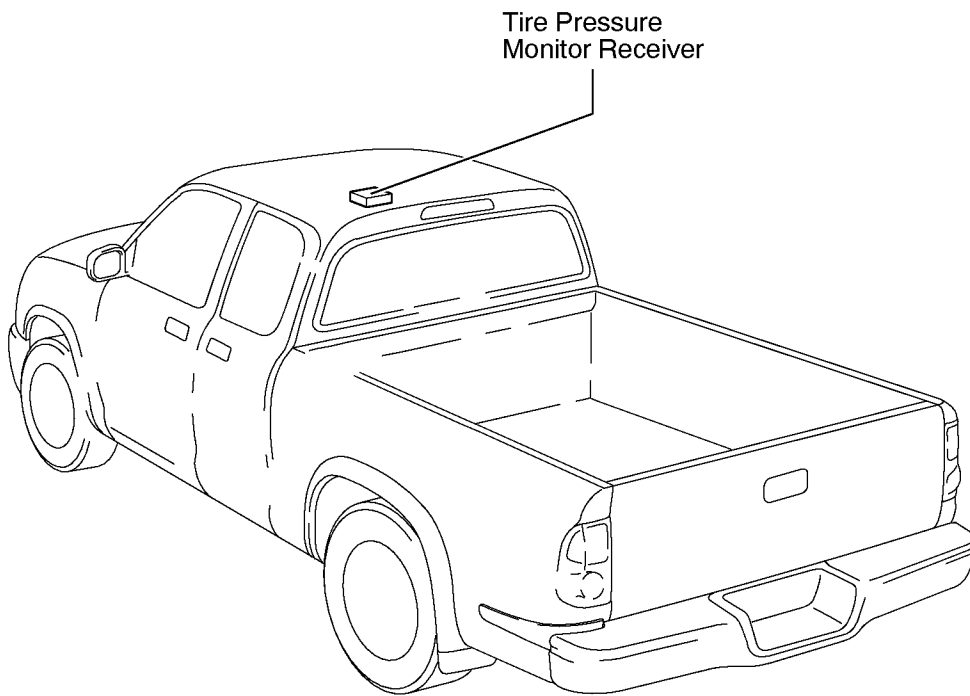
## [Engine Compartment] (Access Cab, Standard Cab)



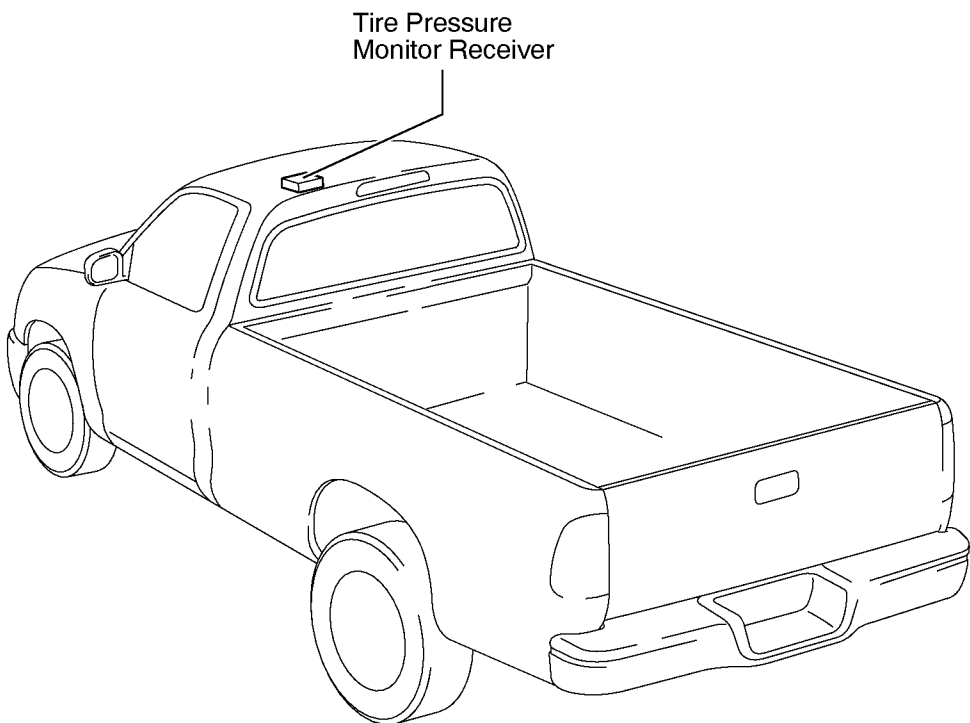
## [Instrument Panel] (Access Cab, Standard Cab)



**[Body]**  
**(Access Cab)**



**(Standard Cab)**

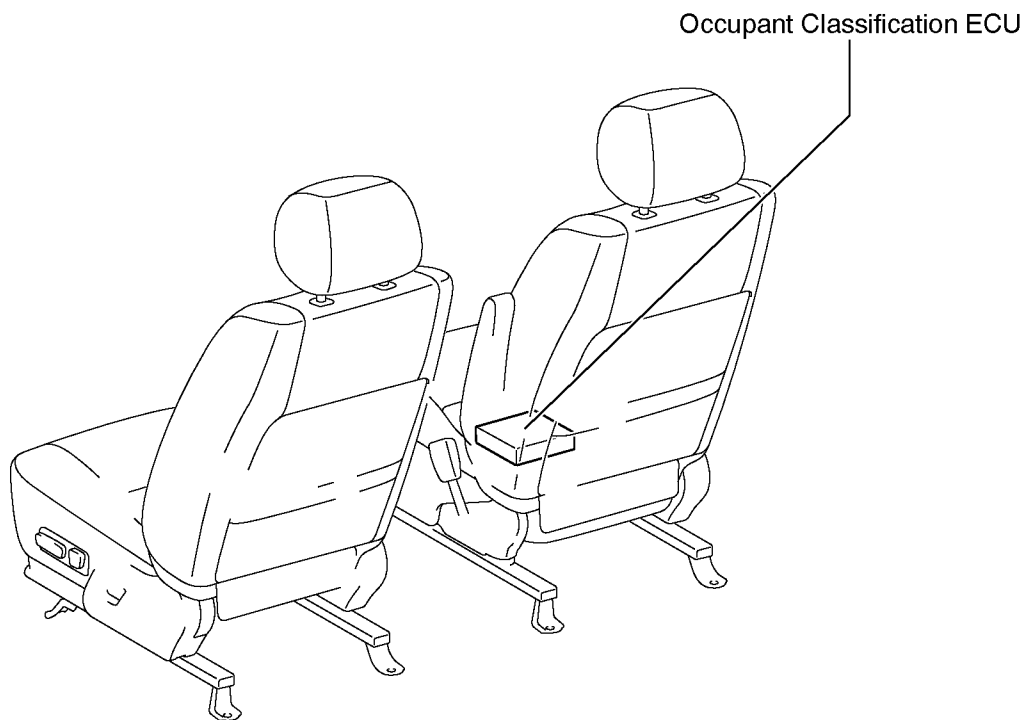


## F RELAY LOCATIONS

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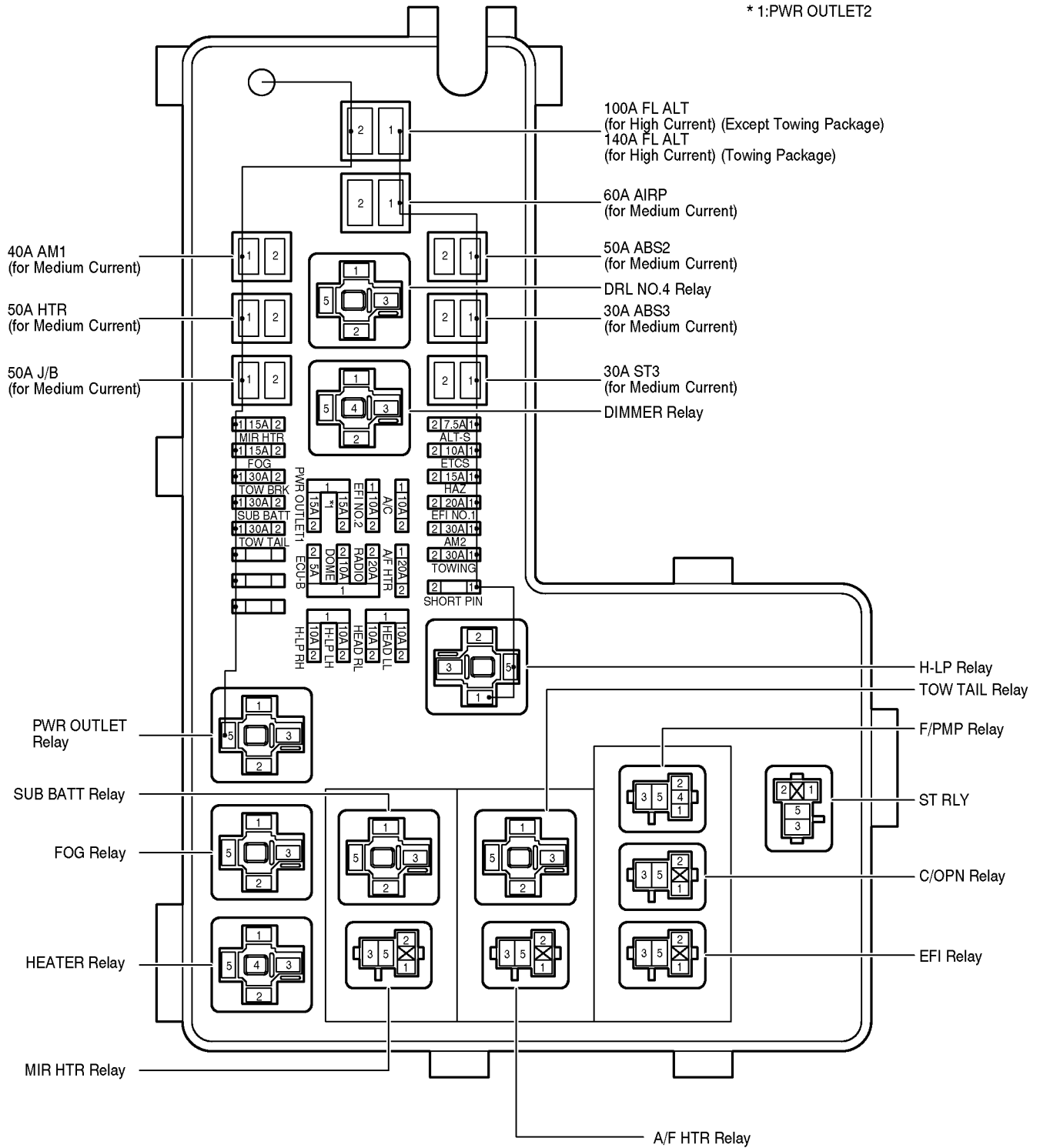
[Seat]

(Access Cab : Captain Seat)



② : Engine Room R/B Engine Compartment Left (See Page 20)  
 (Access Cab, Standard Cab)

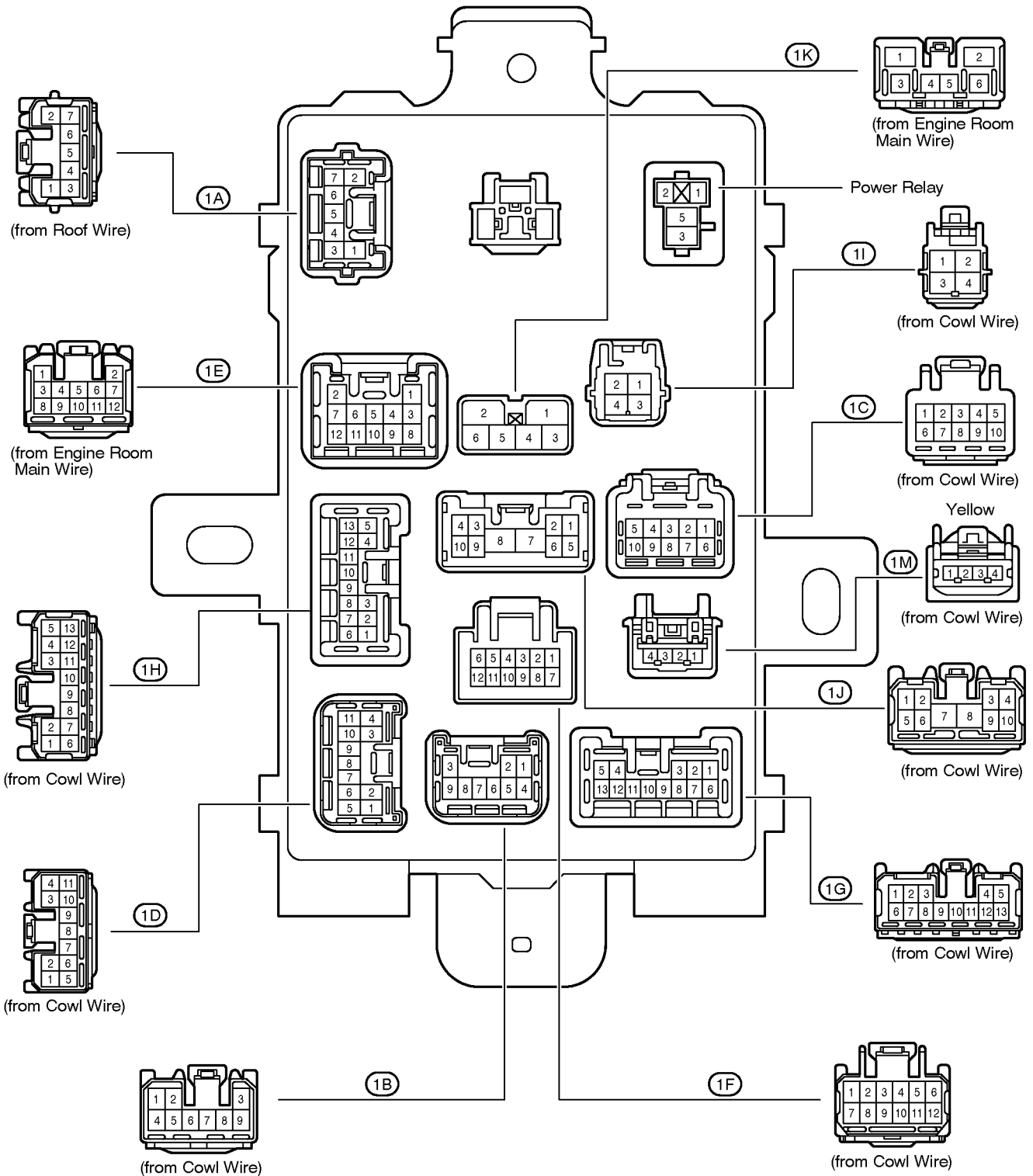
\* 1:PWR OUTLET2



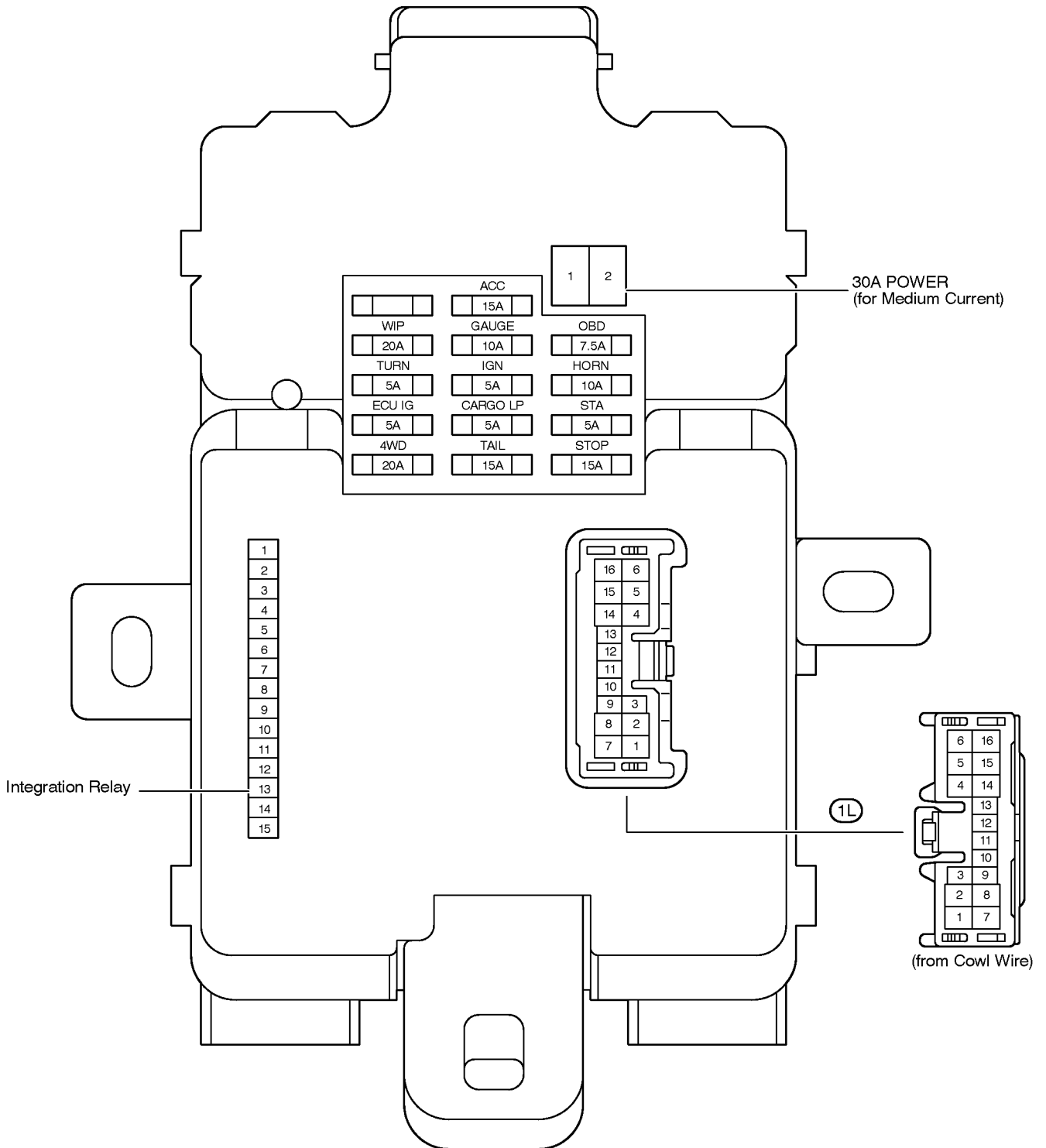
# F RELAY LOCATIONS

  : Driver Side J/B and Integration Relay
 Lower Finish Panel (See Page 20)

(Access Cab, Standard Cab : w/o Daytime Running Light)

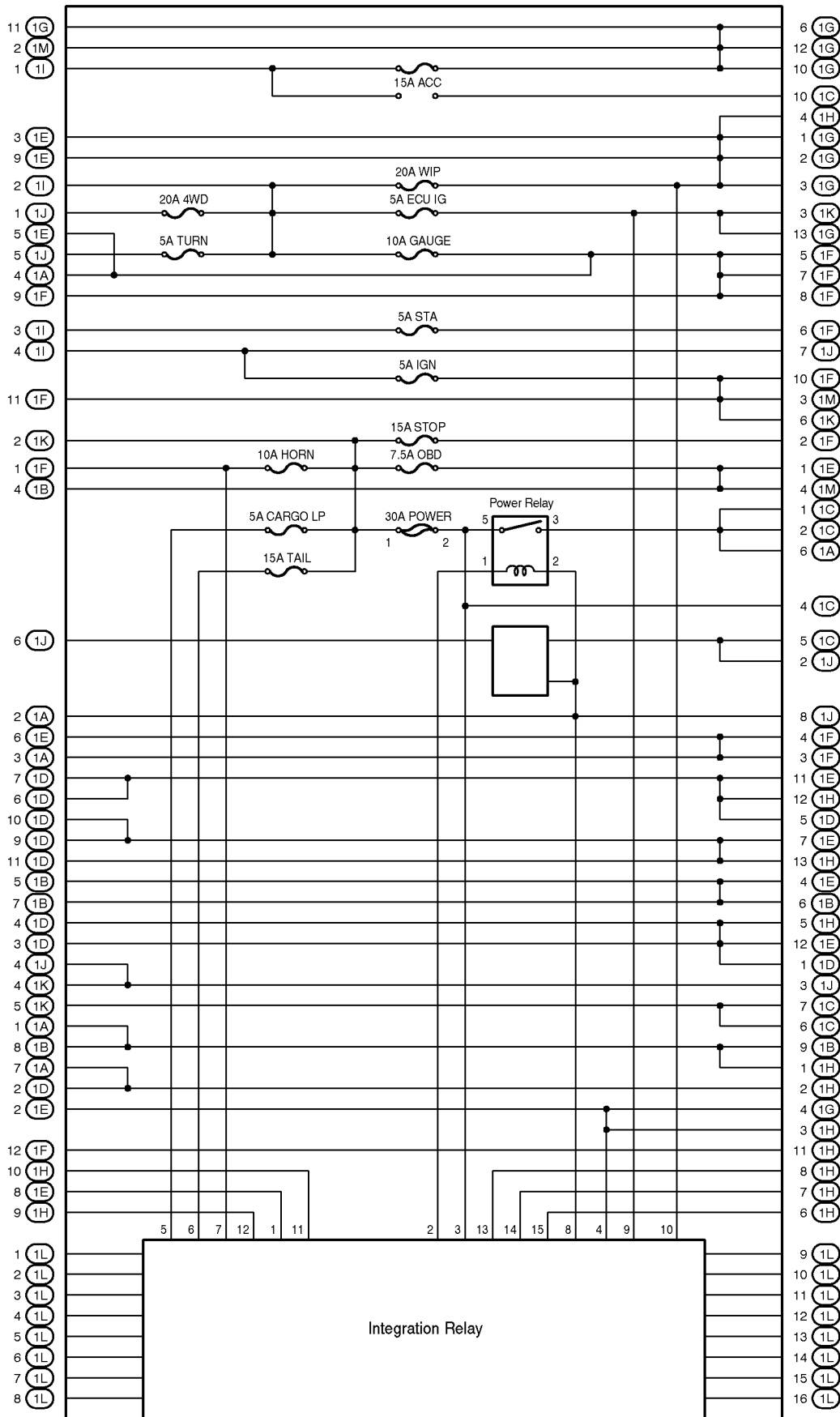






# F RELAY LOCATIONS

## [Driver Side J/B and Integration Relay Inner Circuit] (Access Cab, Standard Cab : w/o Daytime Running Light)

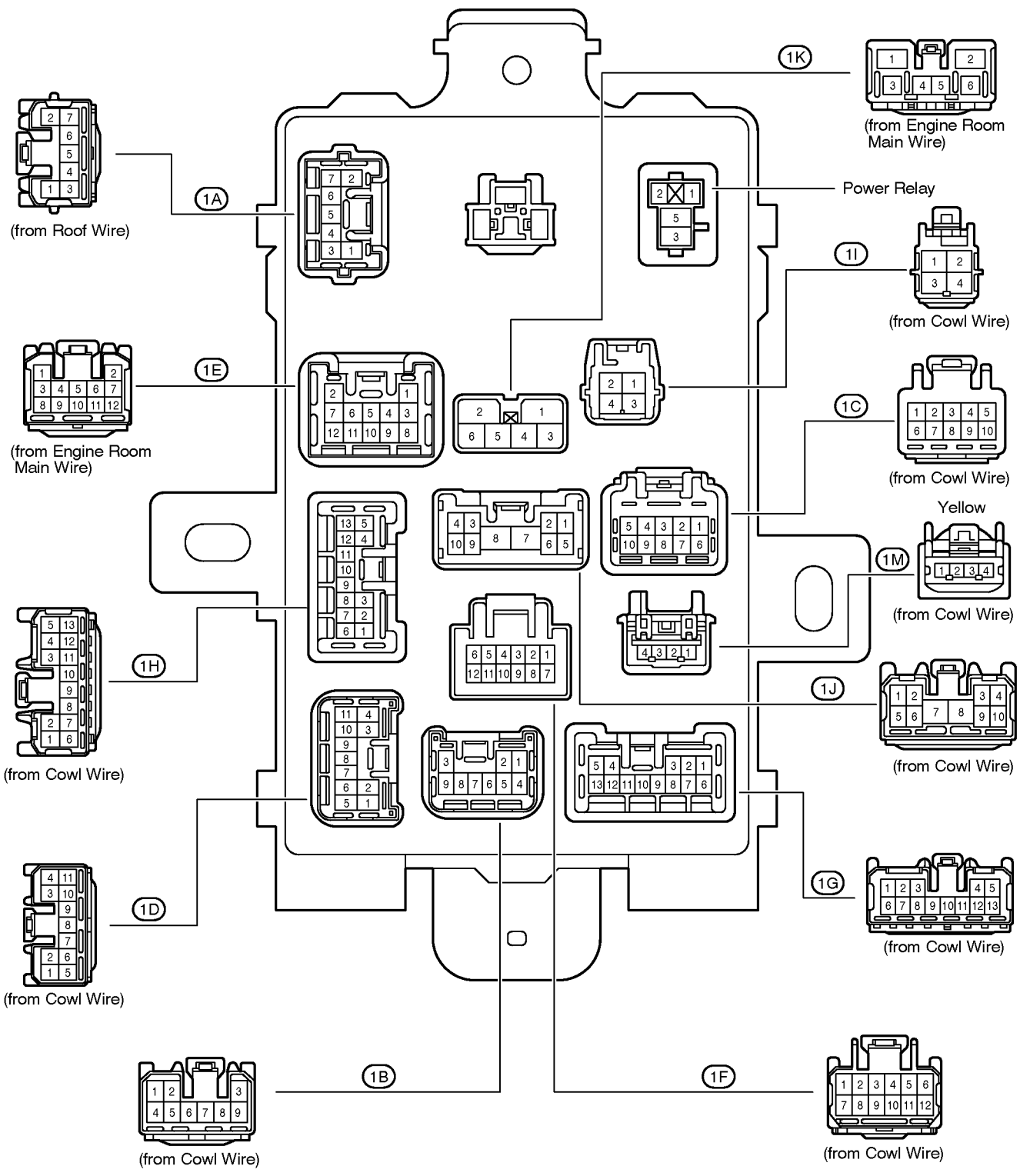


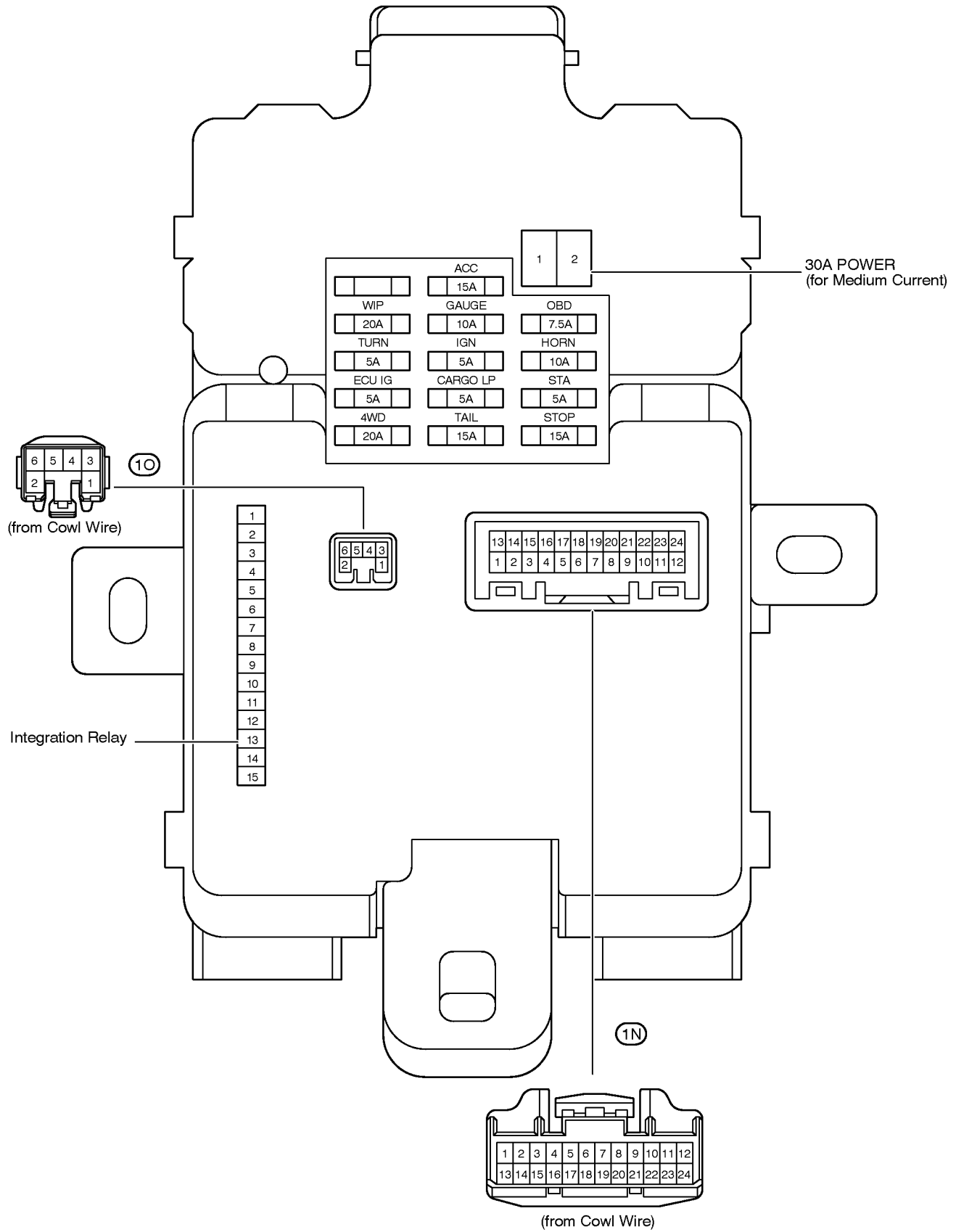


# F RELAY LOCATIONS

○ : Driver Side J/B and Integration Relay
 Lower Finish Panel (See Page 20)

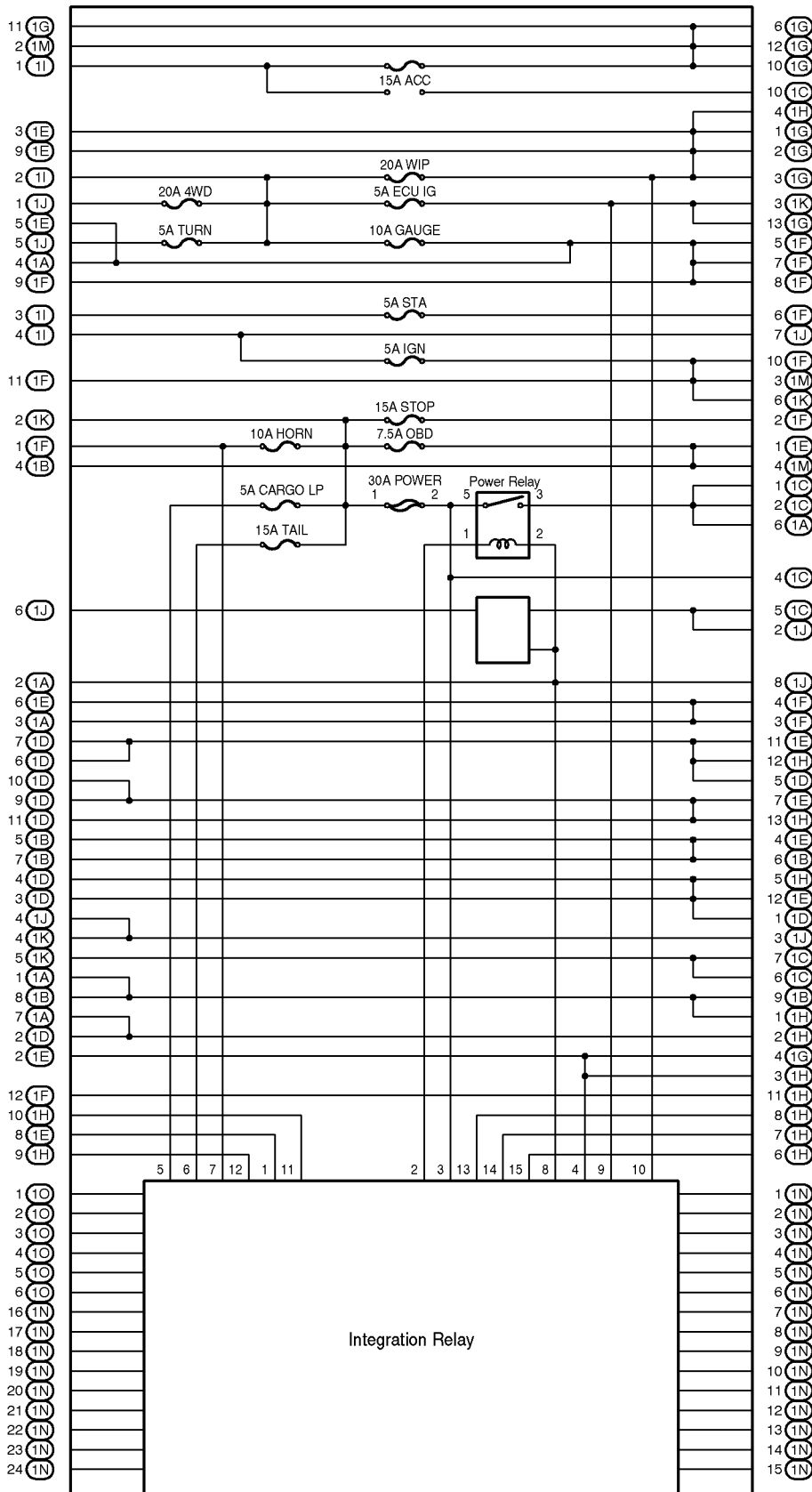
(Access Cab, Standard Cab : w/ Daytime Running Light)





# F RELAY LOCATIONS

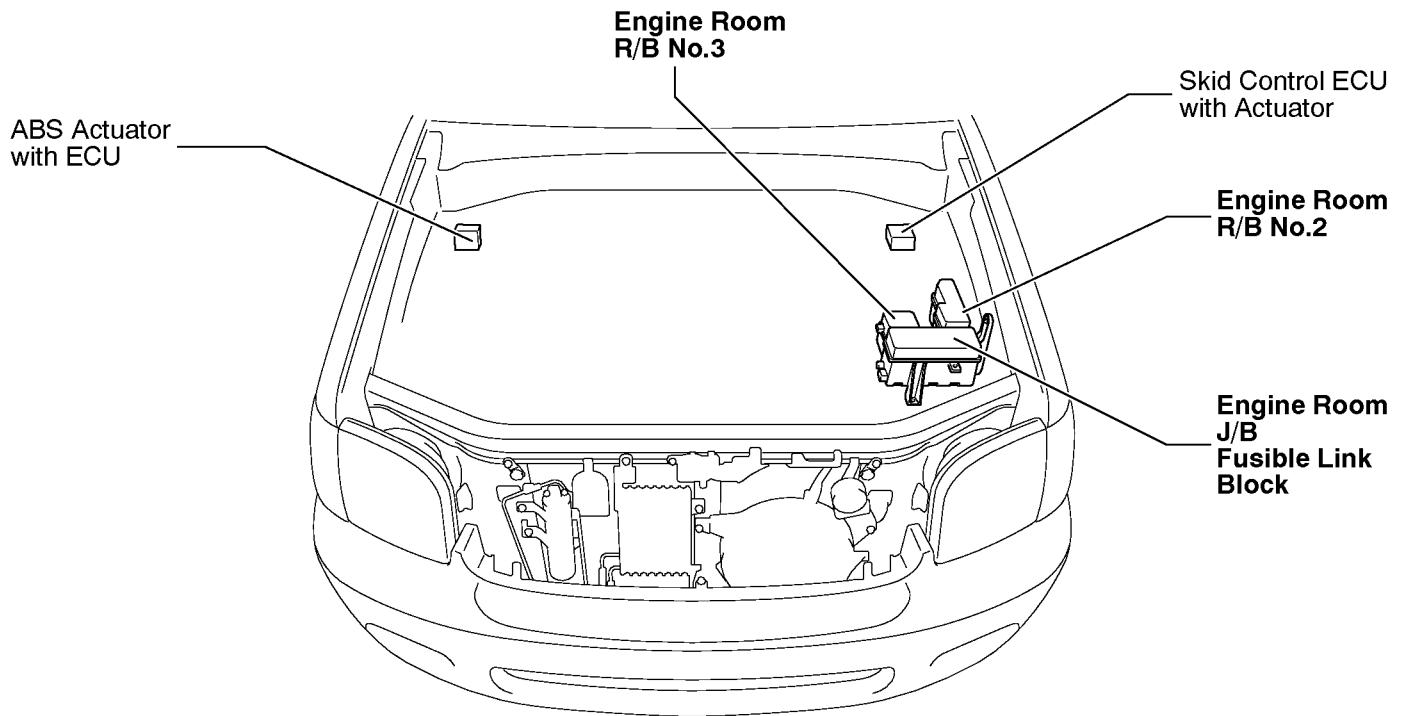
## [Driver Side J/B and Integration Relay Inner Circuit] (Access Cab, Standard Cab : w/ Daytime Running Light)



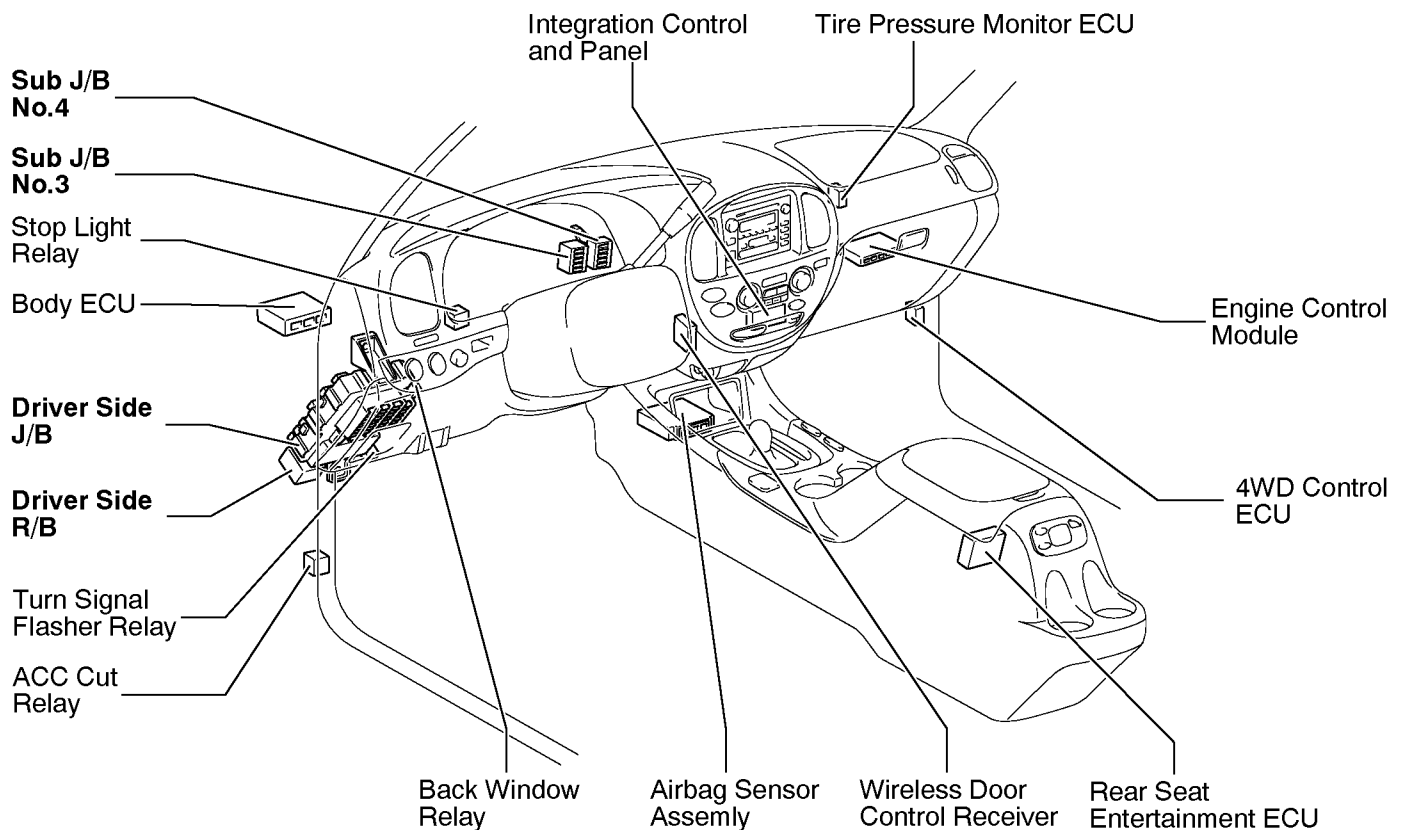


# F RELAY LOCATIONS

## [Engine Compartment] (Double Cab)

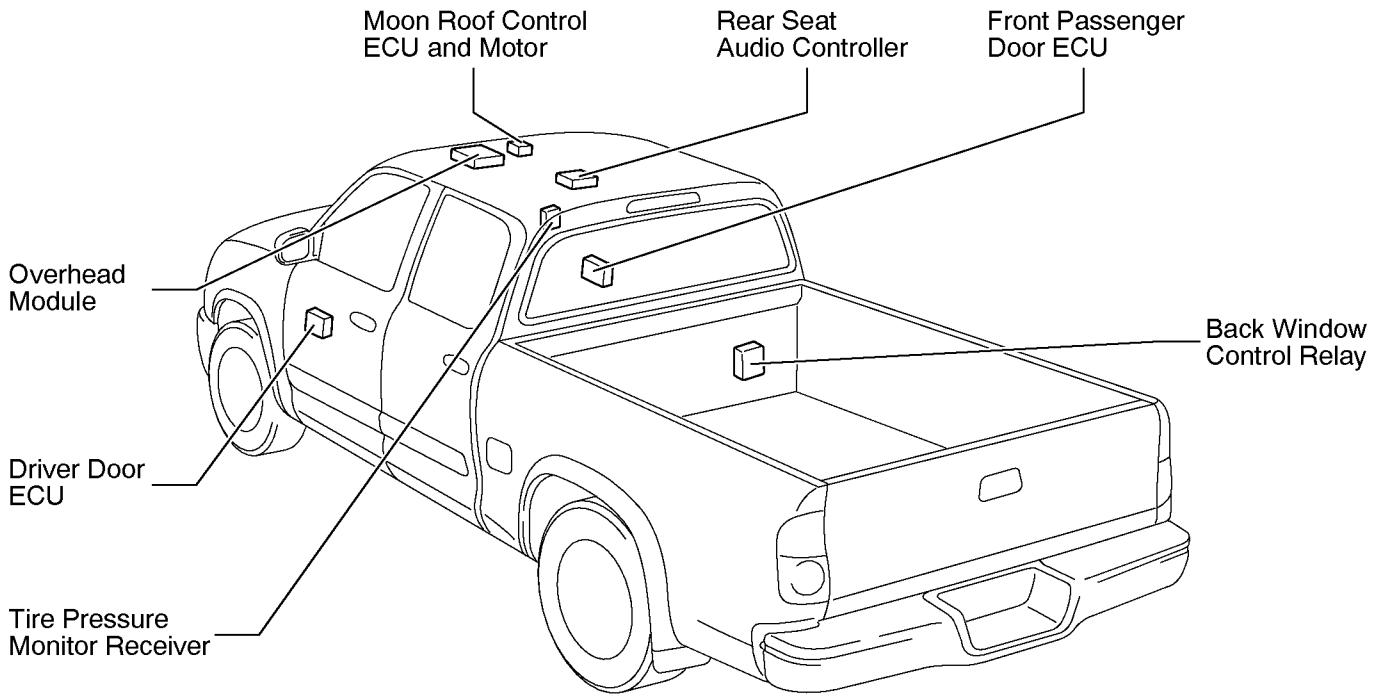


## [Instrument Panel] (Double Cab)

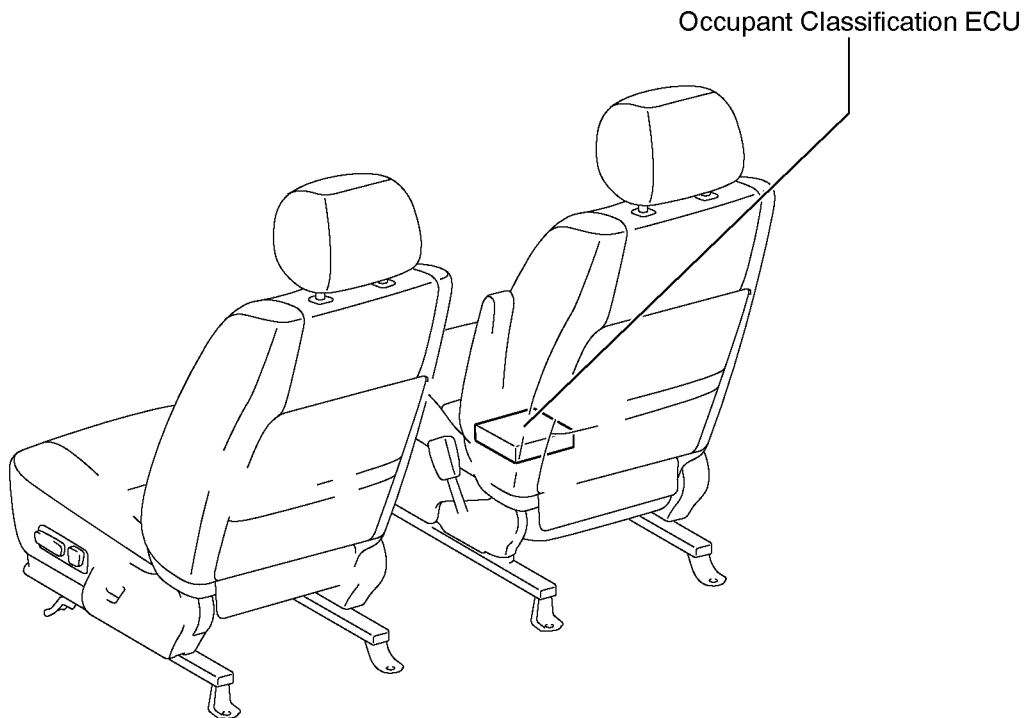




**[Body]  
(Double Cab)**



**[Seat]  
(Double Cab : Captain Seat)**

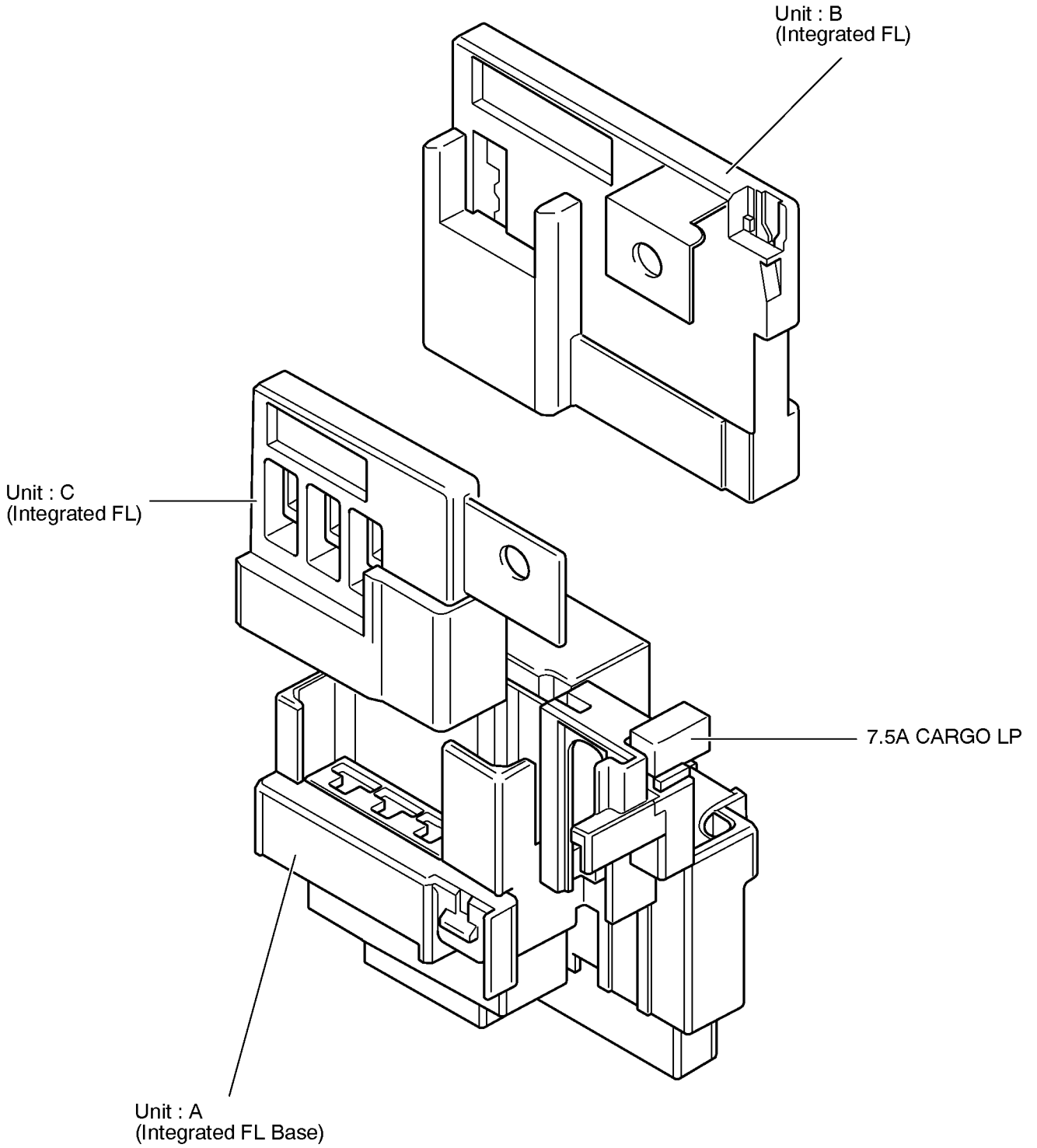


# F RELAY LOCATIONS

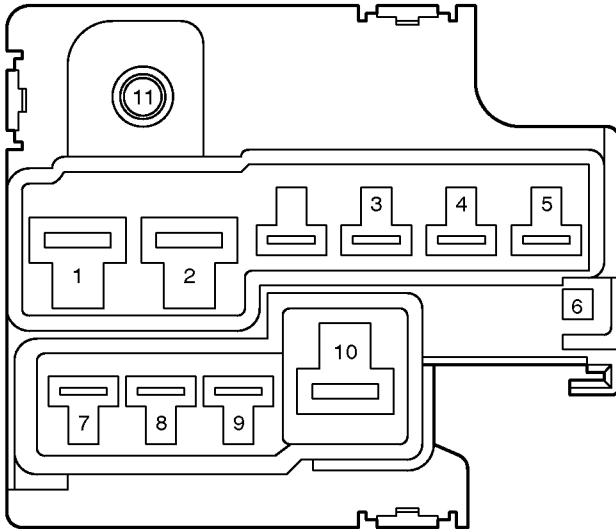
Fusible Link Block

Engine Compartment Left (See Page 32)  
[Inside Engine Room J/B]

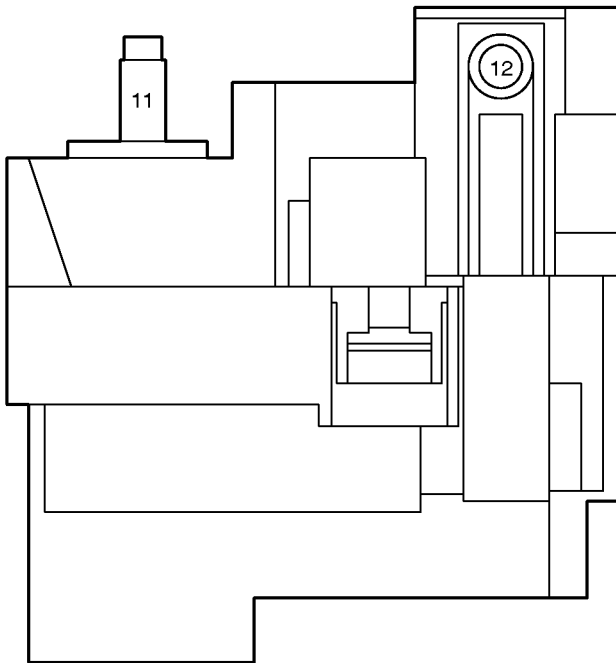
(Double Cab)



[Unit : A (Integrated FL Base)]



Top View



Side View

# F RELAY LOCATIONS

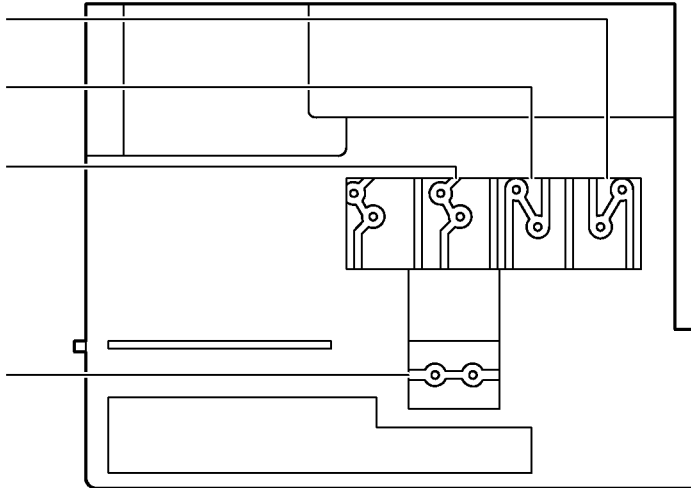
**Fusible Link Block**

**Engine Compartment Left (See Page 32)  
[Inside Engine Room J/B]**

**(Double Cab)**

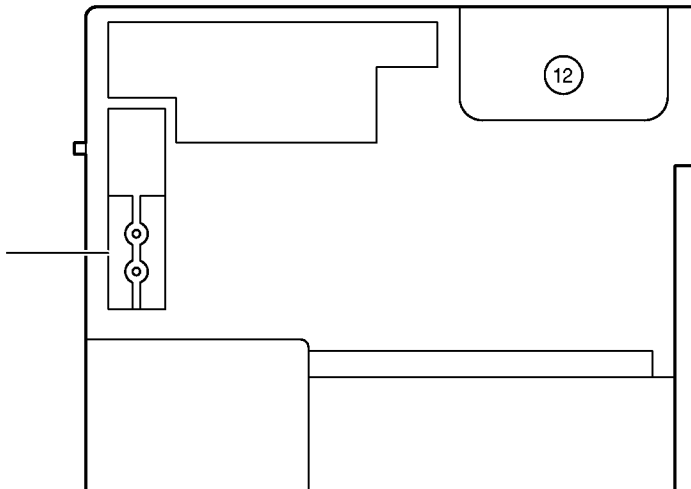
[Unit : B (Integrated FL)]

- 30A ABS NO.2  
(for Medium Current)
- 40A DEFOG  
(for Medium Current)
- 50A HEATER  
(for High Current)

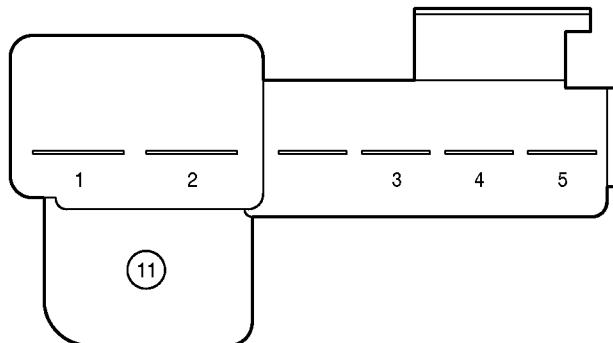


Side View

- 60A TOWING R/B  
(for High Current)

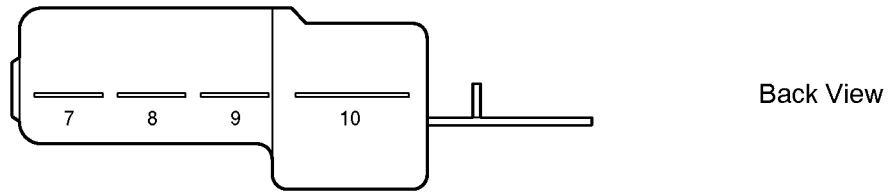
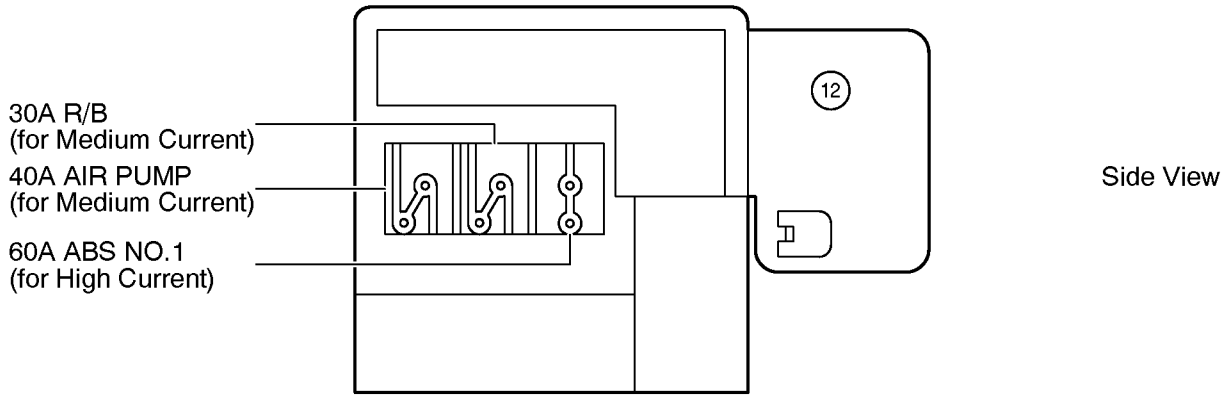


Side View

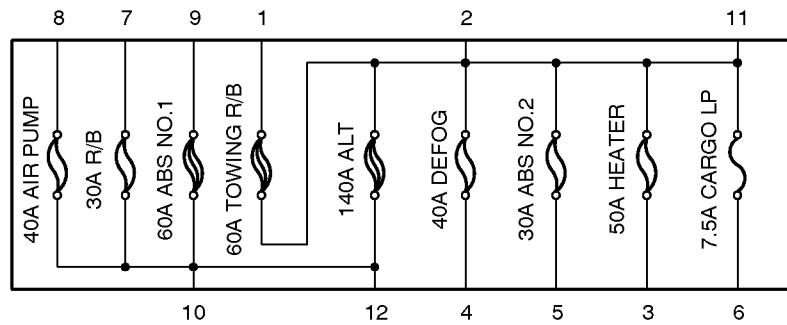


Back View

[Unit : C (Integrated FL)]



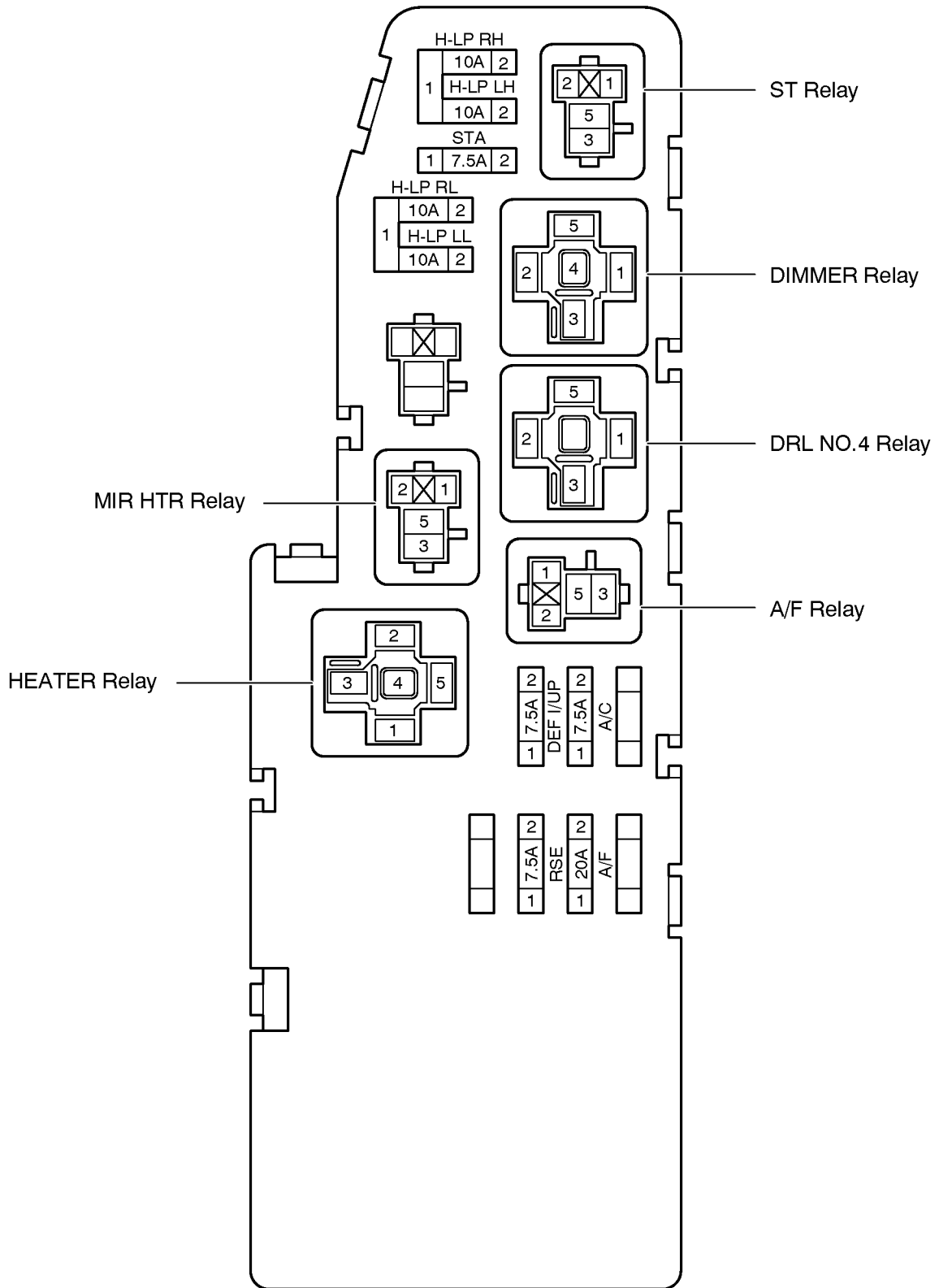
[Fusible Link Block Inner Circuit]



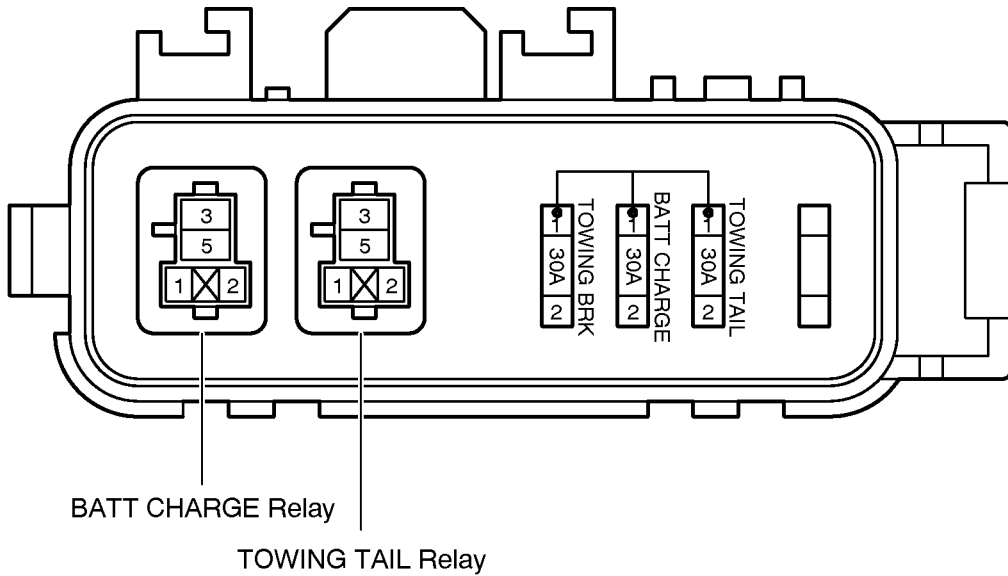
# F RELAY LOCATIONS

② : Engine Room R/B No.2 **Engine Compartment Left (See Page 32)**

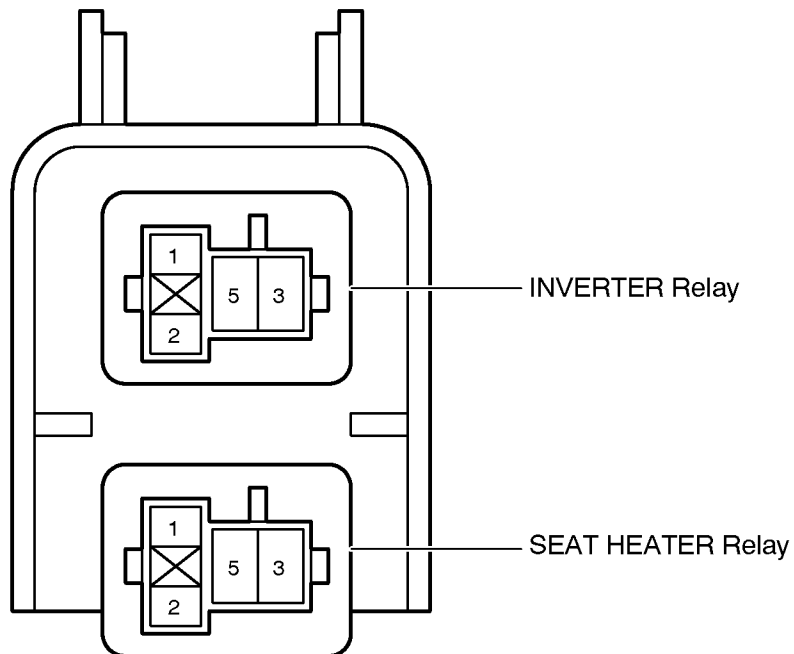
(Double Cab)



**③ : Engine Room R/B No.3 Engine Compartment Left (See Page 32)**  
**(Double Cab)**



**⑤ : Driver Side R/B Under the Instrument Panel J/B (See Page 32)**  
**(Double Cab)**

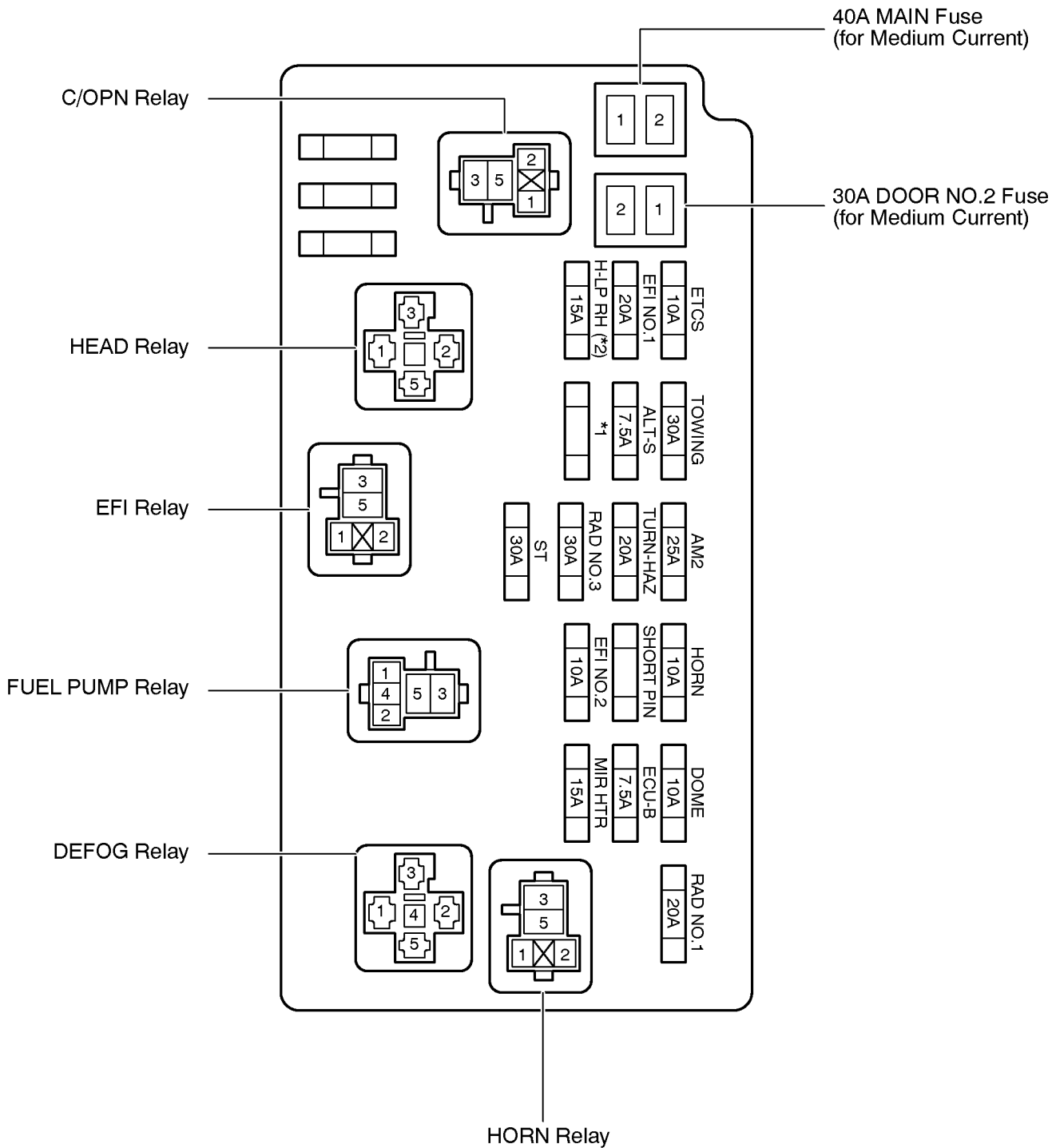


# F RELAY LOCATIONS

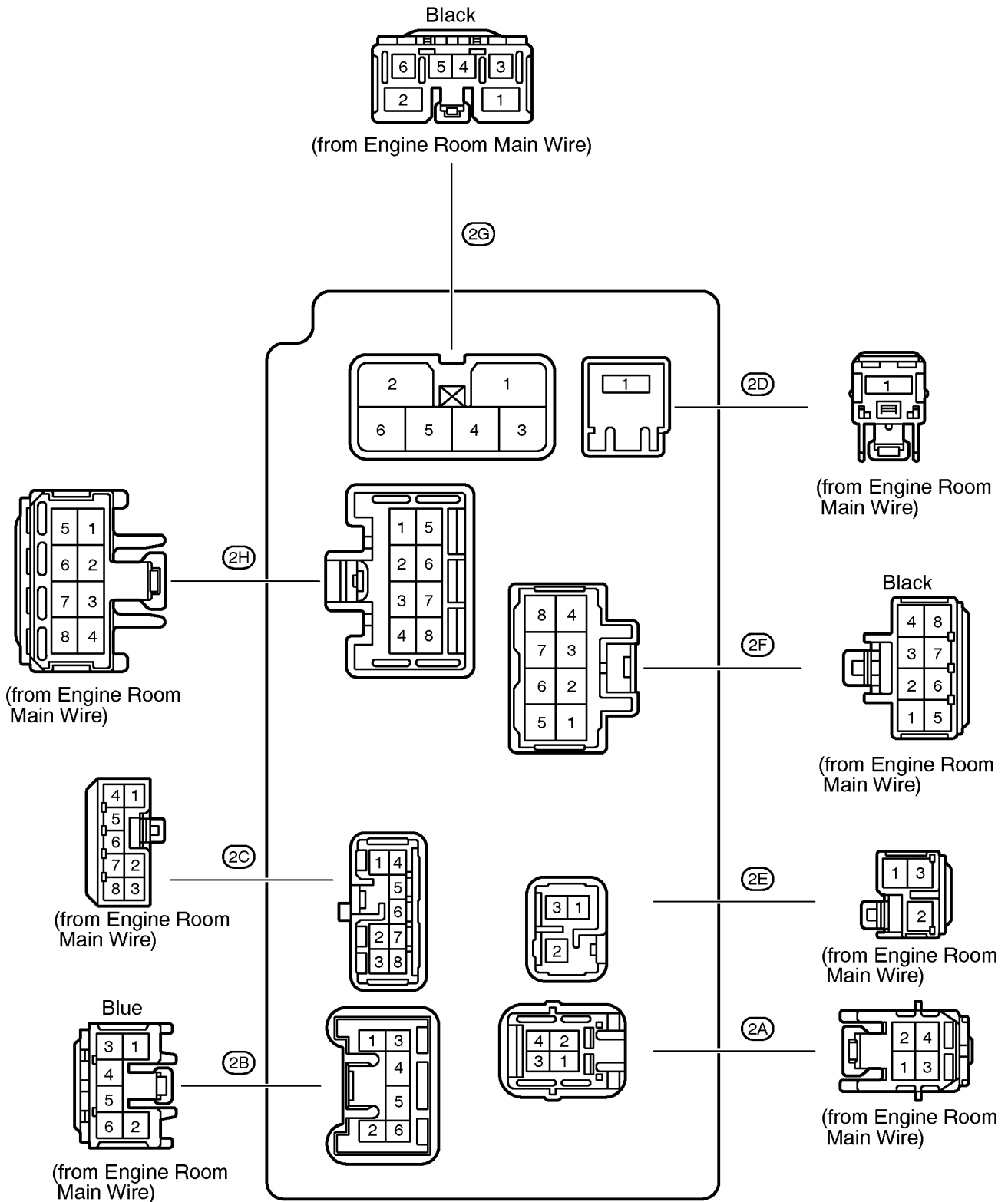
○ : Engine Room J/B      **Engine Compartment Left (See Page 32)**

**(Double Cab)**

- \* 1:15A DRL (w/ Daytime Running Light)  
15A H-LP LH (w/o Daytime Running Light)
- \* 2:w/o Daytime Running Light

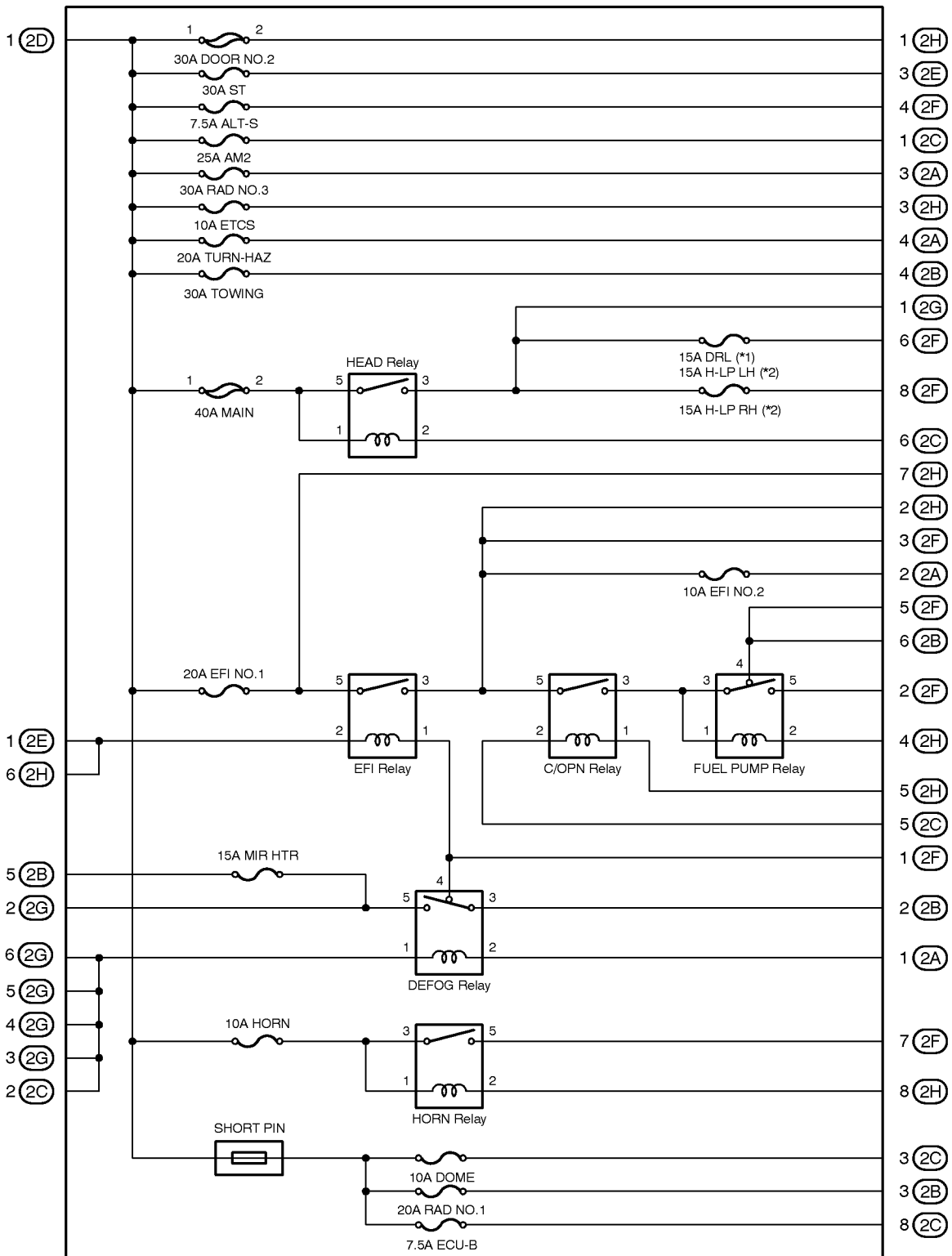






# F RELAY LOCATIONS

## [Engine Room J/B Inner Circuit] (Double Cab)



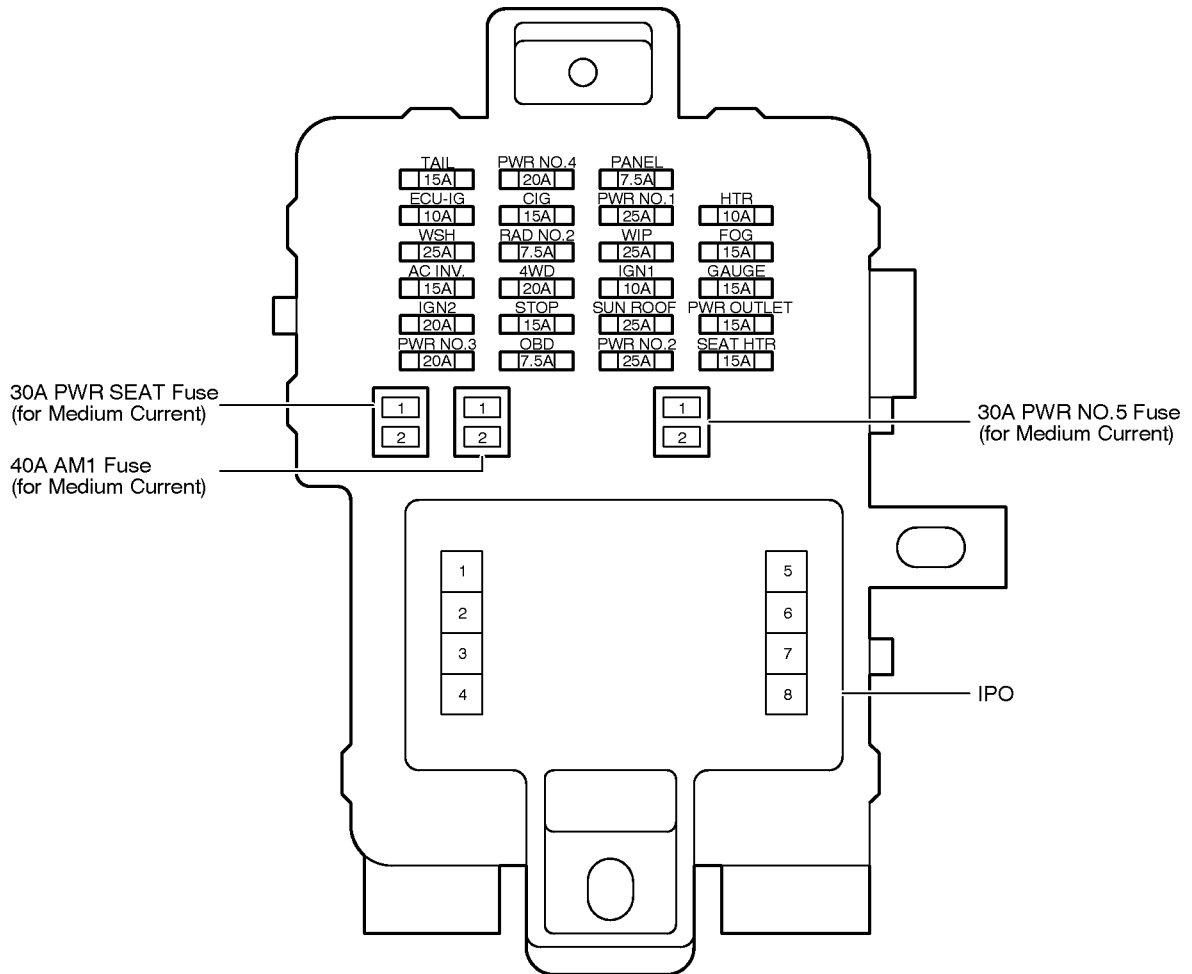
\* 1:w/ Daytime Running Light  
\* 2:w/o Daytime Running Light

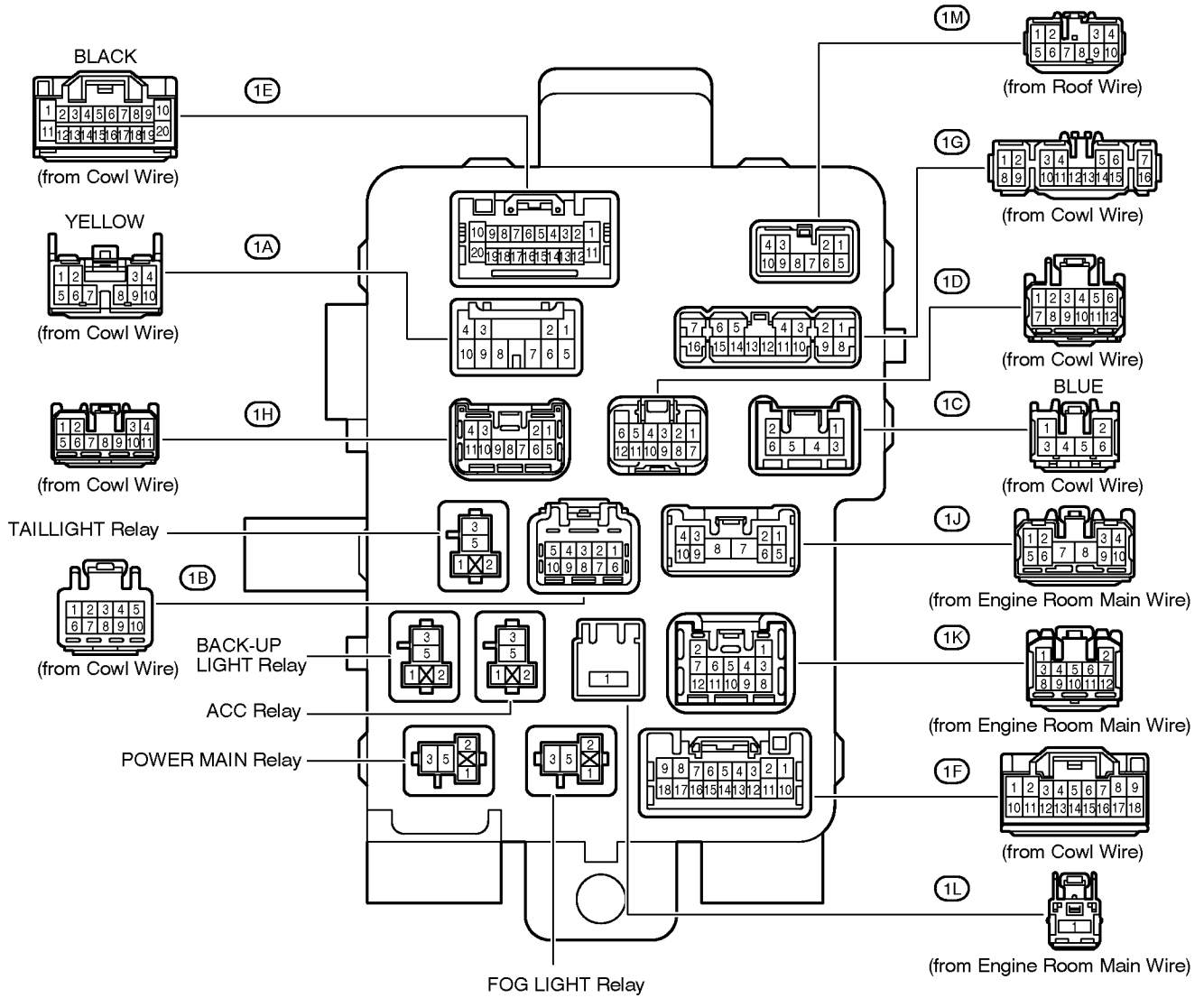


# F RELAY LOCATIONS

○ : Driver Side J/B      Lower Finish Panel (See Page 32)

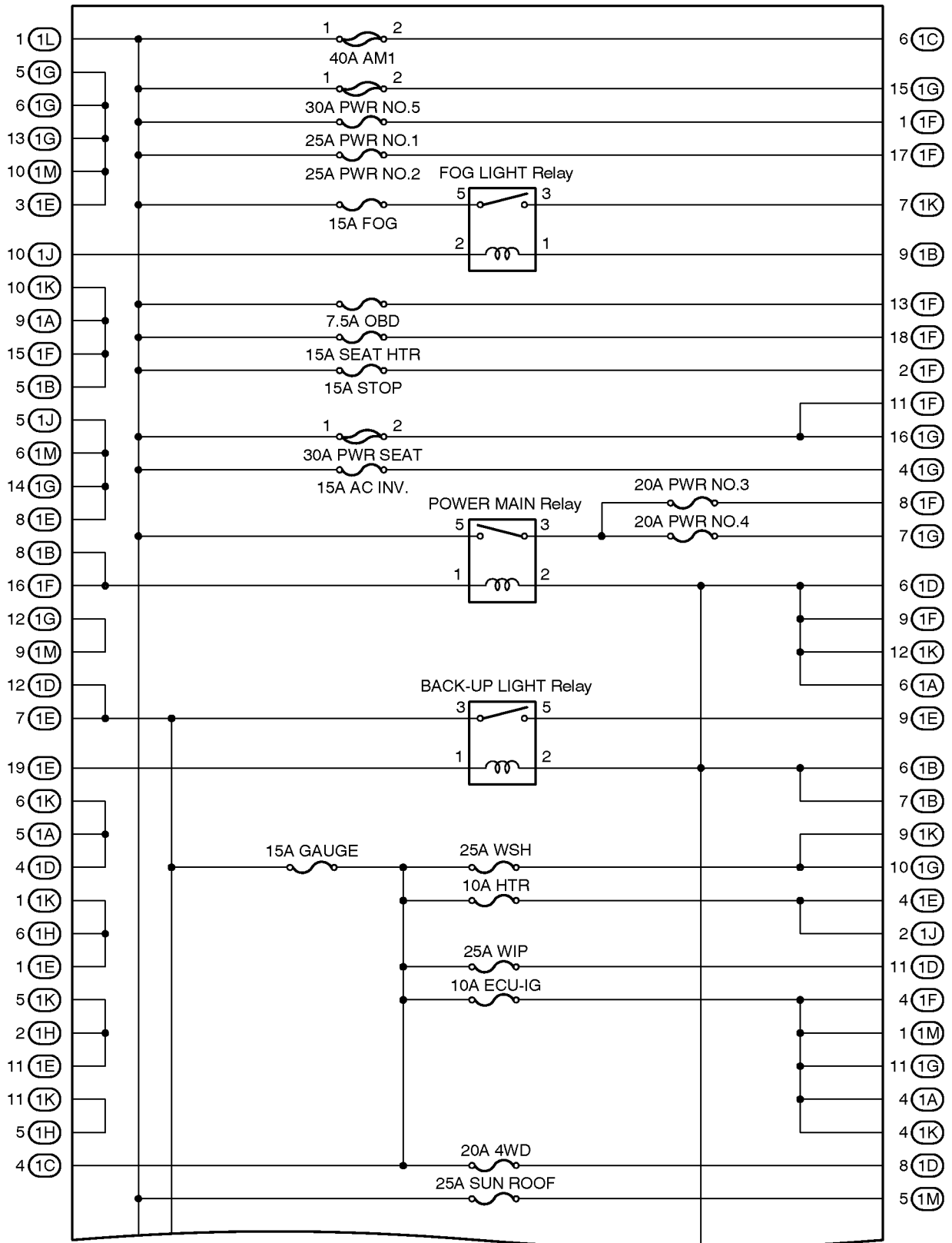
(Double Cab)





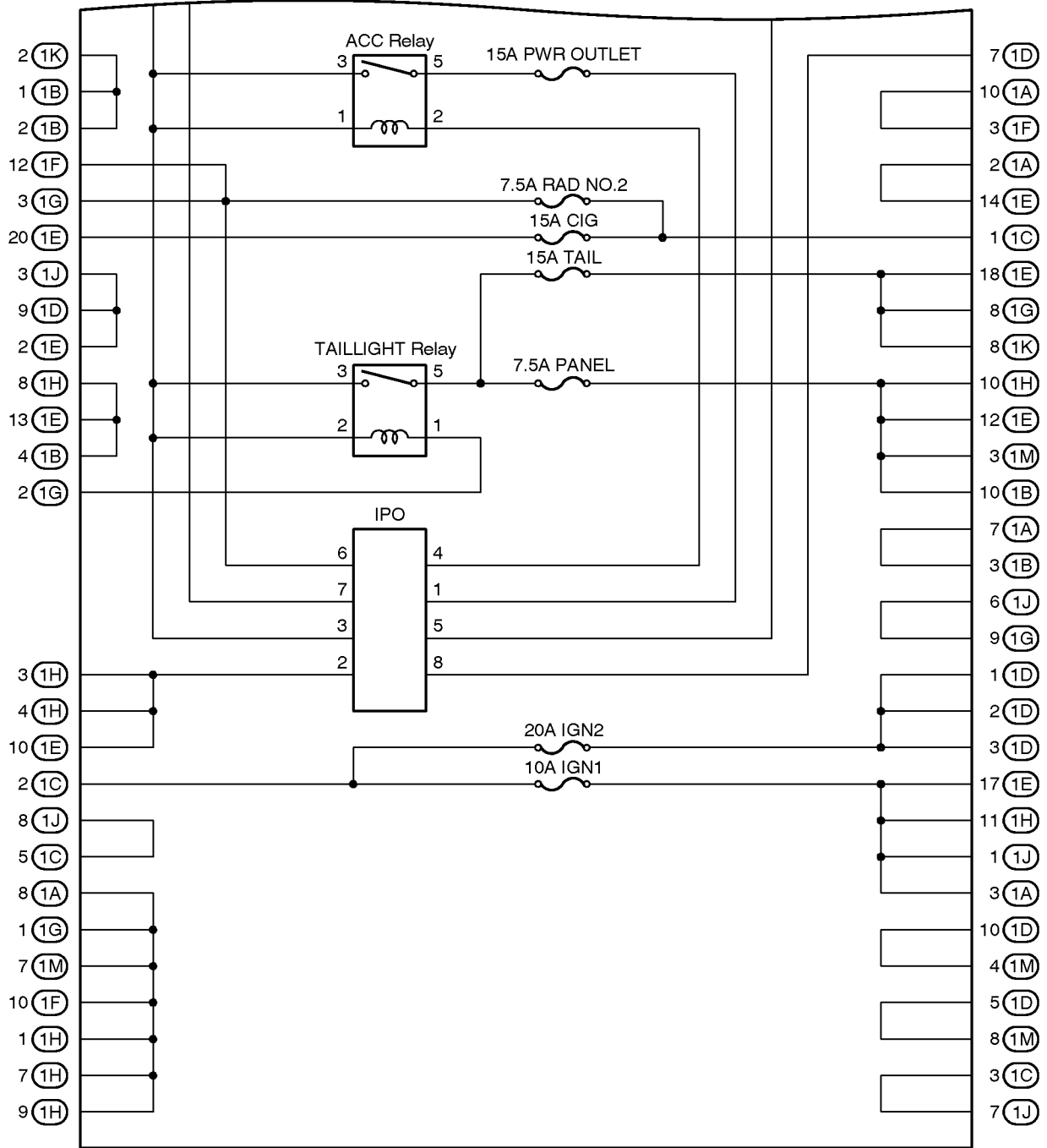
# F RELAY LOCATIONS

## [Driver Side J/B Inner Circuit] (Double Cab)



(Cont. Next Page)

(Cont'd)

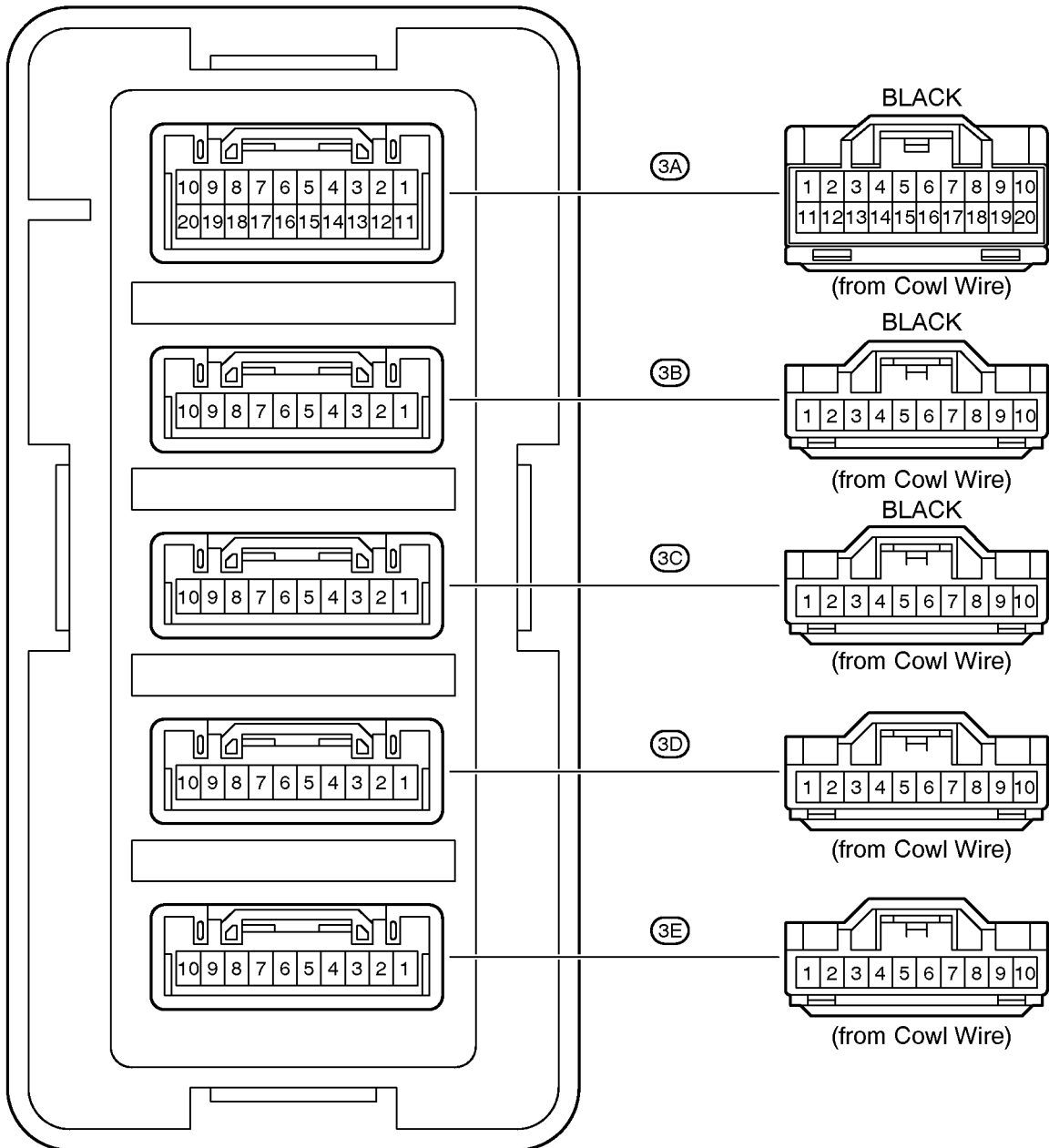


# F RELAY LOCATIONS

○ : Sub J/B No.3

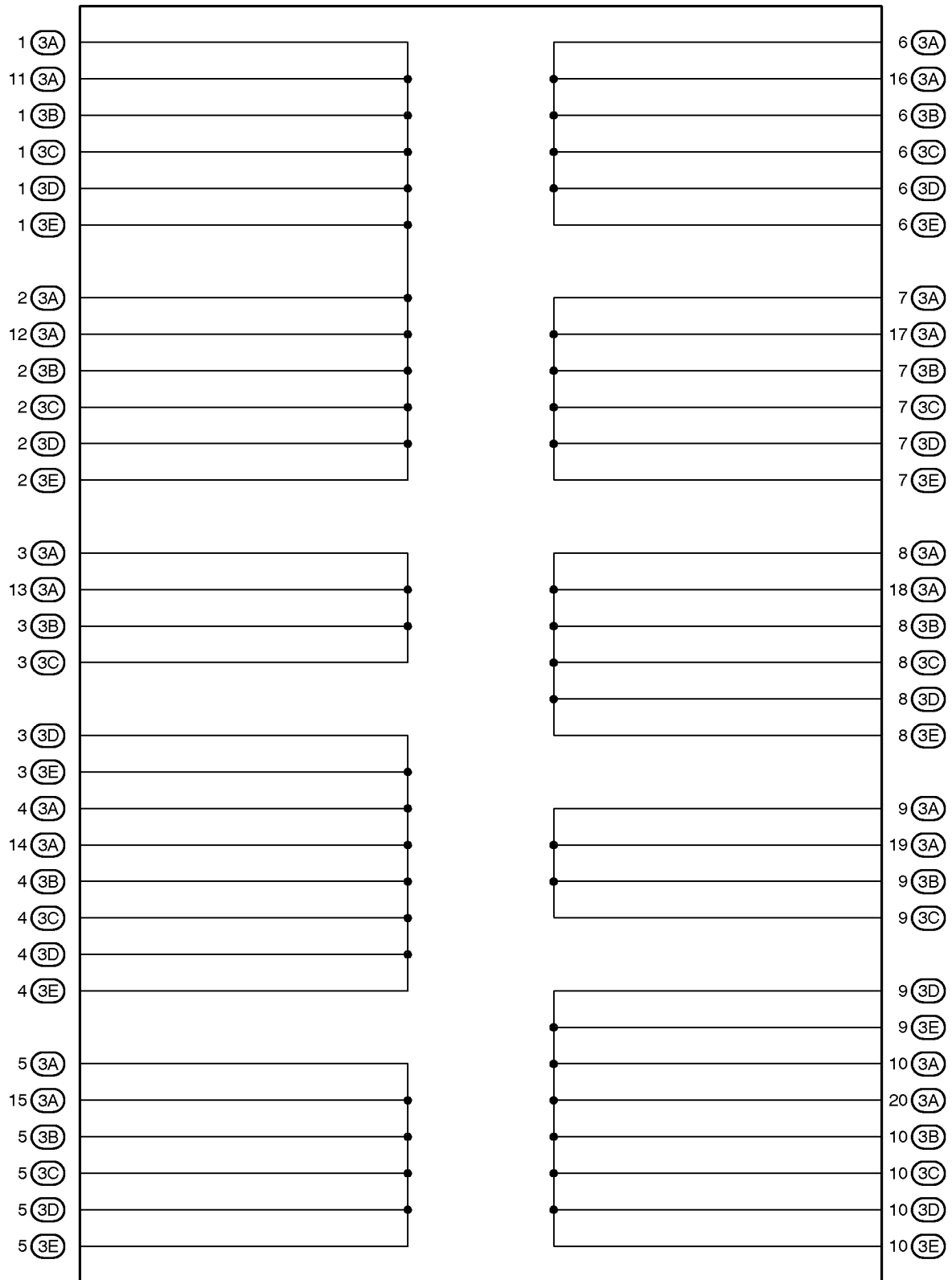
Upper the Accelerator Pedal (See Page 32)

(Double Cab)





[Sub J/B No.3 Inner Circuit]  
(Double Cab)

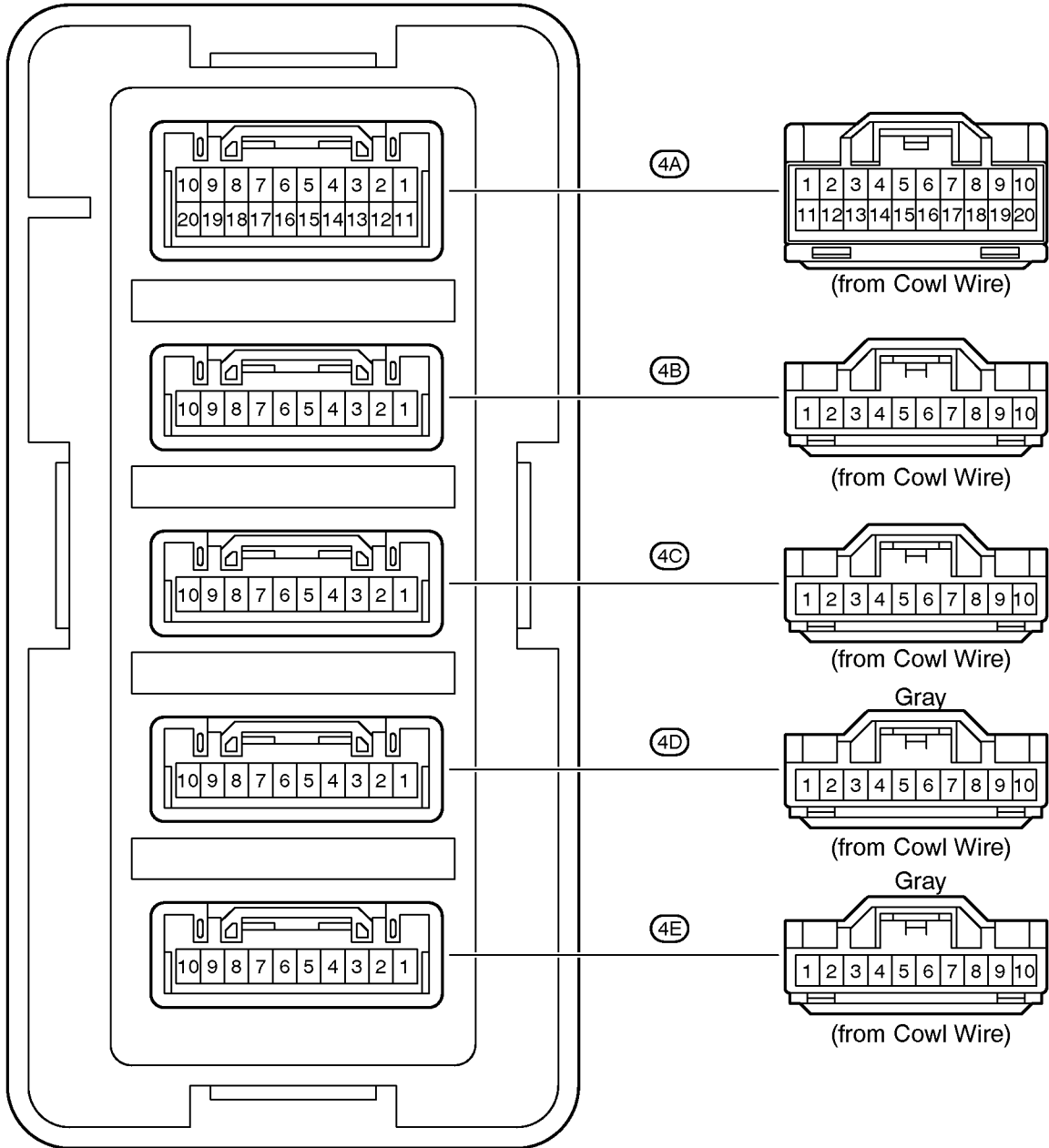


# F RELAY LOCATIONS

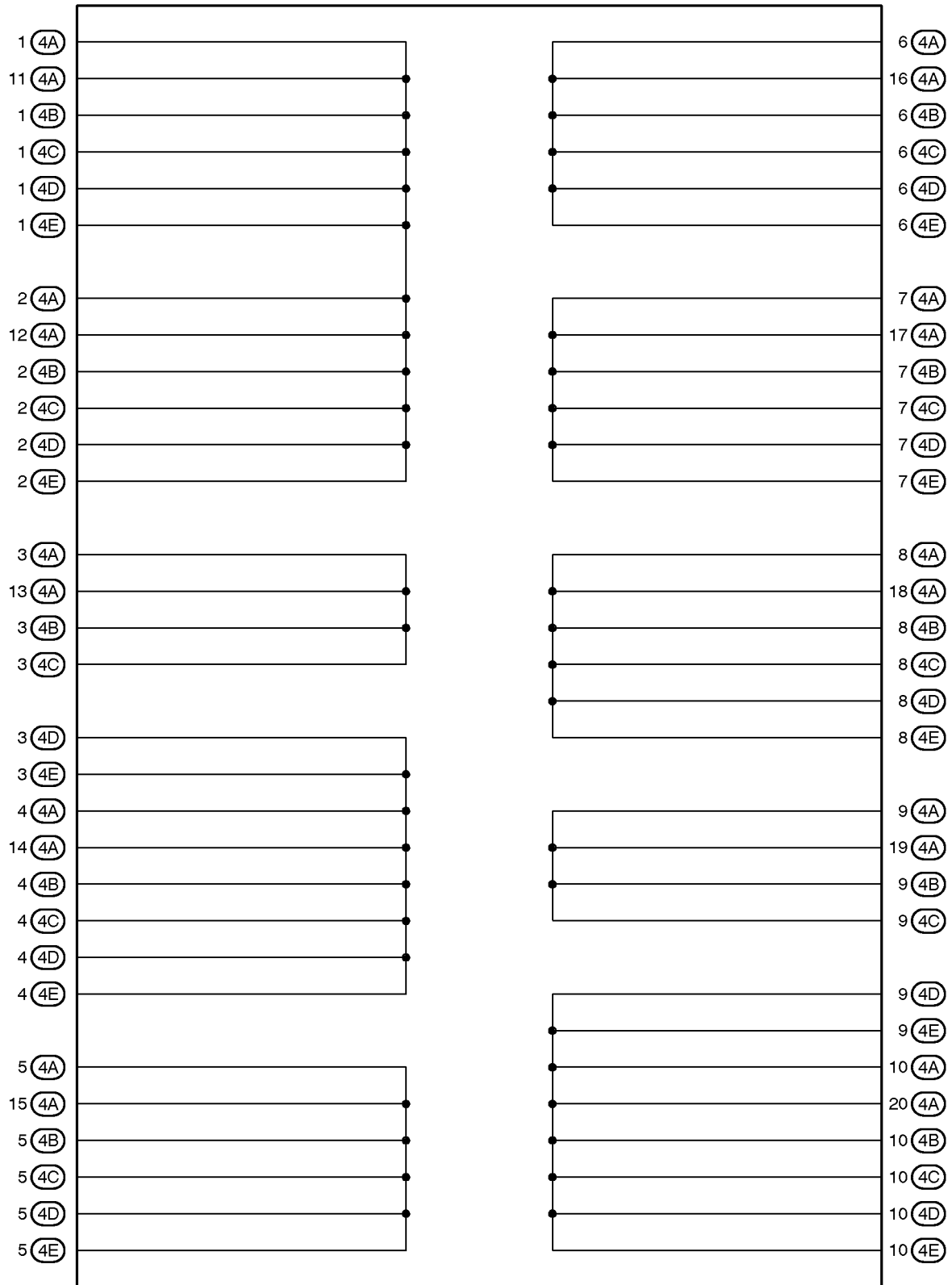
○ : Sub J/B No.4

Upper the Accelerator Pedal (See Page 32)

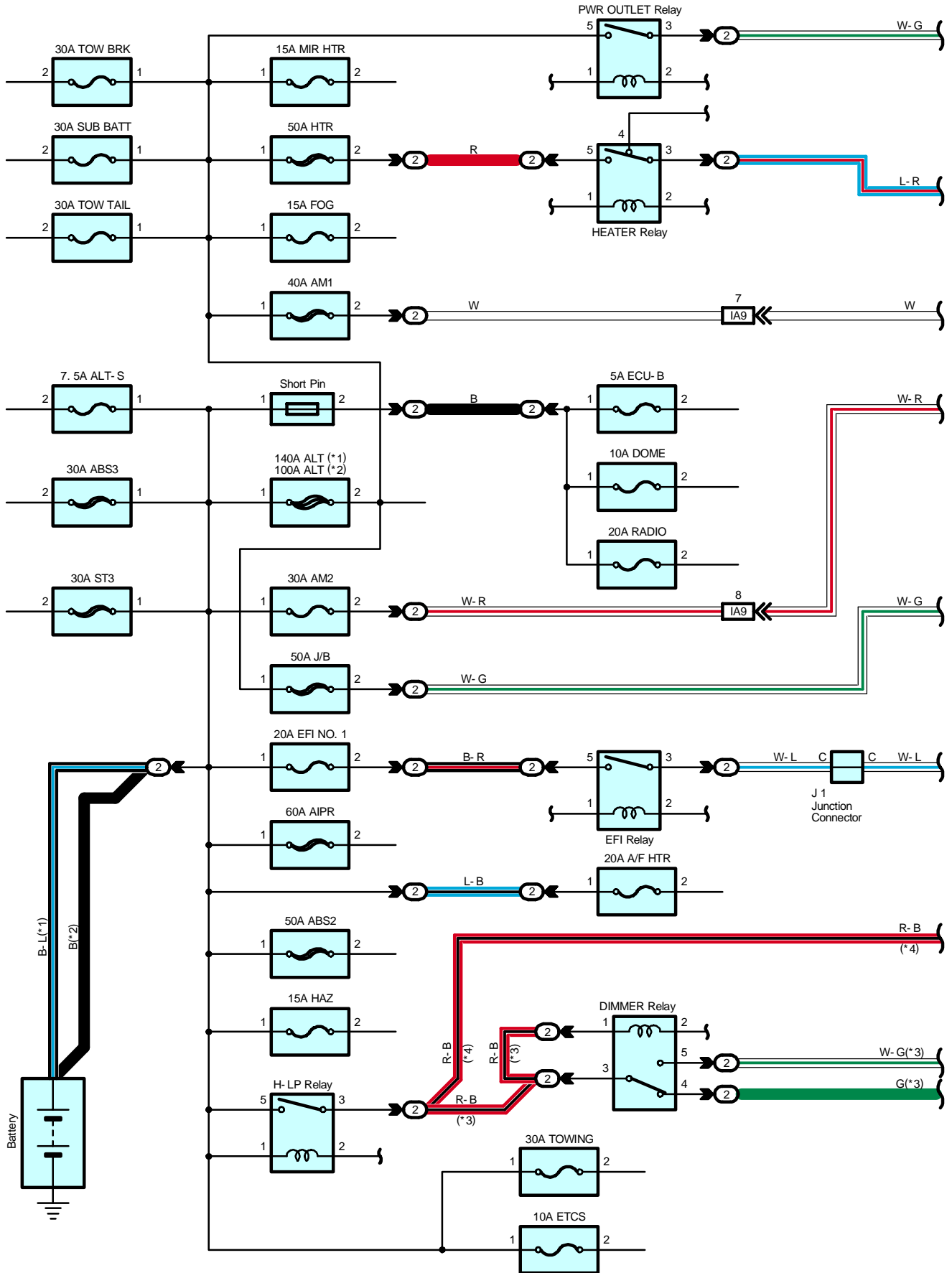
(Double Cab)

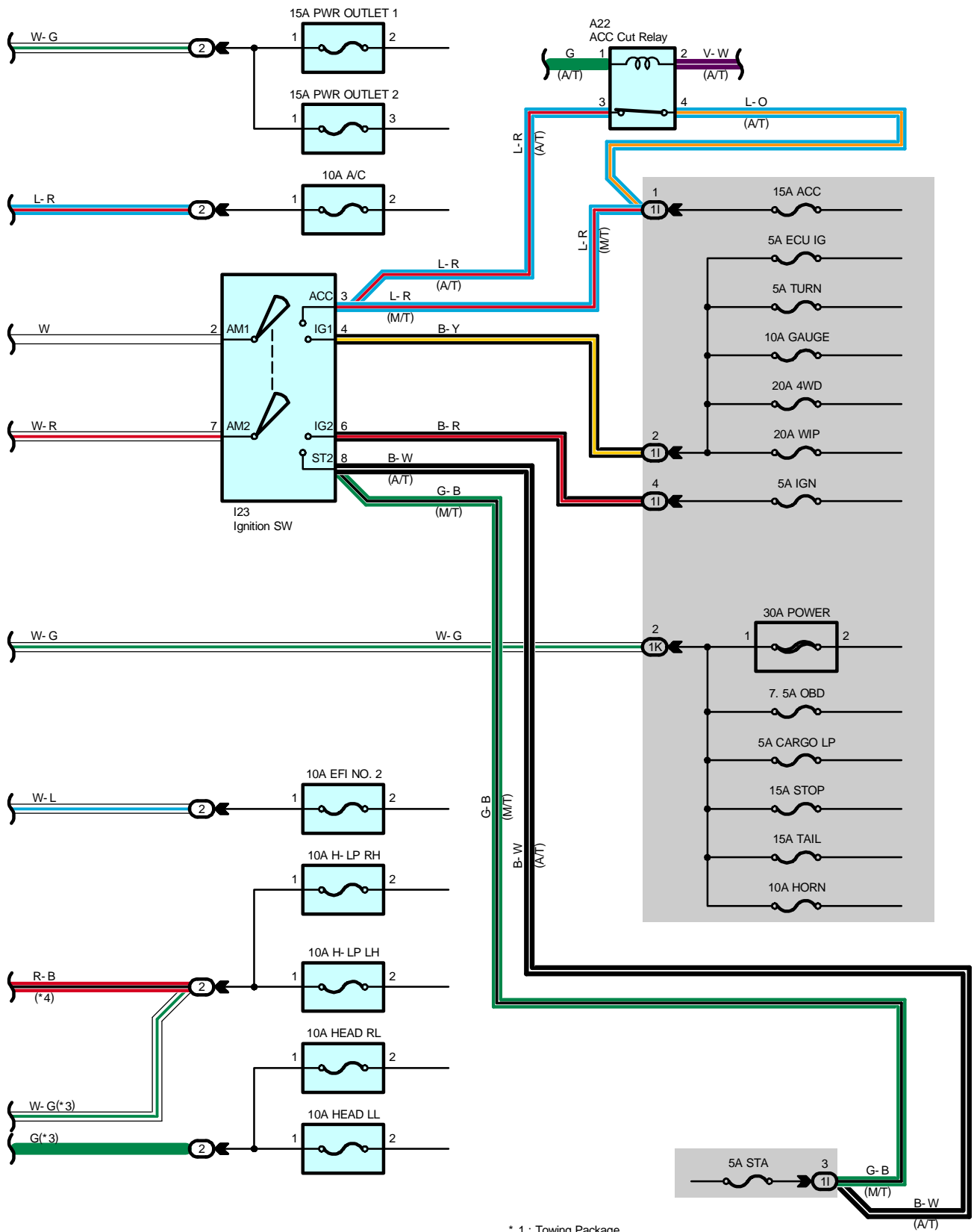


[Sub J/B No.4 Inner Circuit]  
(Double Cab)



# Power Source (Access/Standard Cab)





- \* 1: Towing Package
- \* 2: Except Towing Package
- \* 3: w/ Daytime Running Light
- \* 4: w/o Daytime Running Light

# Power Source (Access/Standard Cab)

## Service Hints

### HTR Relay

5-3 : Closed with ignition SW on and heater blower SW on

### H-LP Relay

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

### I23 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

### DIMMER Relay (w/ Daytime Running Light)

3-5 : Closed with HEAD relay on and dimmer SW at HIGH or FLASH position

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A22	56	J1	53 (2UZ-FE)		
I23	57		55 (1GR-FE)		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1I	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1K	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

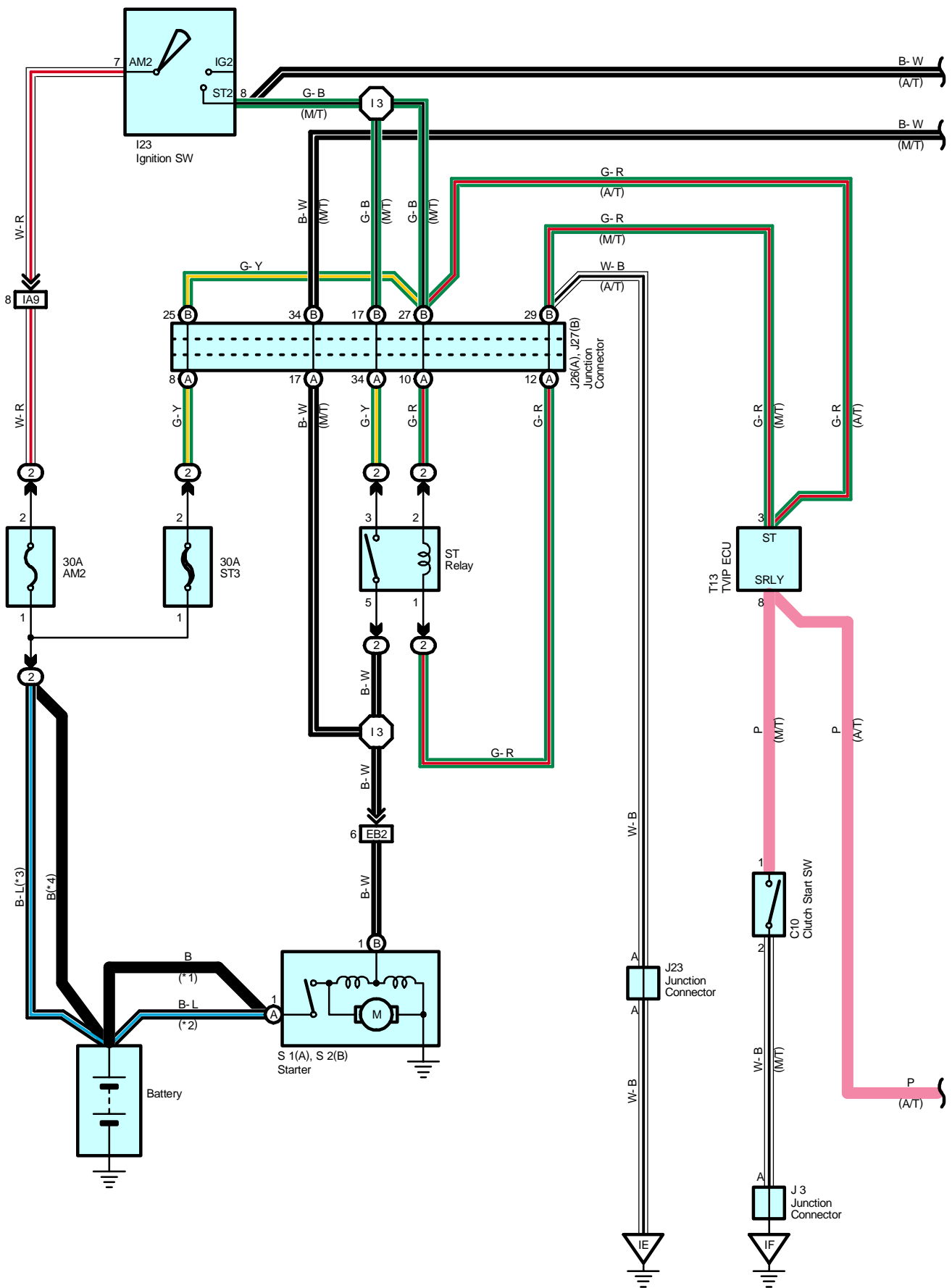
## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA9	78	Engine Room Main Wire and Cowl Wire (Left Kick Panel)

\* 1 : w/ Daytime Running Light   \* 2 : w/o Daytime Running Light   \* 3 : Access Cab   \* 4 : Standard Cab   \* 5 : Bench Seat  
 \* 6 : Captain Seat   \* 7 : Access Cab Captain Seat   \* 8 : Standard Cab Bench Seat   \* 9 : Access Cab w/o Power Seat

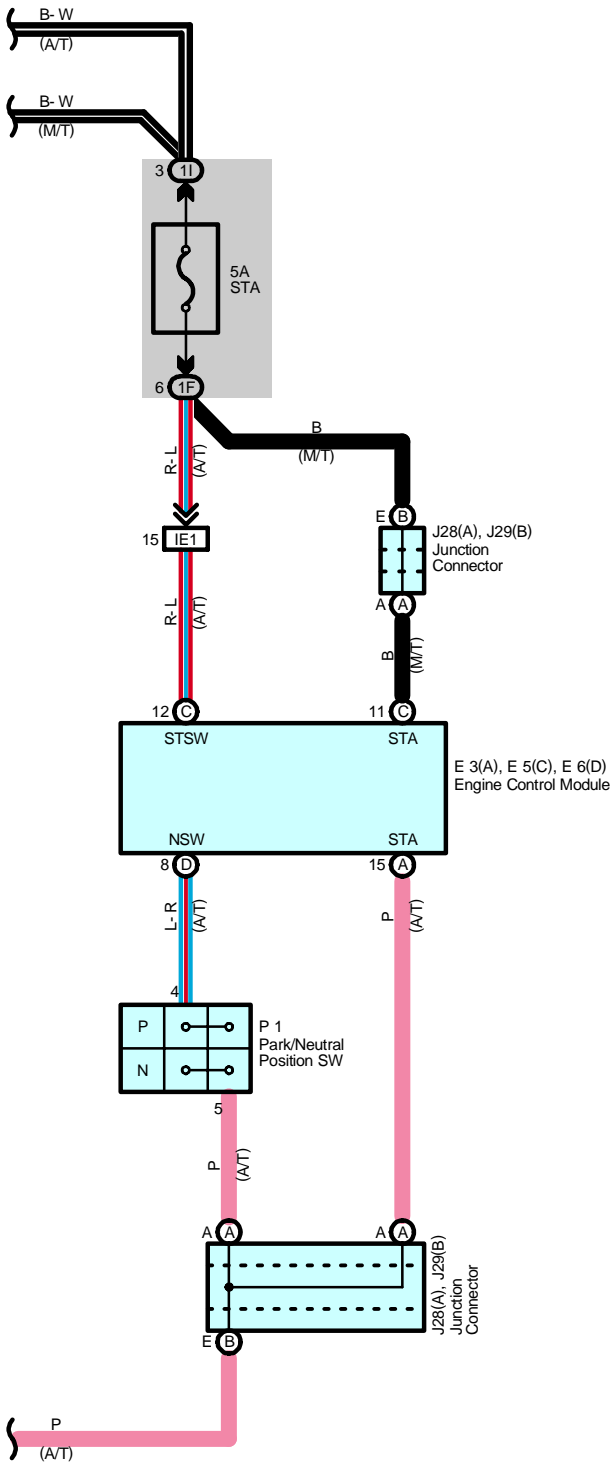


# Starting (Access/Standard Cab)





- \* 1 : 1GR- FE
- \* 2 : 2UZ- FE



# Starting (Access/Standard Cab)

## 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

### I23 Ignition SW

7-8 : Closed with ignition SW at ST position

### P1 Park/Neutral Position SW (A/T)

4-5 : Closed with A/T shift lever in P or N position

### ST Relay

5-3 : Closed with Park/Neutral position SW at P or N position and ignition SW at ST position

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C10	56	J23	58	P1	55 (1GR-FE)
E3	A 57	J26	A 58	S1	A 53 (2UZ-FE) 55 (1GR-FE)
E5	C 57	J27	B 58		
E6	D 57	J28	A 58	S2	B 53 (2UZ-FE) 55 (1GR-FE)
I23	57	J29	B 58		
J3	58	P1	53 (2UZ-FE)	T13	59

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1I	24 (*2)	
	28 (*1)	

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB2	74 (2UZ-FE)	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
	76 (1GR-FE)	
IA9	78	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IE1	80	Engine Wire and Cowl Wire (Right Side of Instrument Panel)

## ▽ : Ground Points

Code	See Page	Ground Points Location
IE	78	Left Kick Panel
IF		

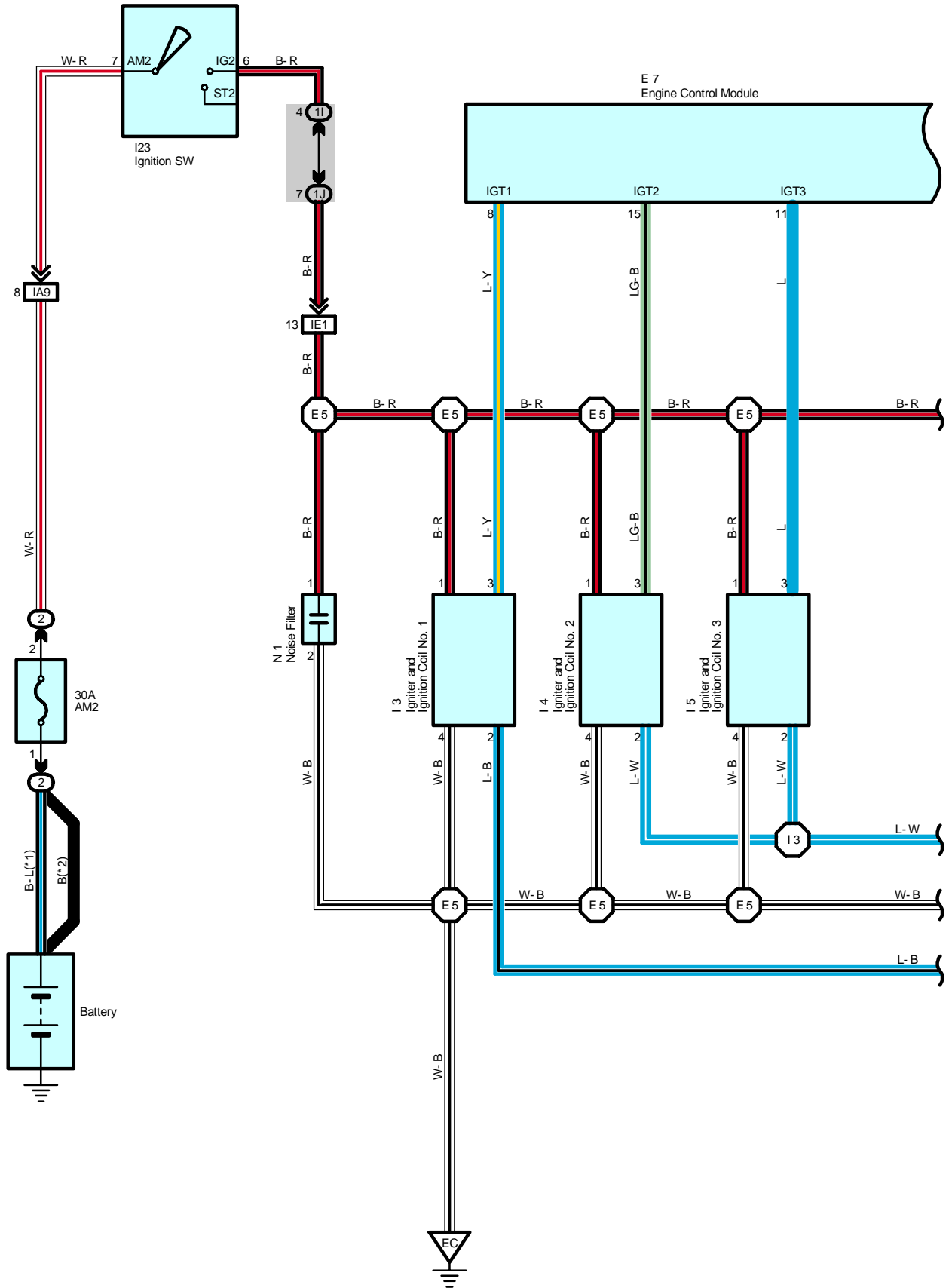
## ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I3	80	Engine Wire			

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

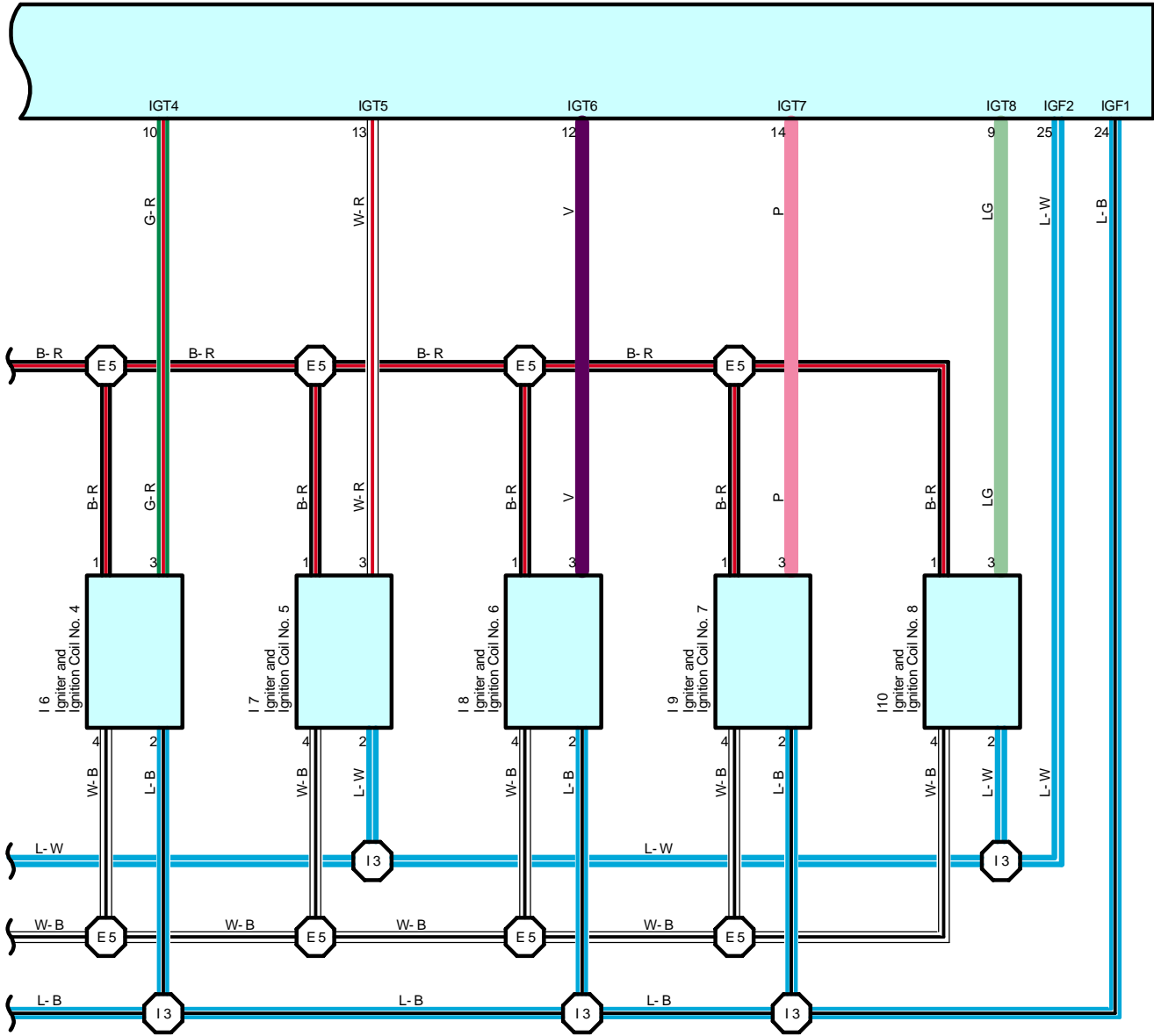


# Ignition for 2UZ-FE (Access/Standard Cab)



- \* 1 : Towing Package
- \* 2 : Except Towing Package

E 7  
Engine Control Module



# Ignition for 2UZ-FE (Access/Standard Cab)

## Service Hints

### I23 Ignition SW

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

### ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
E7	57	I6	53 (2UZ-FE)	I10	53 (2UZ-FE)
I3	53 (2UZ-FE)	I7	53 (2UZ-FE)	I23	57
I4	53 (2UZ-FE)	I8	53 (2UZ-FE)	N1	53 (2UZ-FE)
I5	53 (2UZ-FE)	I9	53 (2UZ-FE)		

### ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

### ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1I	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1J	24 (*2)	
	28 (*1)	

### □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA9	78	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IE1	80	Engine Wire and Cowl Wire (Right Side of Instrument Panel)

### ▽ : Ground Points

Code	See Page	Ground Points Location
EC	74 (2UZ-FE)	Rear Bank of Left Cylinder Head

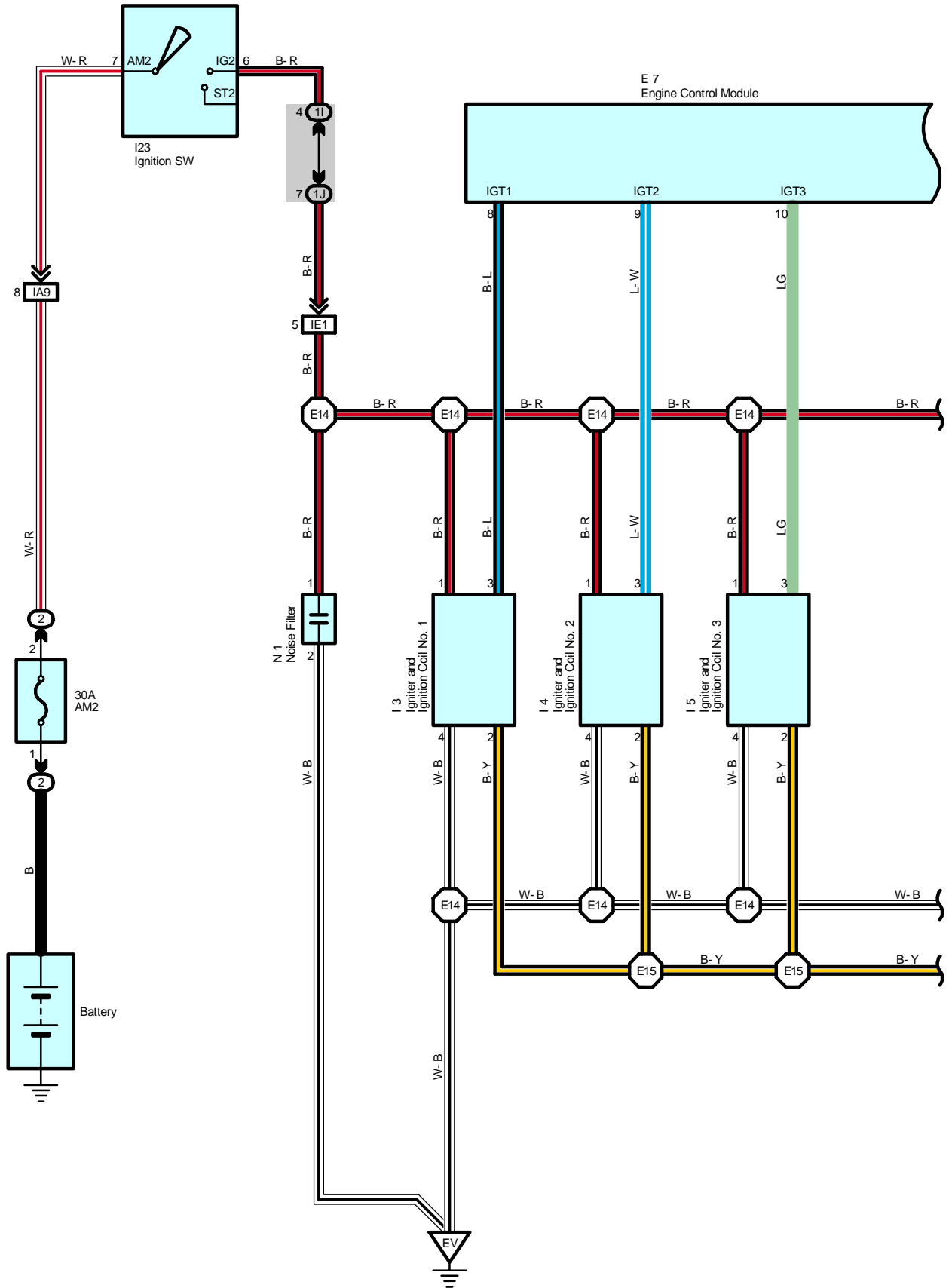
### ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E5	74 (2UZ-FE)	Engine Wire	I3	80	Engine Wire

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

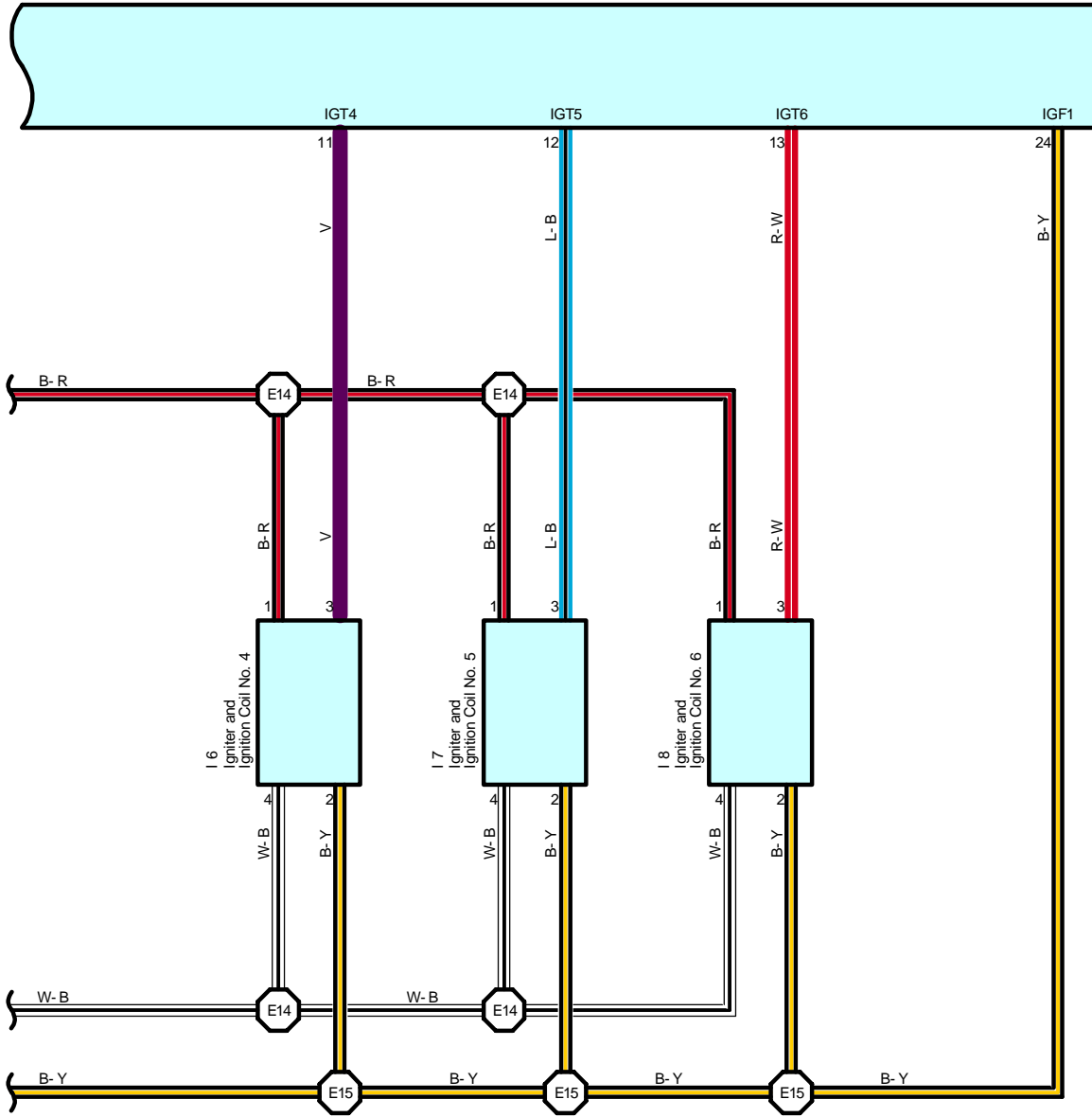


# Ignition for 1GR-FE (Access/Standard Cab)





E 7  
Engine Control Module



# Ignition for 1GR-FE (Access/Standard Cab)

## Service Hints

### I23 Ignition SW

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

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
E7	57	I5	55 (1GR-FE)	I8	55 (1GR-FE)
I3	55 (1GR-FE)	I6	55 (1GR-FE)	I23	57
I4	55 (1GR-FE)	I7	55 (1GR-FE)	N1	55 (1GR-FE)

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1I	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1J	24 (*2)	
	28 (*1)	

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA9	78	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IE1	80	Engine Wire and Cowl Wire (Right Side of Instrument Panel)

## ▽ : Ground Points

Code	See Page	Ground Points Location
EV	76 (1GR-FE)	Rear Bank of Left Cylinder Head

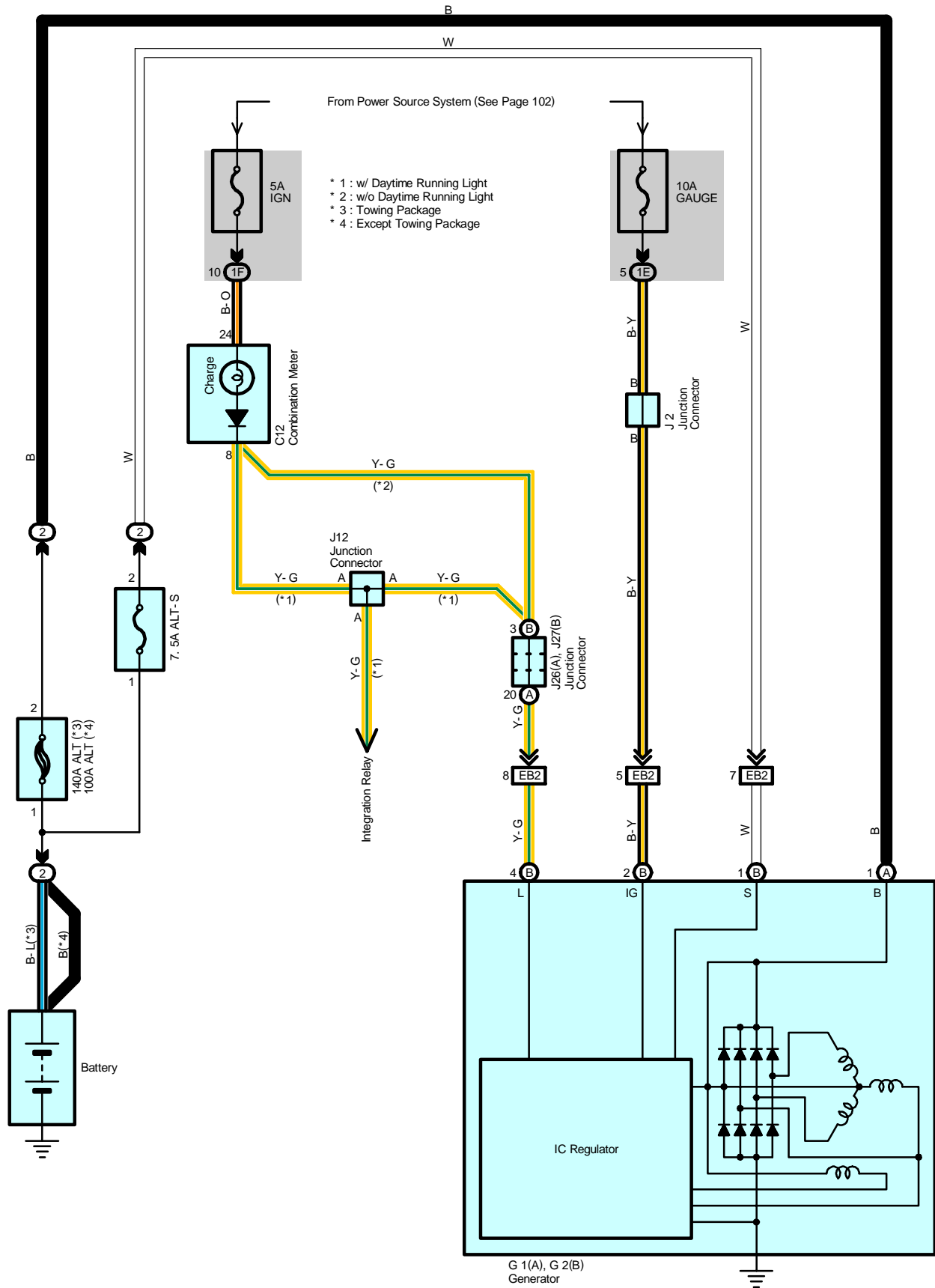
## ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E14	76 (1GR-FE)	Engine Wire	E15	76 (1GR-FE)	Engine Wire

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat



# Charging (Access/Standard Cab)



**Service Hints**

**G2 (B) Generator**

- (B) 1-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) 4-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
C12		56	G2	B	54 (1GR-FE)	J26	A	58
G1	A	52 (2UZ-FE)	J2		53 (2UZ-FE)	J27	B	58
		54 (1GR-FE)			55 (1GR-FE)			
G2	B	52 (2UZ-FE)	J12		58			

**○ : Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

**○ : Junction Block and Wire Harness Connector**

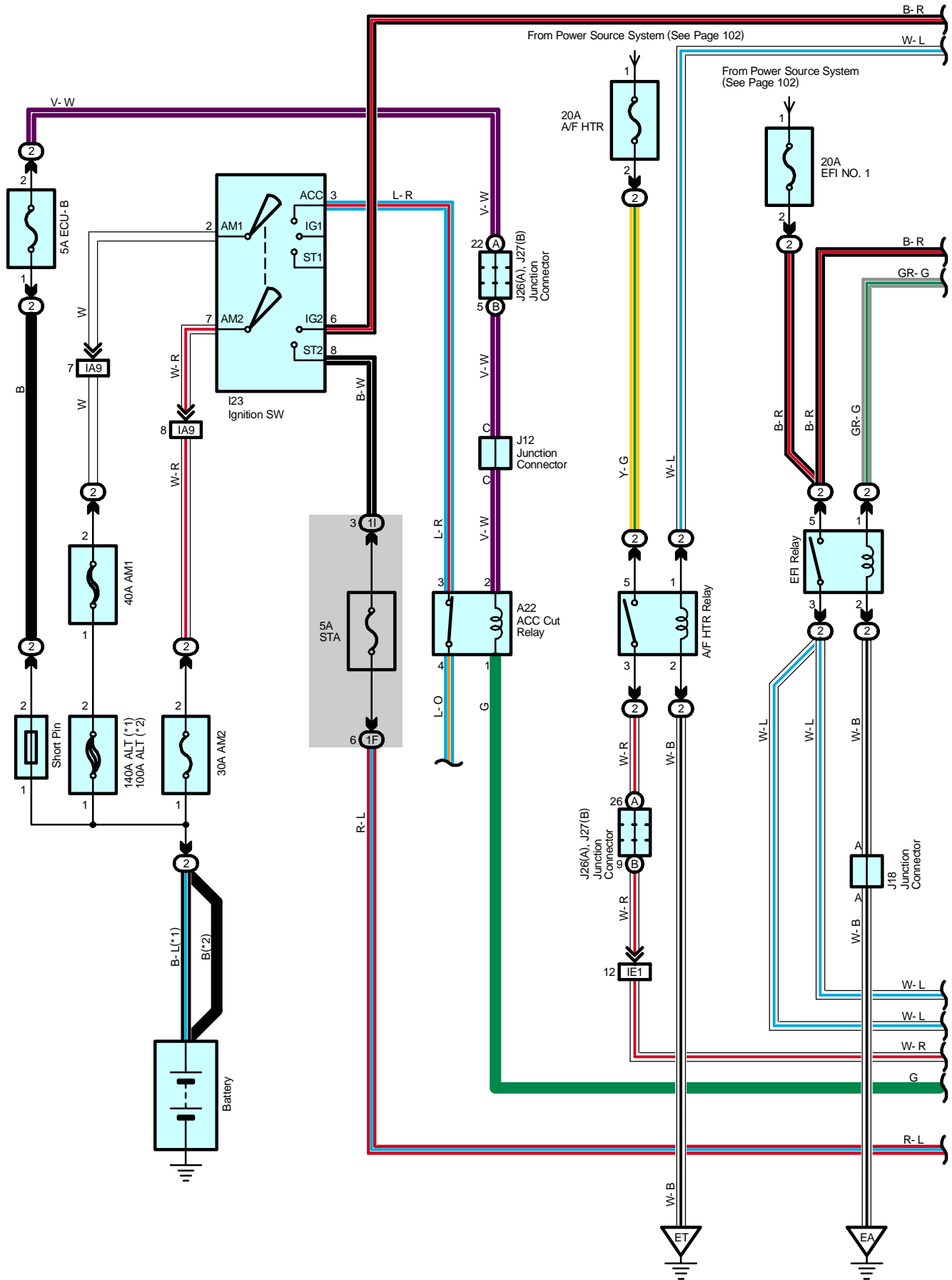
Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

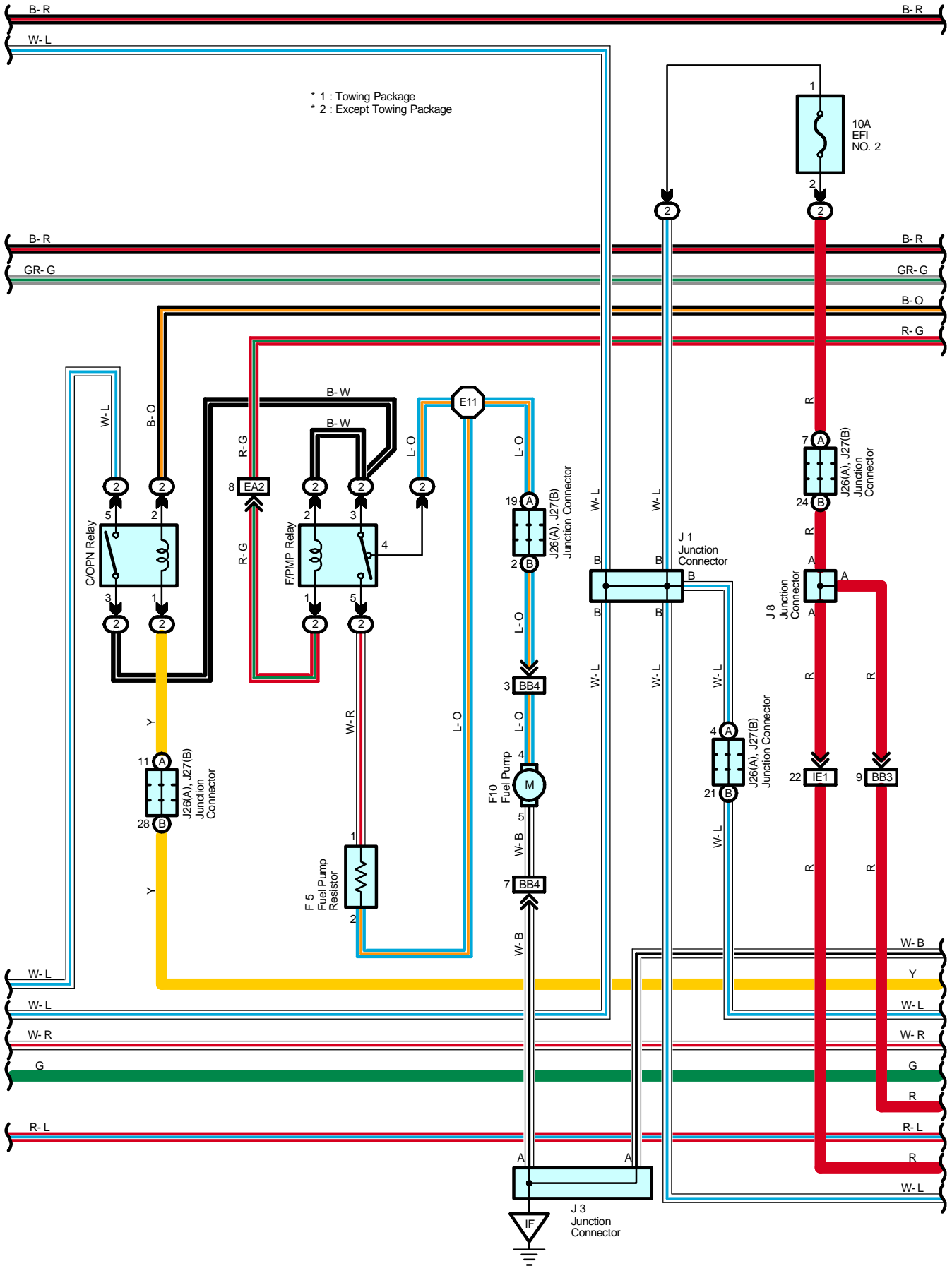
**□ : Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB2	74 (2UZ-FE)	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
	76 (1GR-FE)	

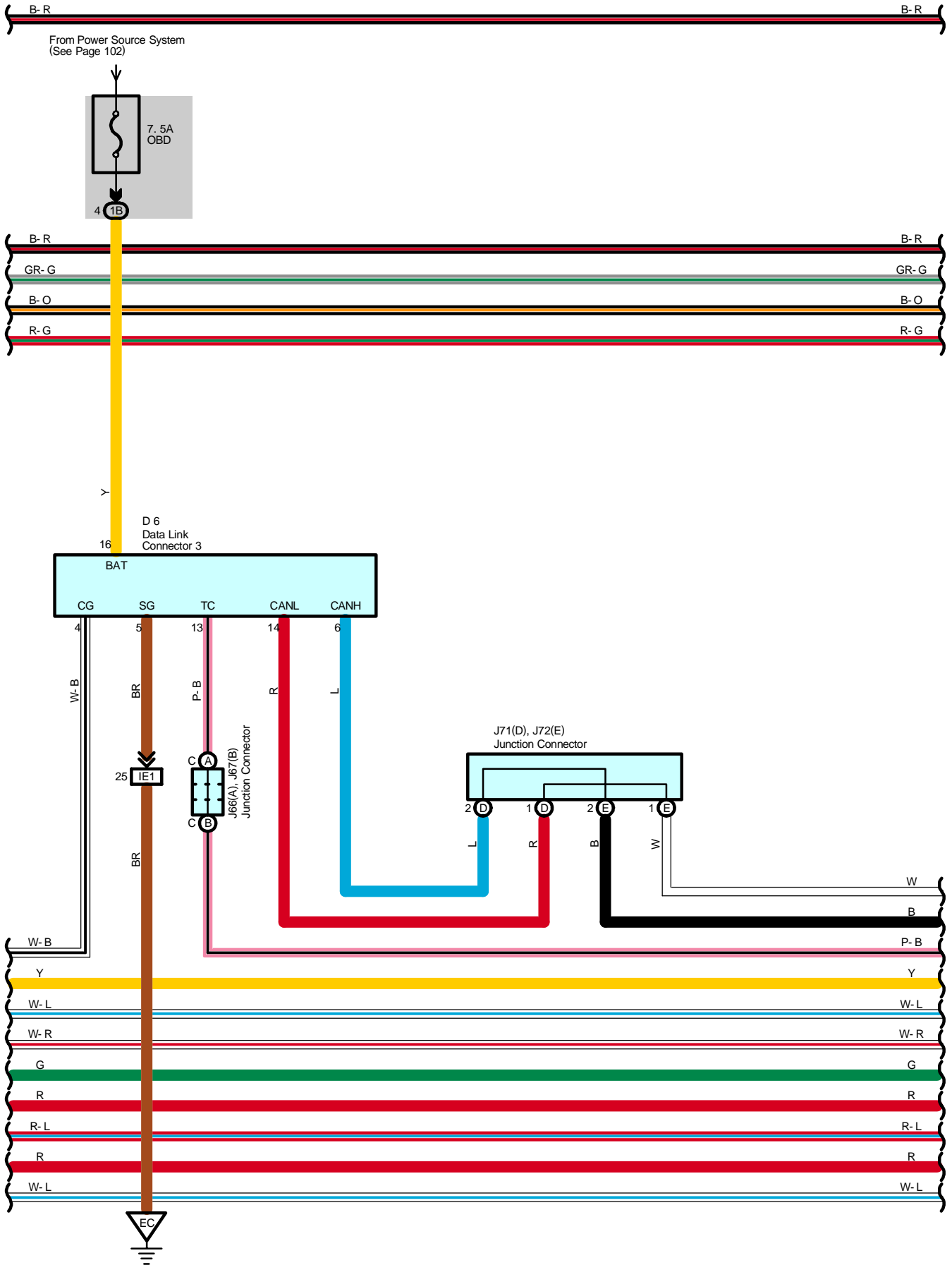
- \* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat
- \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Engine Control for 2UZ-FE (Access/Standard Cab)

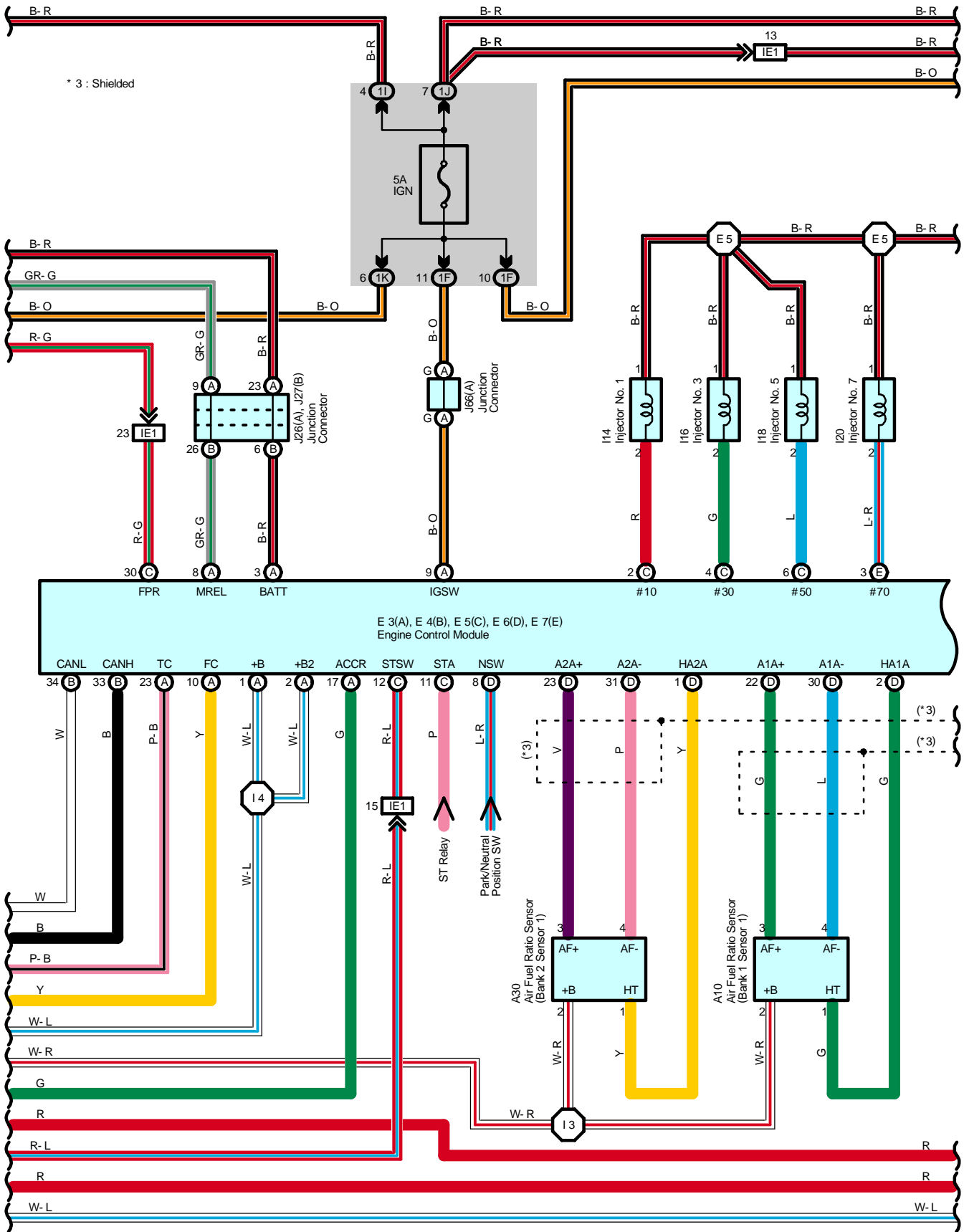




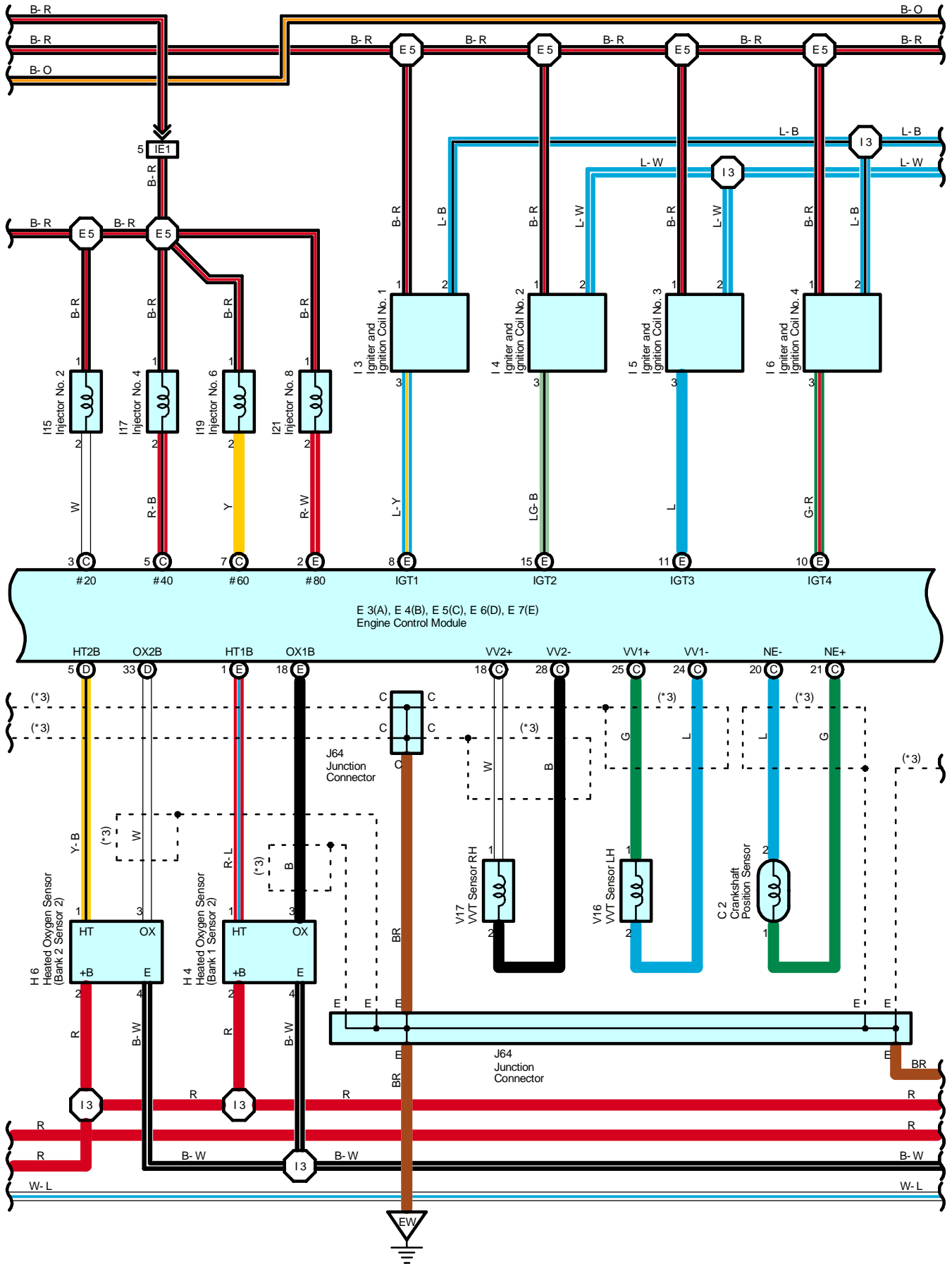
# Engine Control for 2UZ-FE (Access/Standard Cab)

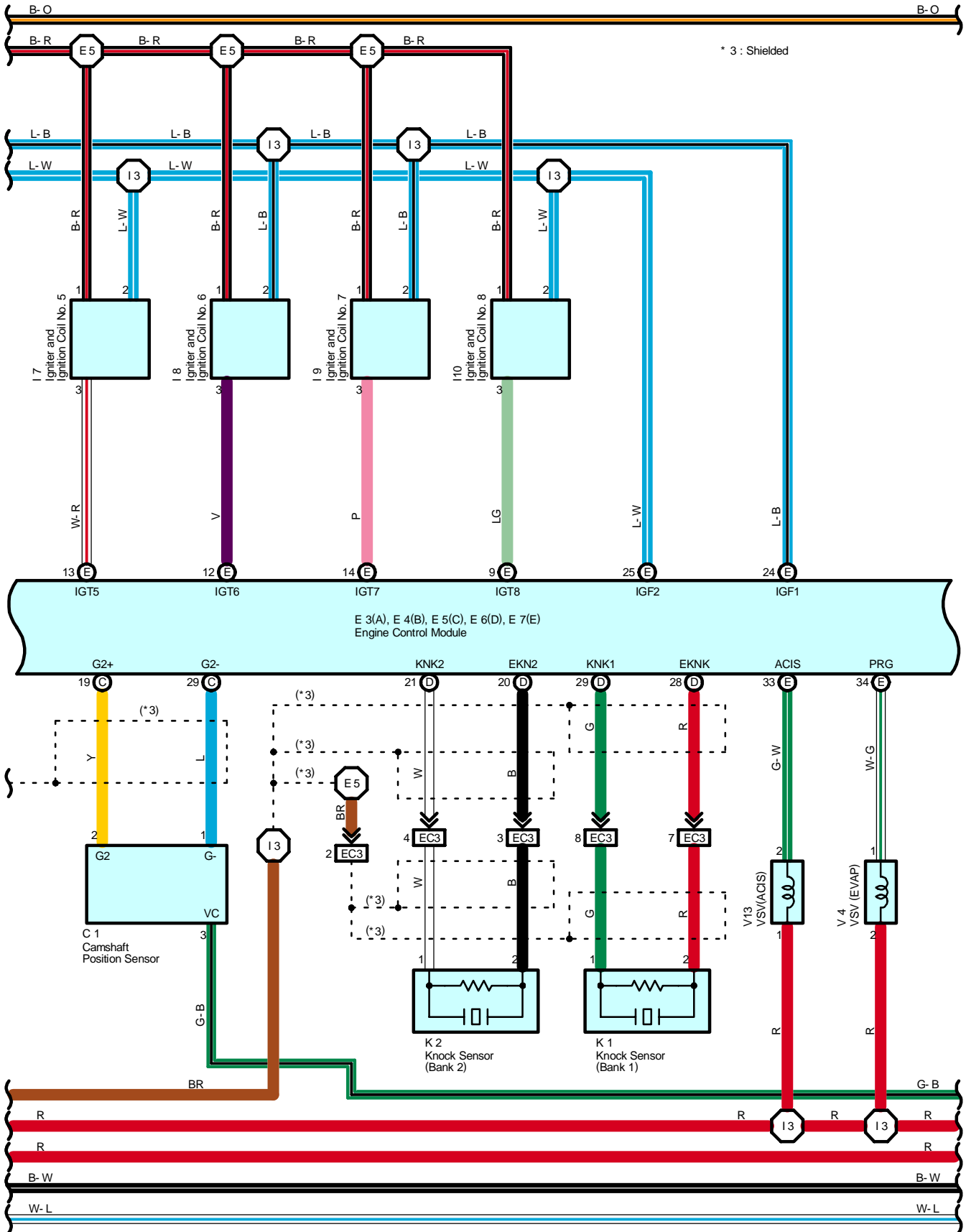




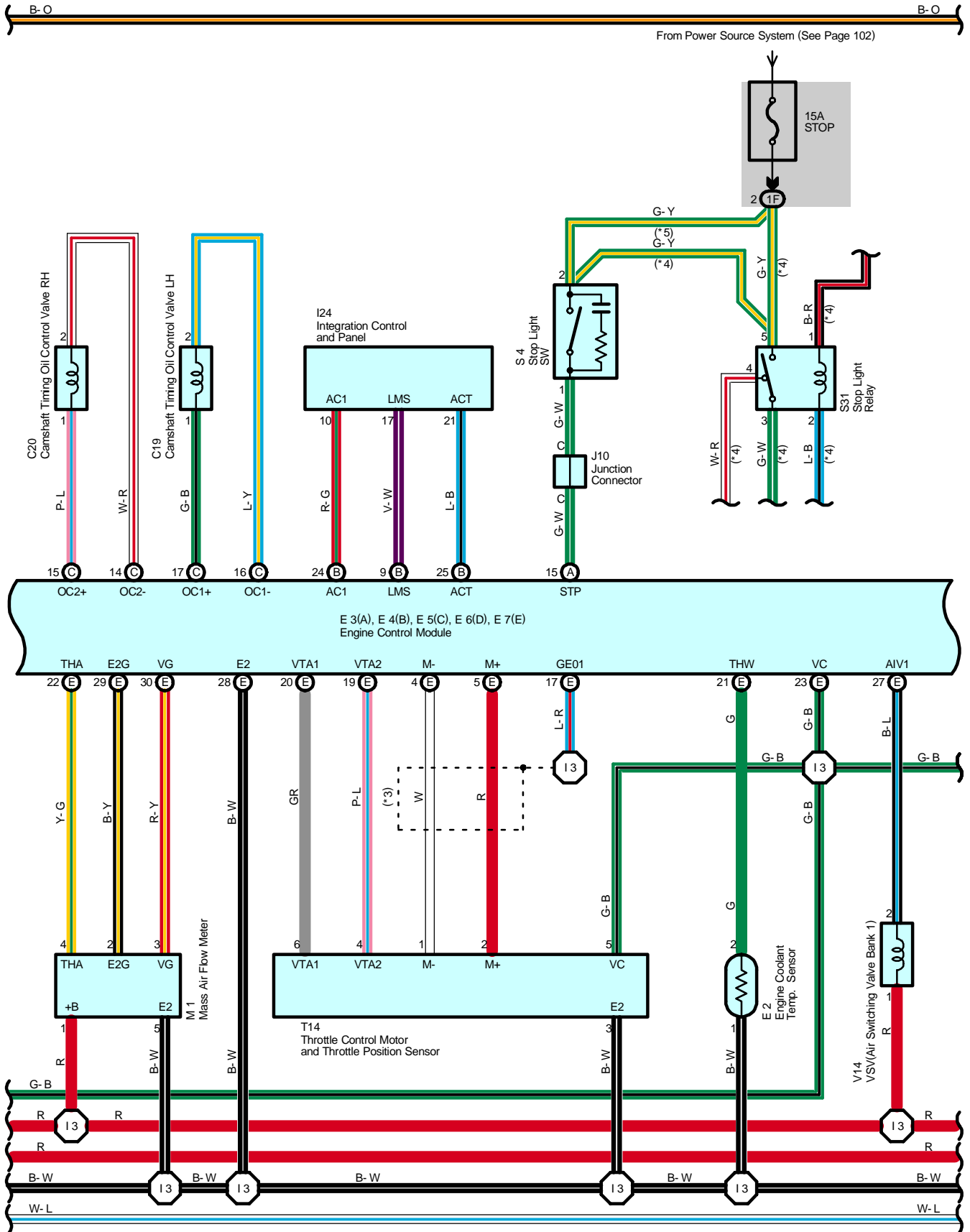


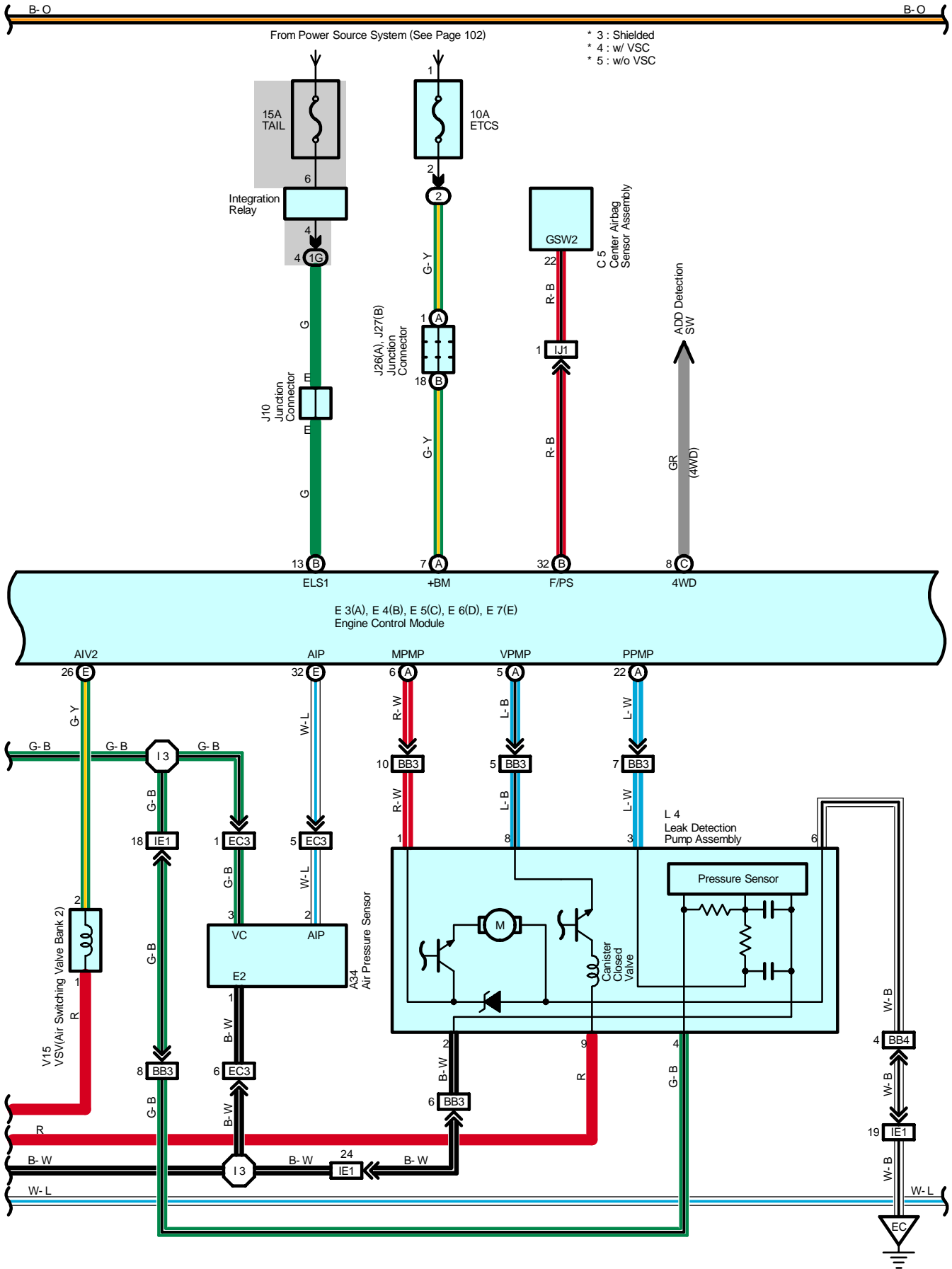
# Engine Control for 2UZ-FE (Access/Standard Cab)



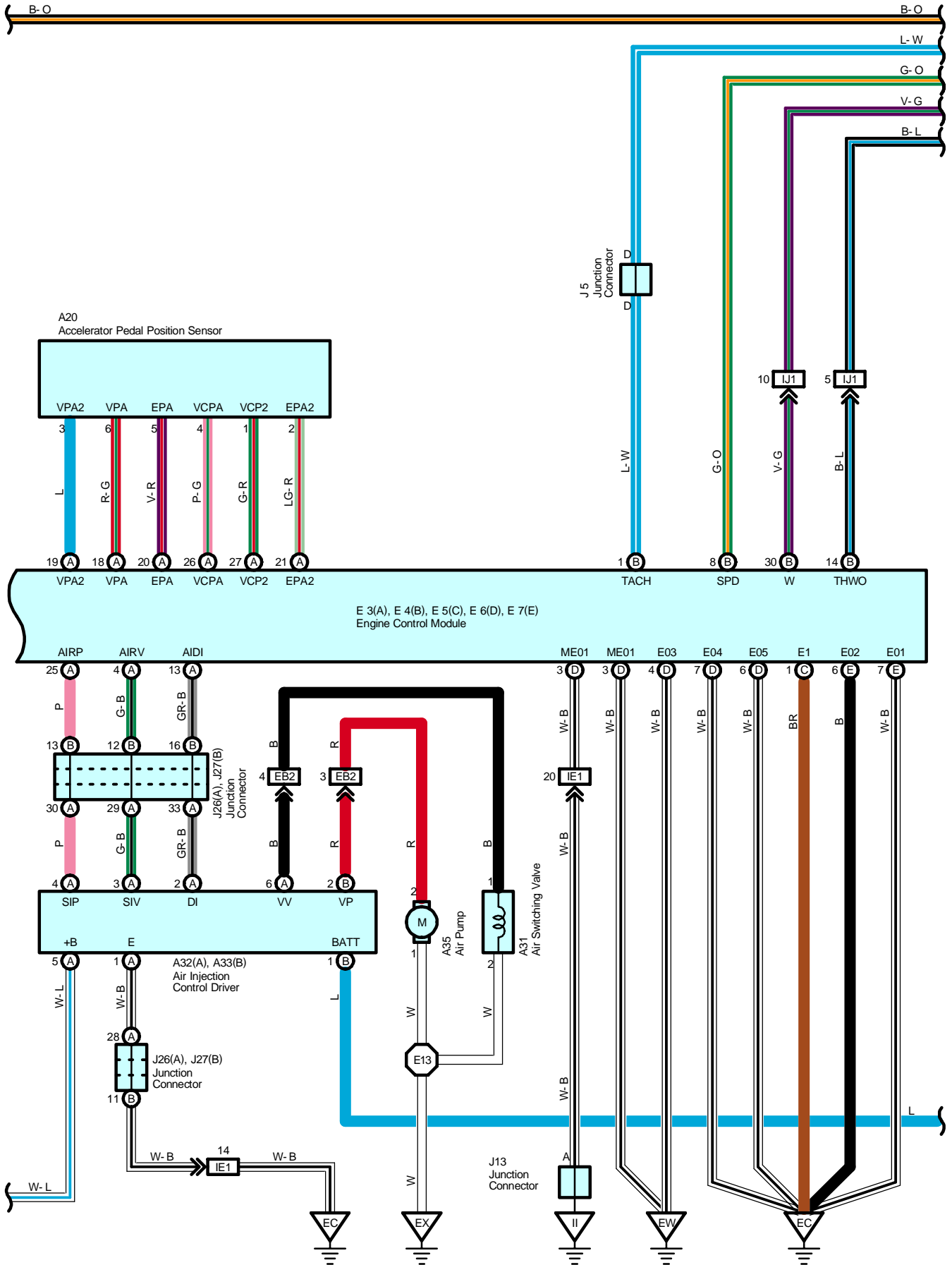


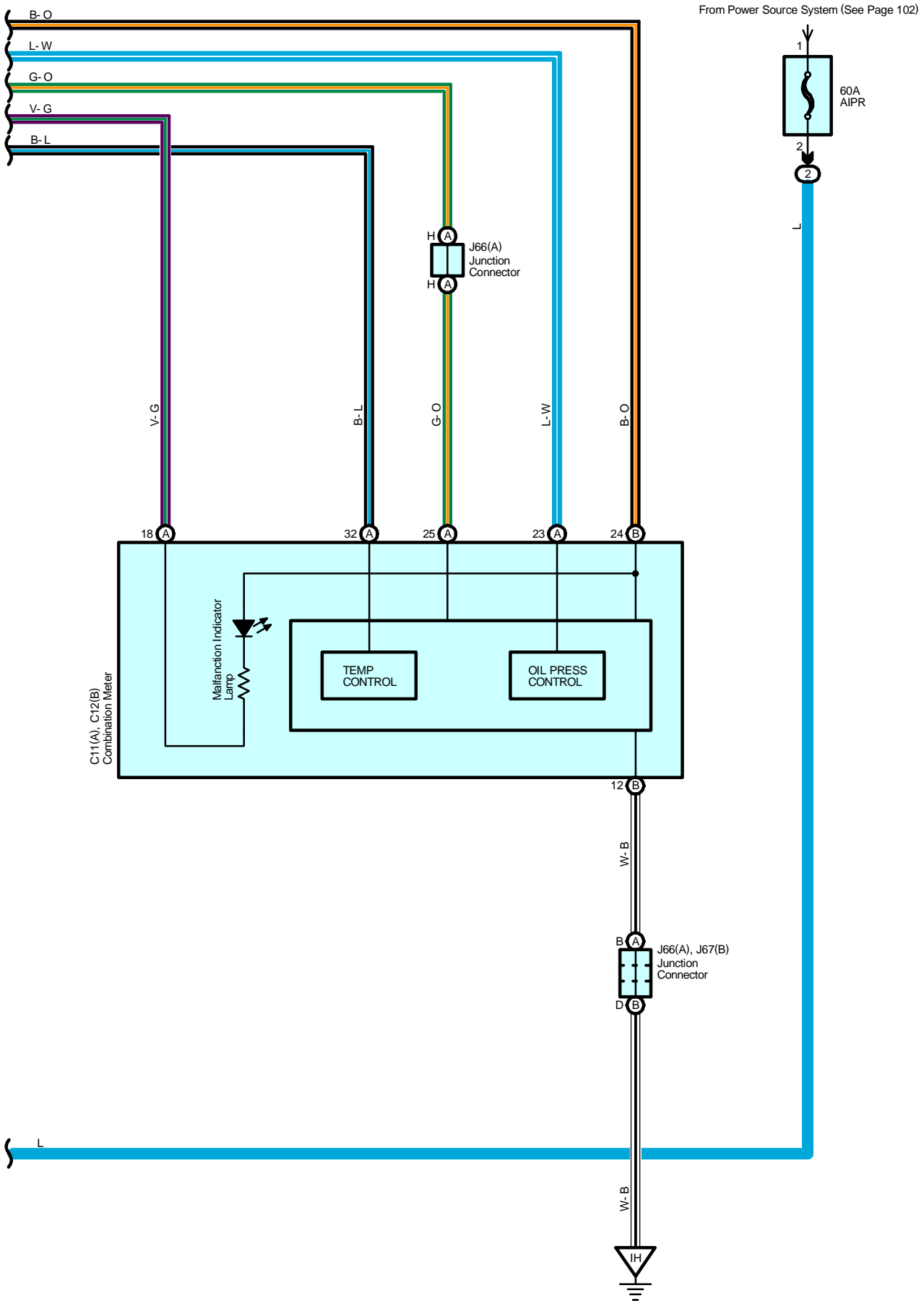
# Engine Control for 2UZ-FE (Access/Standard Cab)





# Engine Control for 2UZ-FE (Access/Standard Cab)





# Engine Control for 2UZ-FE (Access/Standard Cab)

## System Outline

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

### 1. Input Signals

(1) Engine coolant temp. signal circuit

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

(2) Intake air temp. signal circuit

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

(3) Oxygen sensor signal circuit

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

(4) RPM signal circuit

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

(5) Throttle position sensor signal circuit

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

(6) Vehicle speed circuit

The vehicle speed sensor, detects the vehicle speed and input to the speed sensor of the skid control ECU with actuator, from skid control ECU to TERMINAL SPD of the engine control module, via combination meter.

(7) Battery signal circuit

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

(8) Intake air volume signal circuit

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

(9) Stop light SW signal circuit

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

(10) Starter signal circuit

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

(11) Engine knock signal circuit

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



## **2. Control System**

### **\* SFI system**

The SFI system monitors the engine condition through the signals input from each sensors to the engine control module. The control signal is sent to the engine control module TERMINALS #10, #20, #30, #40, #50, #60, #70, #80 to operate the injector (Fuel injection). The SFI system controls the fuel injection by the engine control module in response to the driving conditions.

### **\* ESA system**

The ESA system monitors the engine condition through the signals input from each sensors to the engine control module. The best ignition timing is decided according to this data and the data memorized in the engine control module. The control signal is output to TERMINALS IGT1, IGT2, IGT3, IGT4, IGT5, IGT6, IGT7, IGT8, and these signals control the igniter to provide the best ignition timing.

### **\* Heated oxygen sensor heater control system**

The heated oxygen sensor heater control system turns the heater on when the intake air volume is low (Temp. of exhaust emission is low), and warms up the heated oxygen sensors to improve their detection performance. The engine control module evaluates the signals from each sensors, and outputs current to TERMINALS HT1B and HT2B to control the heater.

### **\* Air fuel ratio sensor heater control system**

The air fuel ratio sensor heater control system turns the heater on when the intake air volume is low (Temp. of exhaust emission is low) and warms up the air fuel ratio sensor to improve detection performance of the sensor.

The engine control module evaluates the signals from each sensor, current is output to TERMINALS HA1A and HA2A controlling the heater.

### **\* Fuel pump control system**

The engine control module supplies current to TERMINAL FPR, and controls the operation speed of the fuel pump with the F/PMP relay.

### **\* ETCS-i**

The ETCS-i controls the engine output at its optimal level in accordance with the opening of the accelerator pedal, under all driving conditions.

## **3. Diagnosis System**

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

## **4. Fail-Safe System**

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

# Engine Control for 2UZ-FE (Access/Standard Cab)

## Service Hints

### EFI Relay

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

### C/OPN Relay

5-3 : Closed with starter cranking or engine cranking

### E2 Engine Coolant Temp. Sensor

1-2 : Approx. 16.2 k $\Omega$  (-20°C, -4°F)

: Approx. 2.45 k $\Omega$  (20°C, 68°F)

: Approx. 0.32 k $\Omega$  (80°C, 176°F)

### E3 (A), E4 (B), E5 (C), E6 (D), E7 (E) Engine Control Module

BATT-E1 : Always 9.0-14.0 volts

+BM-E1 : Always 9.0-14.0 volts

IGSW-E1 : 9.0-14.0 volts with ignition SW at ON or ST position

+B, +B2-E1 : 9.0-14.0 volts with ignition SW at ON or ST position

VC-E1 : 4.5-5.5 volts with ignition SW at ON or ST position

VTA2-E1 : 2.0-2.9 volts with ignition SW on and throttle valve fully closed

: 4.7-5.1 volts with ignition SW on and throttle valve fully open

VTA1-E1 : 0.4-1.0 volts with ignition SW on and throttle valve fully closed

: 3.2-4.8 volts with ignition SW on and throttle valve fully open

VPA-E1 : 0.3-0.9 volts with ignition SW on and throttle valve fully closed

: 3.2-4.8 volts with ignition SW on and throttle valve fully open

VPA2-E1 : 1.8-2.7 volts with ignition SW on and throttle valve fully closed

: 4.7-5.1 volts with ignition SW on and throttle valve fully open

THA-E1 : 0.5-3.4 volts with idling, intake air temp. 0°C (32°F) -80°C (176°F)

THW-E1 : 0.2-1.0 volts with idling, engine coolant temp. 60°C (140°F) -120°C (248°F)

STA-E1 : 6.0 volts or more with engine cranking

W-E1 : 9.0-14.0 volts with idling and malfunction indicator lamp off

SPD-E1 : Pulse generation with vehicle moving

STP-E1 : 7.5-14.0 volts with brake pedal depressed

**○ : Parts Location**

Code	See Page	Code	See Page	Code	See Page
A10	52 (2UZ-FE)	F10	61 (*4)	J10	58
A20	56	H4	52 (2UZ-FE)	J12	58
A22	56	H6	52 (2UZ-FE)	J18	53 (2UZ-FE)
A30	52 (2UZ-FE)	I3	53 (2UZ-FE)	J26	A 58
A31	52 (2UZ-FE)	I4	53 (2UZ-FE)	J27	B 58
A32	A 52 (2UZ-FE)	I5	53 (2UZ-FE)	J64	58
A33	B 52 (2UZ-FE)	I6	53 (2UZ-FE)	J66	A 58
A34	52 (2UZ-FE)	I7	53 (2UZ-FE)	J67	B 58
A35	52 (2UZ-FE)	I8	53 (2UZ-FE)	J71	D 58
C1	52 (2UZ-FE)	I9	53 (2UZ-FE)	J72	E 58
C2	52 (2UZ-FE)	I10	53 (2UZ-FE)	K1	53 (2UZ-FE)
C5	56	I14	53 (2UZ-FE)	K2	53 (2UZ-FE)
C11	A 56	I15	53 (2UZ-FE)	L4	60 (*3)
C12	B 56	I16	53 (2UZ-FE)		61 (*4)
C19	52 (2UZ-FE)	I17	53 (2UZ-FE)	M1	53 (2UZ-FE)
C20	52 (2UZ-FE)	I18	53 (2UZ-FE)	S4	59
D6	57	I19	53 (2UZ-FE)	S31	59
E2	52 (2UZ-FE)	I20	53 (2UZ-FE)	T14	53 (2UZ-FE)
E3	A 57	I21	53 (2UZ-FE)	V4	53 (2UZ-FE)
E4	B 57	I23	57	V13	53 (2UZ-FE)
E5	C 57	I24	57	V14	53 (2UZ-FE)
E6	D 57	J1	53 (2UZ-FE)	V15	53 (2UZ-FE)
E7	E 57	J3	58	V16	53 (2UZ-FE)
F5	52 (2UZ-FE)	J5	58	V17	53 (2UZ-FE)
F10	60 (*3)	J8	58		

**○ : Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

**○ : Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1F	24 (*2)	
	28 (*1)	
1G	24 (*2)	
	28 (*1)	
1I	24 (*2)	
	28 (*1)	
1J	24 (*2)	
	28 (*1)	
1K	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

## Engine Control for 2UZ-FE (Access/Standard Cab)

### : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA2	<a href="#">74 (2UZ-FE)</a>	Cowl Wire and Engine Room Main Wire (Right Fender)
EB2	<a href="#">74 (2UZ-FE)</a>	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
EC3	<a href="#">74 (2UZ-FE)</a>	Engine No.2 Wire and Engine Wire (Near the Starter)
IA9	<a href="#">78</a>	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IE1	<a href="#">80</a>	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ1	<a href="#">80</a>	Cowl Wire and Cowl Wire (Instrument Panel Reinforcement RH)
BB3	<a href="#">82 (*3)</a>	Frame Wire and Cowl Wire (Under the Driver's Seat)
	<a href="#">84 (*4)</a>	
BB4	<a href="#">82 (*3)</a>	
	<a href="#">84 (*4)</a>	

### : Ground Points

Code	See Page	Ground Points Location
EA	<a href="#">74 (2UZ-FE)</a>	Front Left Fender
EC	<a href="#">74 (2UZ-FE)</a>	Rear Bank of Left Cylinder Head
ET	<a href="#">74 (2UZ-FE)</a>	Front Right Fender
EW	<a href="#">74 (2UZ-FE)</a>	Front Left Side of Cylinder Head
EX	<a href="#">74 (2UZ-FE)</a>	Left Side of Cylinder Block
IF	<a href="#">78</a>	Left Kick Panel
IH	<a href="#">78</a>	Right Kick Panel

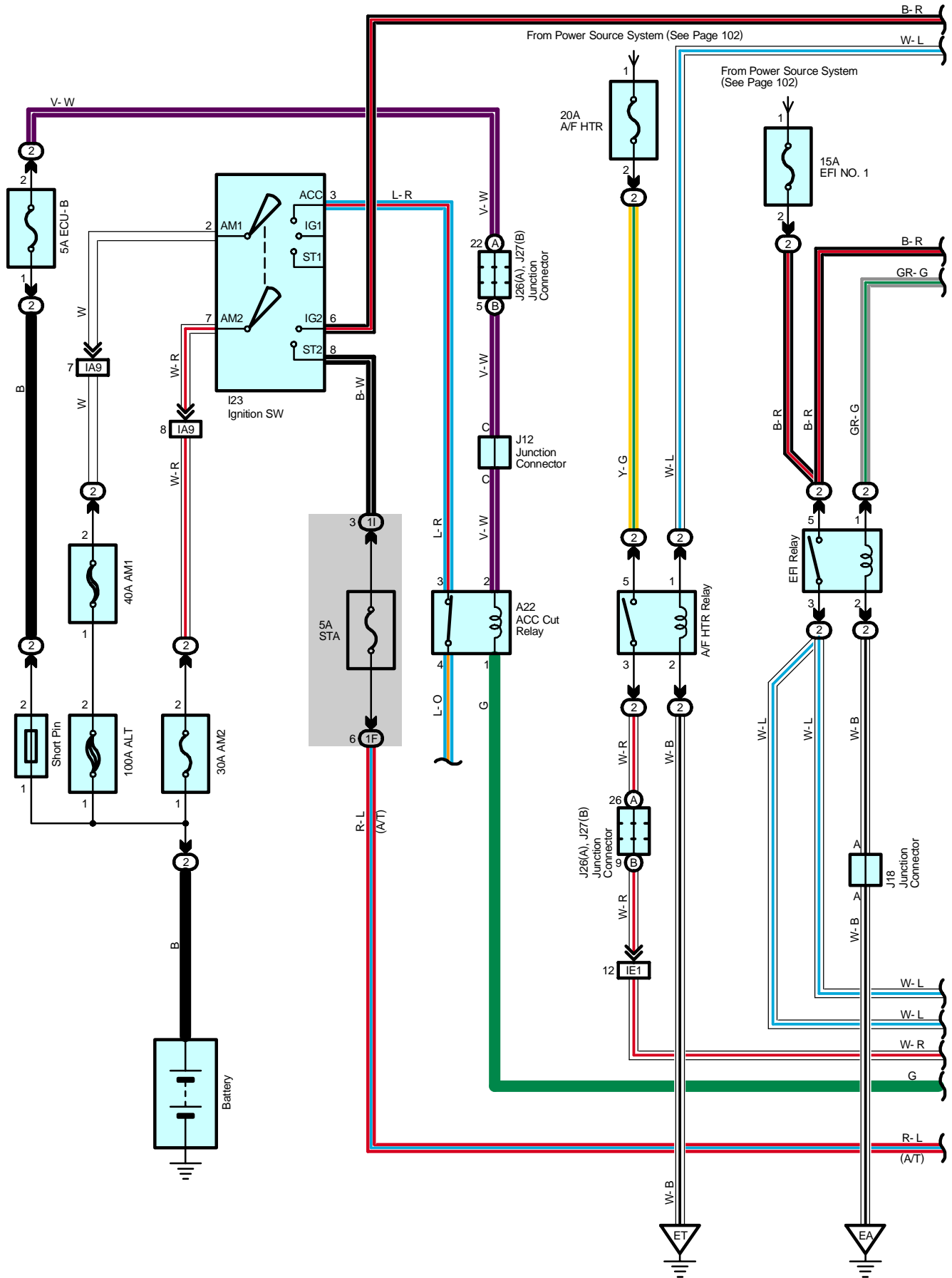
### : Splice Points

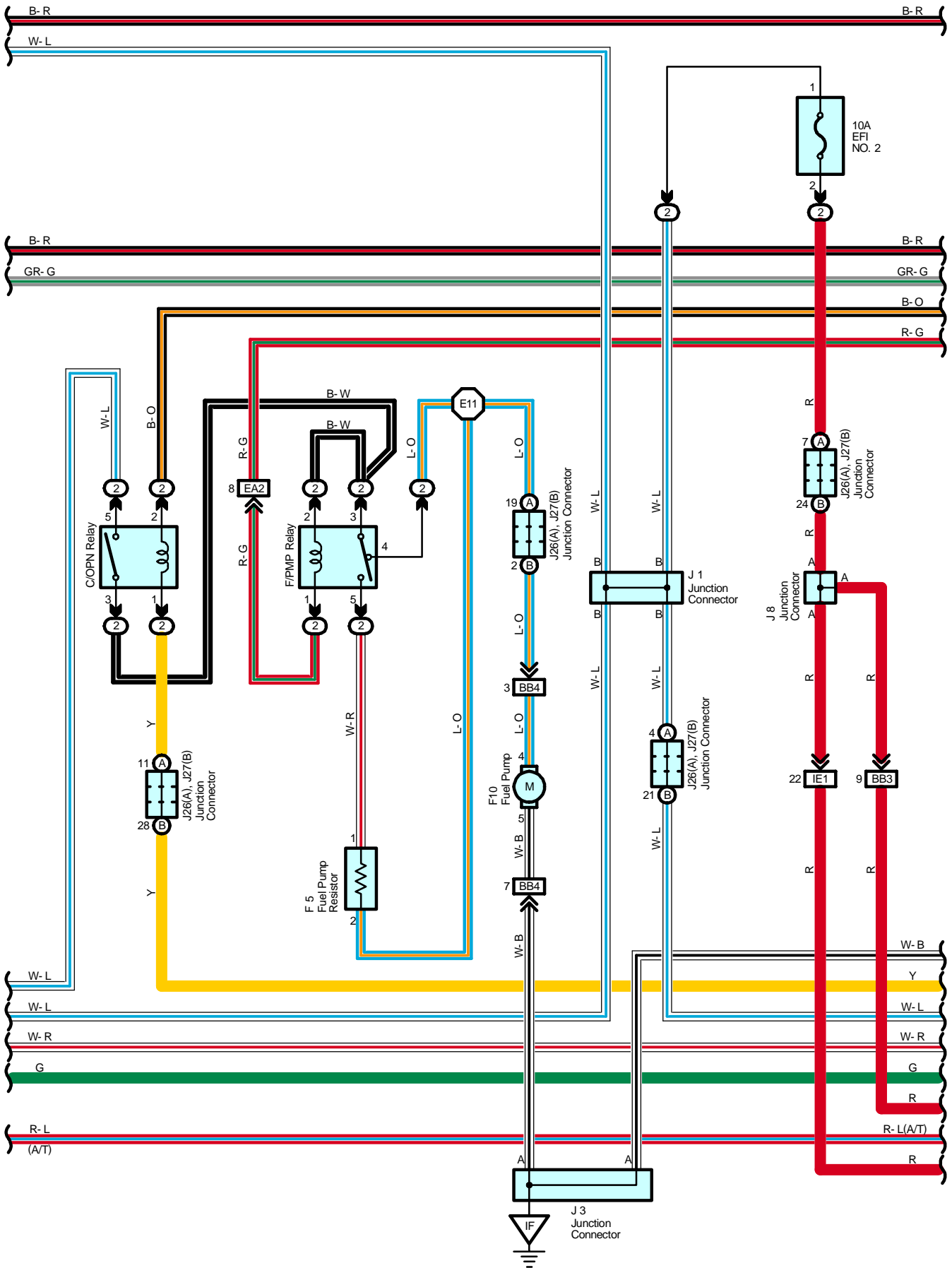
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E5	<a href="#">74 (2UZ-FE)</a>	Engine Wire	I3	<a href="#">80</a>	Engine Wire
E11	<a href="#">74 (2UZ-FE)</a>	Engine Room Main Wire	I4	<a href="#">80</a>	Cowl Wire
E13	<a href="#">74 (2UZ-FE)</a>	Engine No.2 Wire			

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

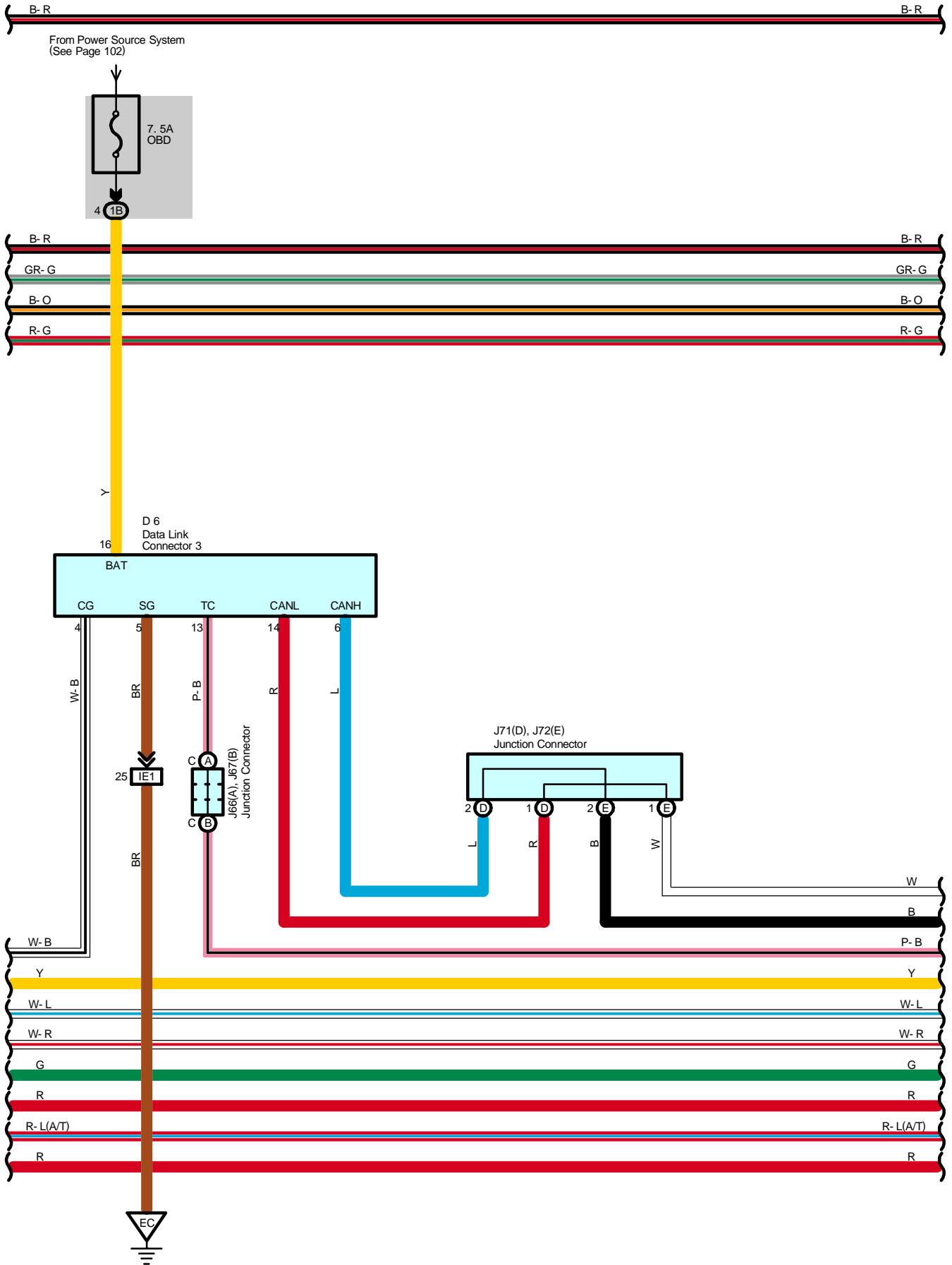


# Engine Control for 1GR-FE (Access/Standard Cab)

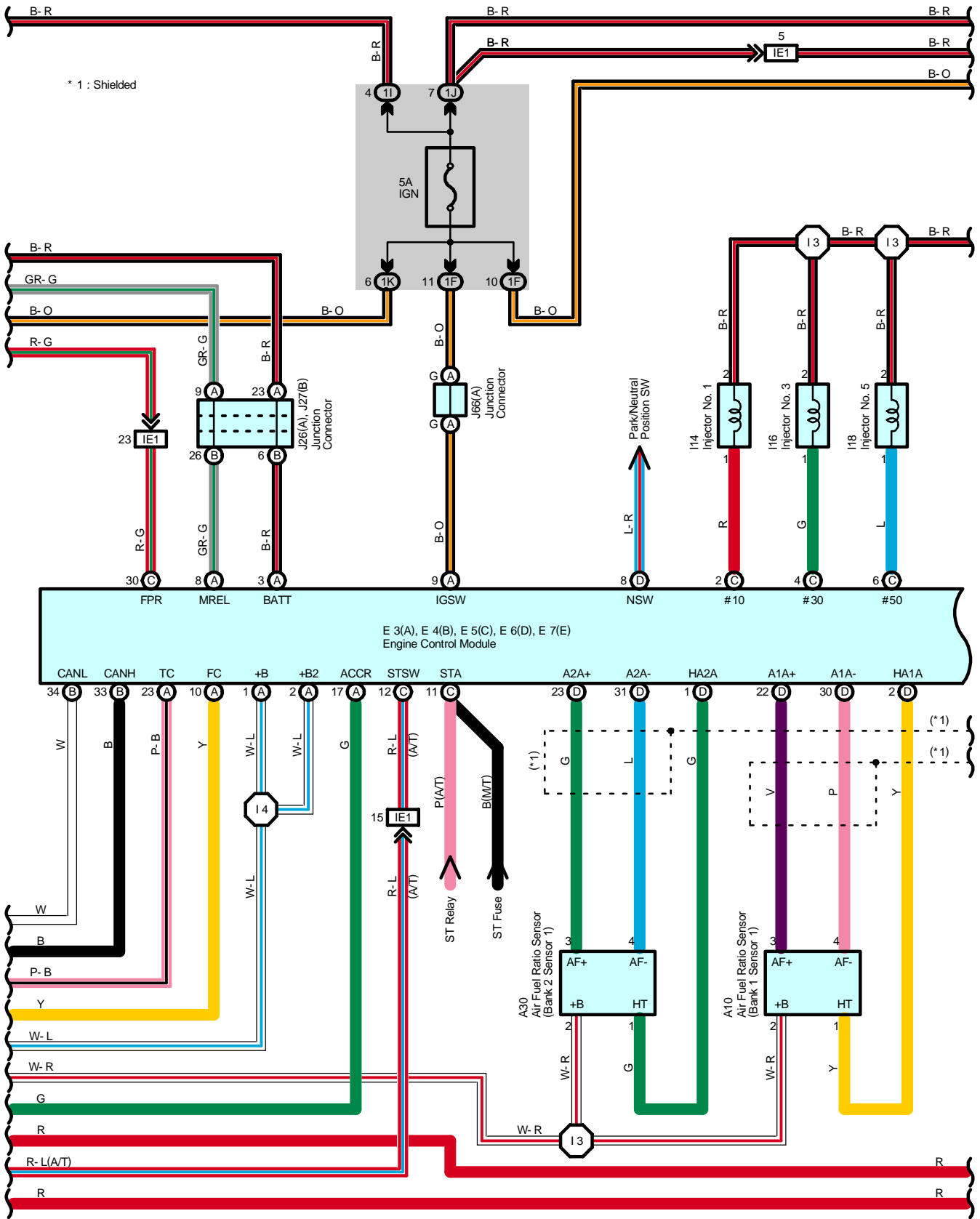




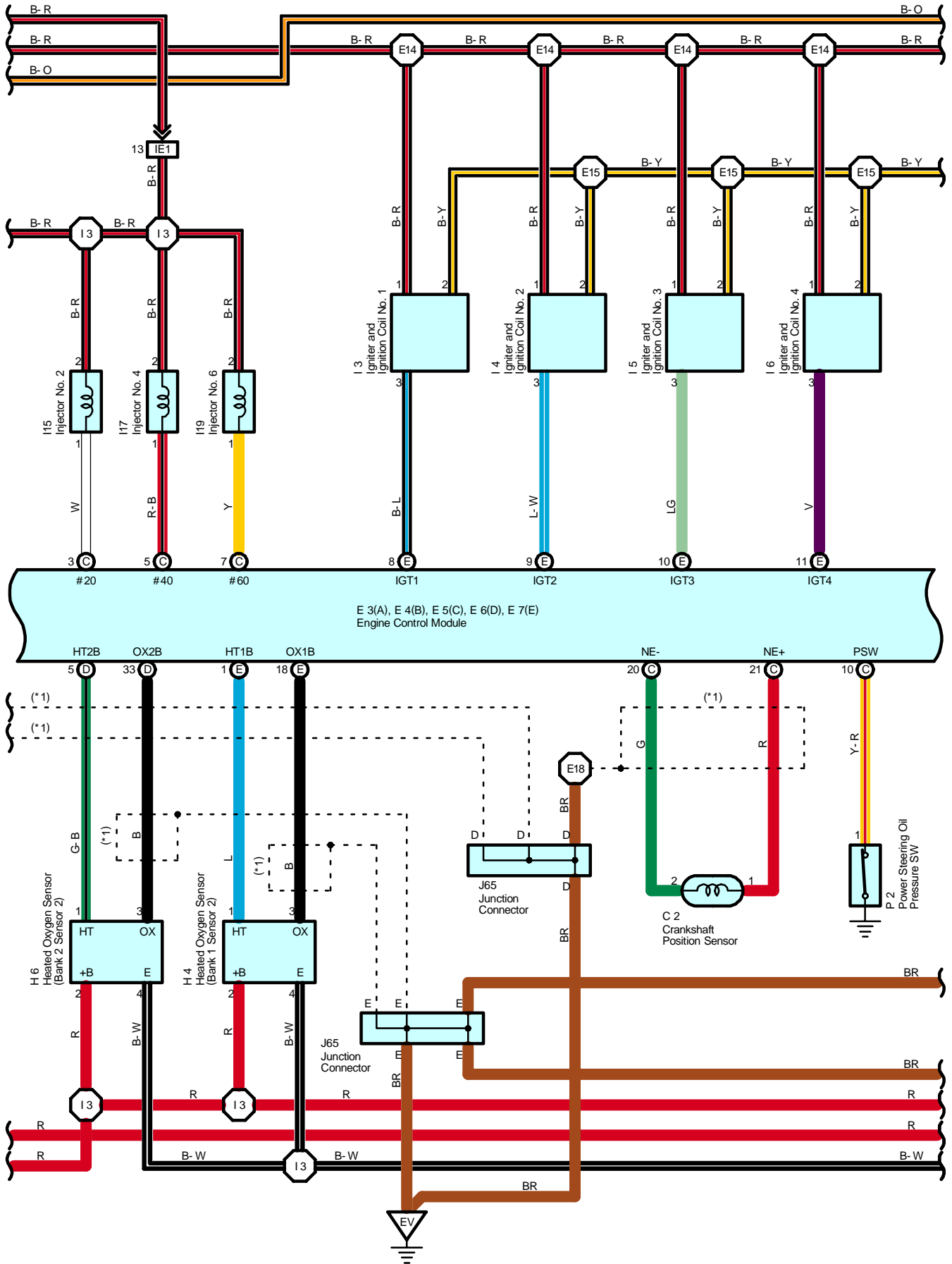
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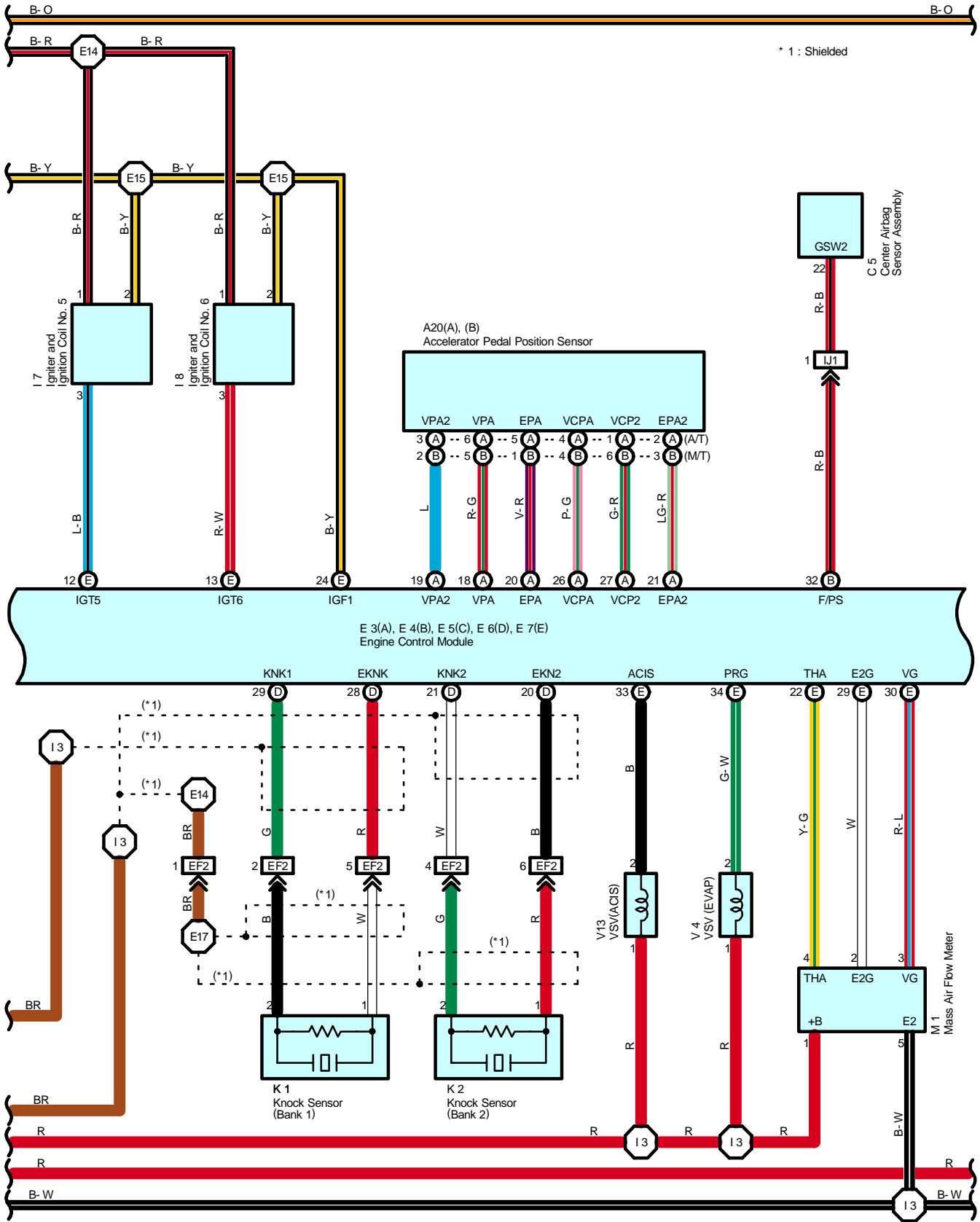




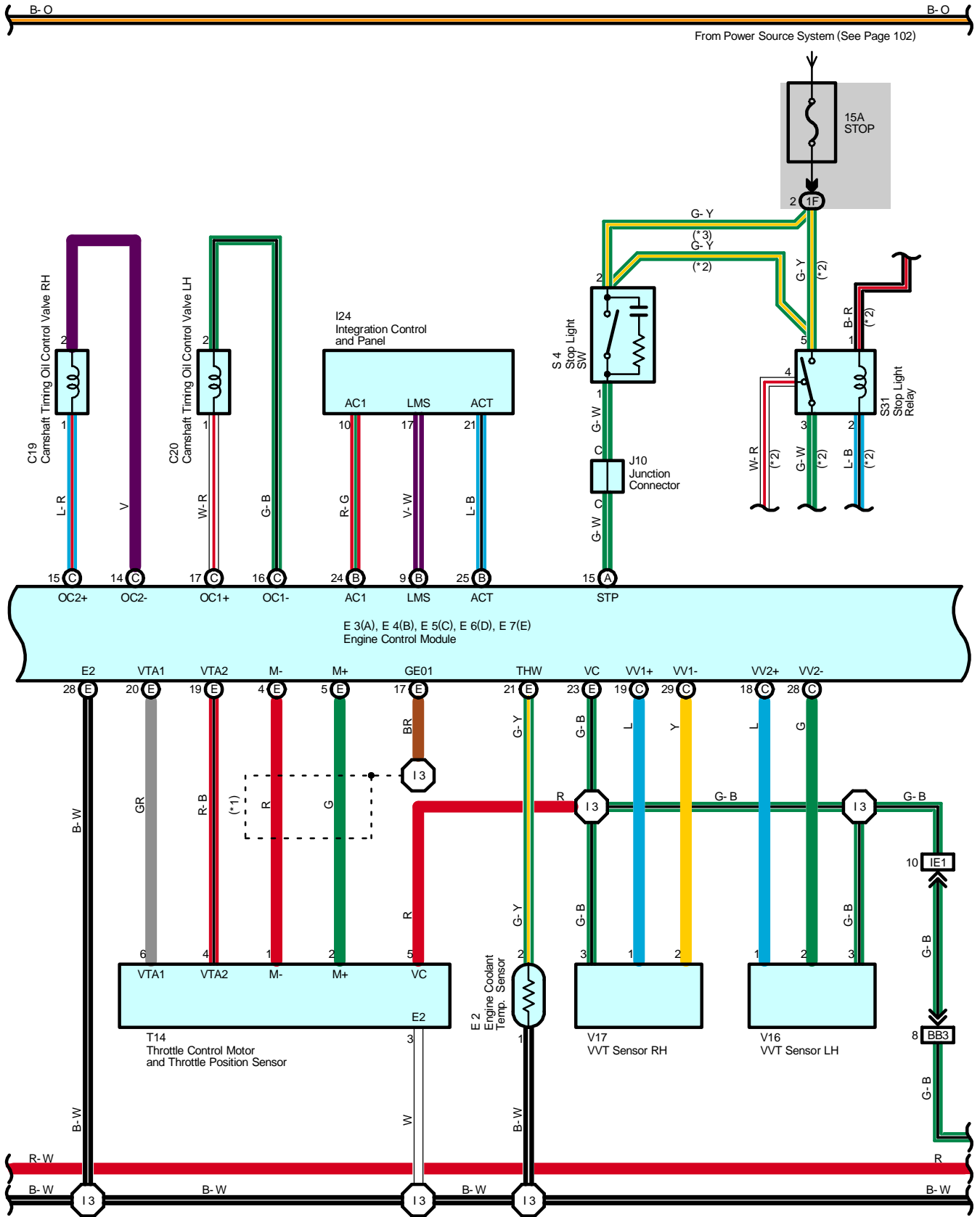


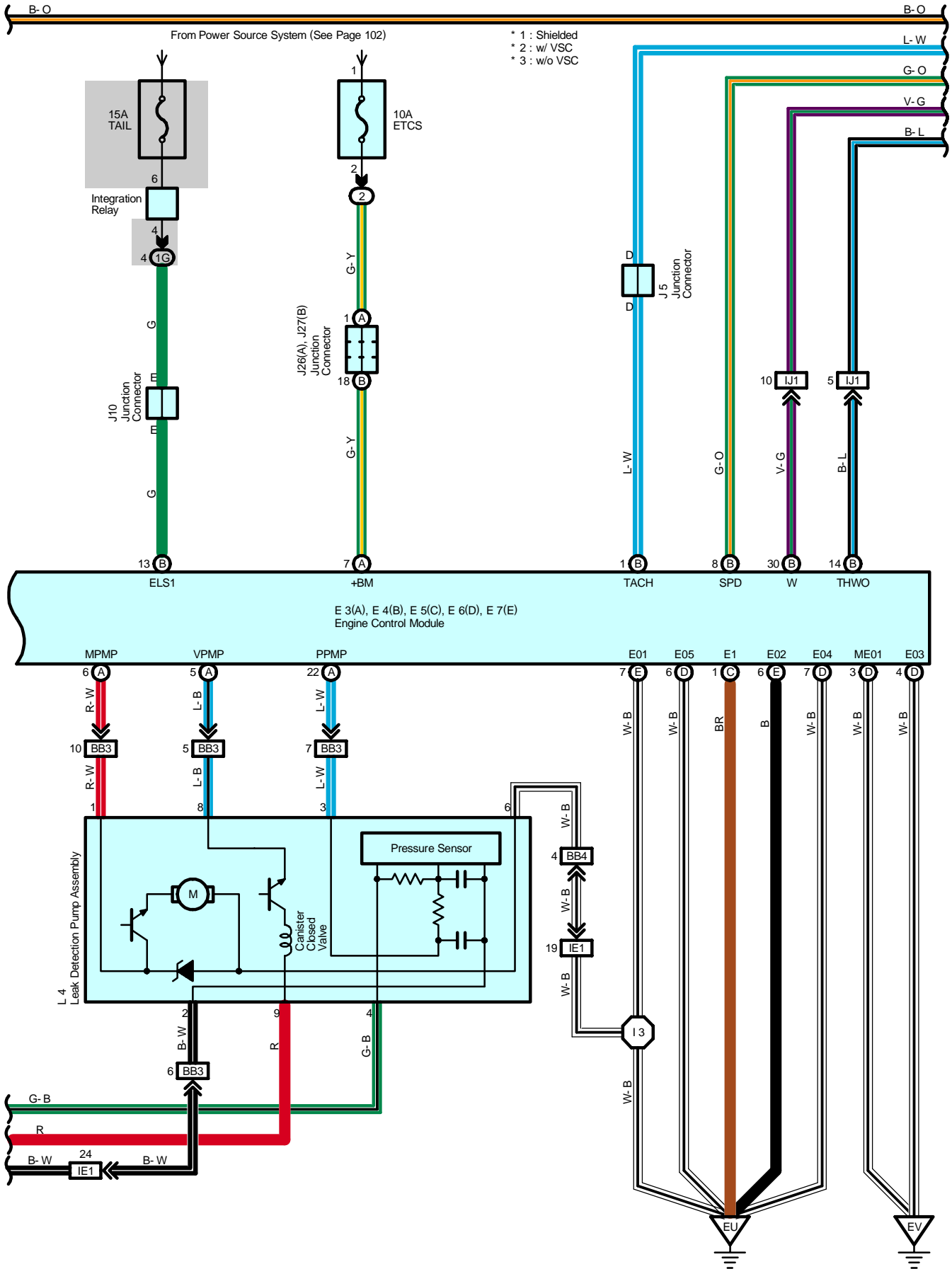
# Engine Control for 1GR-FE (Access/Standard Cab)



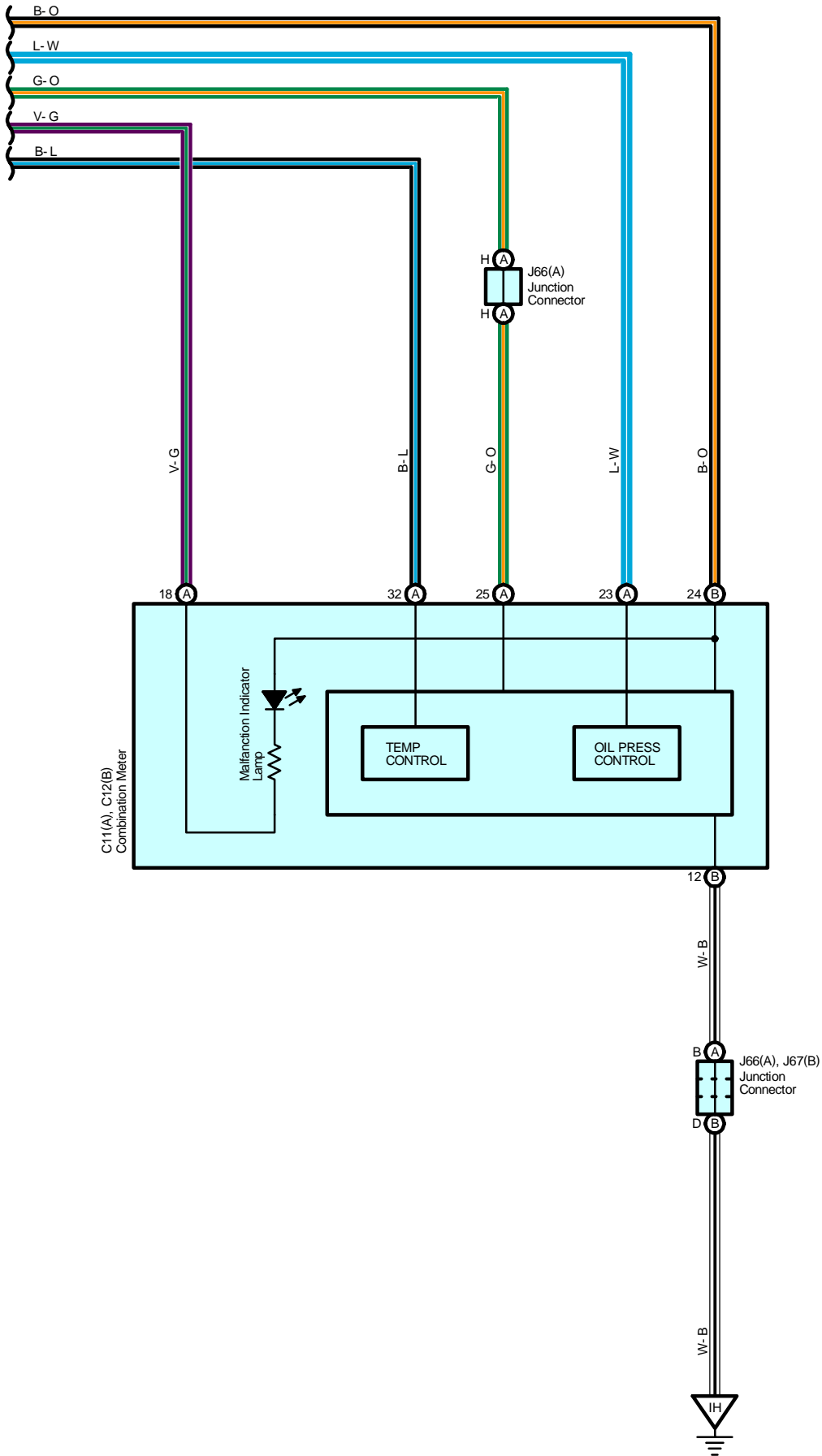


# Engine Control for 1GR-FE (Access/Standard Cab)





# Engine Control for 1GR-FE (Access/Standard Cab)



## System Outline

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

### 1. Input Signals

- (1) Engine coolant temp. signal circuit  
The engine coolant temp. sensor detects the engine coolant temp. and has a built-in thermistor with a resistance which varies according to the engine coolant temp. The engine coolant temp. is input into TERMINAL THW of the engine control module as a control signal.
- (2) Intake air temp. signal circuit  
The intake air temp. sensor is installed in the mass air flow meter and detects the intake air temp., which is input as a control signal to TERMINAL THA of the engine control module.
- (3) Oxygen sensor signal circuit  
The oxygen density in the exhaust emission is detected and is input as a control signal from the heated oxygen sensors to TERMINALS OX1B, OX2B of the engine control module.
- (4) RPM signal circuit  
The camshaft position is detected by the camshaft position sensor and is input into TERMINAL G2+ of the engine control module as a control signal. Also, the engine RPM is detected by the crankshaft position sensor and the signal is input into TERMINAL NE+ of the engine control module.
- (5) Throttle position sensor signal circuit  
The throttle position sensor detects the throttle valve opening angle as a control signal, which is input into TERMINALS VTA1, VTA2 of the engine control module.
- (6) Vehicle speed circuit  
The vehicle speed sensor, detects the vehicle speed and input to the speed sensor of the skid control ECU with actuator, from skid control ECU to TERMINAL SPD of the engine control module, via combination meter.
- (7) Battery signal circuit  
Voltage is constantly applied to TERMINAL BATT of the engine control module. When the ignition SW is turned on, the voltage for engine control module start up power supply is applied through the EFI relay, to TERMINALS +B, +B2 of the engine control module. The current from the IGN fuse flows to TERMINAL IGSW of the engine control module, and voltage is constantly applied to TERMINAL +BM.
- (8) Intake air volume signal circuit  
The intake air volume is detected by the mass air flow meter, and is input as a control signal to TERMINAL VG of the engine control module.
- (9) Stop light SW signal circuit  
The stop light SW is used to detect whether the vehicle is braking or not, and the signal is input into TERMINAL STP of the engine control module as a control signal.
- (10) Starter signal circuit  
To confirm whether the engine is cranking, the voltage applied to the starter motor when the engine is cranking is detected, and is input into TERMINAL STA of the engine control module as a control signal.
- (11) Engine knock signal circuit  
Engine knocking is detected by the knock sensors, and is input into TERMINALS KNK1, KNK2 of the engine control module as a control signal.

## Engine Control for 1GR-FE (Access/Standard Cab)

### 2. Control System

#### \* SFI system

The SFI system monitors the engine condition through the signals input from each sensors to the engine control module. The control signal is sent to the engine control module TERMINALS #10, #20, #30, #40, #50, #60 to operate the injector (Fuel injection). The SFI system controls the fuel injection by the engine control module in response to the driving conditions.

#### \* ESA system

The ESA system monitors the engine condition through the signals input from each sensors to the engine control module. The best ignition timing is decided according to this data and the data memorized in the engine control module. The control signal is output to TERMINALS IGT1, IGT2, IGT3, IGT4, IGT5, IGT6 and these signals control the igniter to provide the best ignition timing.

#### \* Heated oxygen sensor heater control system

The heated oxygen sensor heater control system turns the heater on when the intake air volume is low (Temp. of exhaust emission is low), and warms up the heated oxygen sensors to improve their detection performance. The engine control module evaluates the signals from each sensors, and outputs current to TERMINALS HT1B and HT2B to control the heater.

#### \* Air fuel ratio sensor heater control system

The air fuel ratio sensor heater control system turns the heater on when the intake air volume is low (Temp. of exhaust emission is low) and warms up the air fuel ratio sensor to improve detection performance of the sensor.

The engine control module evaluates the signals from each sensor, current is output to TERMINALS HA1A and HA2A controlling the heater.

#### \* Fuel pump control system

The engine control module supplies current to TERMINAL FPR, and controls the operation speed of the fuel pump with the F/PMP relay.

#### \* ETCS-i

The ETCS-i controls the engine output at its optimal level in accordance with the opening of the accelerator pedal, under all driving conditions.

### 3. Diagnosis System

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

### 4. Fail-Safe System

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



## Service Hints

### EFI Relay

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

### C/OPN Relay

5-3 : Closed with starter cranking or engine cranking

### E2 Engine Coolant Temp. Sensor

1-2 : Approx. 16.2 kΩ (-20°C, -4°F)

: Approx. 2.45 kΩ (20°C, 68°F)

: Approx. 0.32 kΩ (80°C, 176°F)

### E3 (A), E4 (B), E5 (C), E6 (D), E7 (E) Engine Control Module

BATT-E1 : Always 9.0-14.0 volts

+BM-E1 : Always 9.0-14.0 volts

IGSW-E1 : 9.0-14.0 volts with ignition SW at ON or ST position

+B, +B2-E1 : 9.0-14.0 volts with ignition SW at ON or ST position

VC-E1 : 4.5-5.5 volts with ignition SW at ON or ST position

VTA2-E1 : 2.0-2.9 volts with ignition SW on and throttle valve fully closed

: 4.7-5.1 volts with ignition SW on and throttle valve fully open

VTA1-E1 : 0.4-1.0 volts with ignition SW on and throttle valve fully closed

: 3.2-4.8 volts with ignition SW on and throttle valve fully open

VPA-E1 : 0.3-0.9 volts with ignition SW on and throttle valve fully closed

: 3.2-4.8 volts with ignition SW on and throttle valve fully open

VPA2-E1 : 1.8-2.7 volts with ignition SW on and throttle valve fully closed

: 4.7-5.1 volts with ignition SW on and throttle valve fully open

THA-E1 : 0.5-3.4 volts with idling, intake air temp. 0°C (32°F) -80°C (176°F)

THW-E1 : 0.2-1.0 volts with idling, engine coolant temp. 60°C (140°F) -120°C (248°F)

STA-E1 : 6.0 volts or more with engine cranking

W-E1 : 9.0-14.0 volts with idling and malfunction indicator lamp off

SPD-E1 : Pulse generation with vehicle moving

STP-E1 : 7.5-14.0 volts with brake pedal depressed

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A10	54 (1GR-FE)	H6	54 (1GR-FE)	J26	A 58
A20	A 56	I3	55 (1GR-FE)	J27	B 58
	B 56	I4	55 (1GR-FE)	J65	58
A22	56	I5	55 (1GR-FE)	J66	A 58
A30	54 (1GR-FE)	I6	55 (1GR-FE)	J67	B 58
C2	54 (1GR-FE)	I7	55 (1GR-FE)	J71	D 58
C5	56	I8	55 (1GR-FE)	J72	E 58
C11	A 56	I14	55 (1GR-FE)	K1	55 (1GR-FE)
C12	B 56	I15	55 (1GR-FE)	K2	55 (1GR-FE)
C19	54 (1GR-FE)	I16	55 (1GR-FE)	L4	60 (*3)
C20	54 (1GR-FE)	I17	55 (1GR-FE)		61 (*4)
D6	57	I18	55 (1GR-FE)	M1	55 (1GR-FE)
E2	54 (1GR-FE)	I19	55 (1GR-FE)	P2	55 (1GR-FE)
E3	A 57	I23	57	S4	59
E4	B 57	I24	57	S31	59
E5	C 57	J1	55 (1GR-FE)	T14	55 (1GR-FE)
E6	D 57	J3	58	V4	55 (1GR-FE)
E7	E 57	J5	58	V13	55 (1GR-FE)
F5	54 (1GR-FE)	J8	58	V16	55 (1GR-FE)
F10	60 (*3)	J10	58	V17	55 (1GR-FE)
	61 (*4)	J12	58		
H4	54 (1GR-FE)	J18	55 (1GR-FE)		

\* 1 : w/ Daytime Running Light \* 2 : w/o Daytime Running Light \* 3 : Access Cab \* 4 : Standard Cab \* 5 : Bench Seat

\* 6 : Captain Seat \* 7 : Access Cab Captain Seat \* 8 : Standard Cab Bench Seat \* 9 : Access Cab w/o Power Seat

# Engine Control for 1GR-FE (Access/Standard Cab)

## : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1F	24 (*2)	
	28 (*1)	
1G	24 (*2)	
	28 (*1)	
1I	24 (*2)	
	28 (*1)	
1J	24 (*2)	
	28 (*1)	
1K	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

## : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA2	76 (1GR-FE)	Cowl Wire and Engine Room Main Wire (Right Fender)
EF2	76 (1GR-FE)	Engine Wire and Sensor Wire (Over the Cylinder Head)
IA9	78	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IE1	80	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ1	80	Cowl Wire and Cowl Wire (Instrument Panel Reinforcement RH)
BB3	82 (*3)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	84 (*4)	
BB4	82 (*3)	
	84 (*4)	

## : Ground Points

Code	See Page	Ground Points Location
EA	76 (1GR-FE)	Front Left Fender
ET	76 (1GR-FE)	Front Right Fender
EU	76 (1GR-FE)	Rear Bank of Right Cylinder Head
EV	76 (1GR-FE)	Rear Bank of Left Cylinder Head
IF	78	Left Kick Panel
IH	78	Right Kick Panel

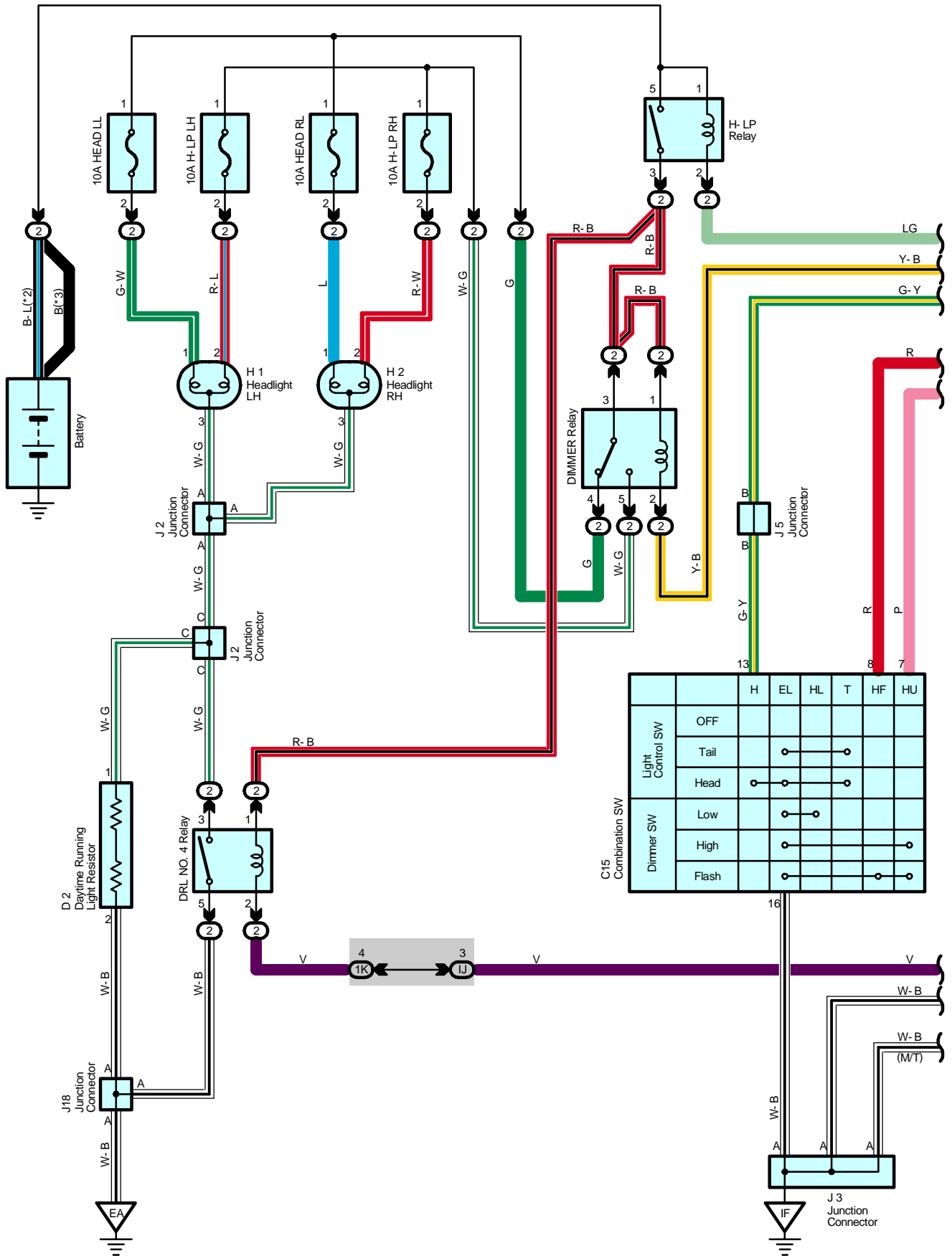
## : Splice Points

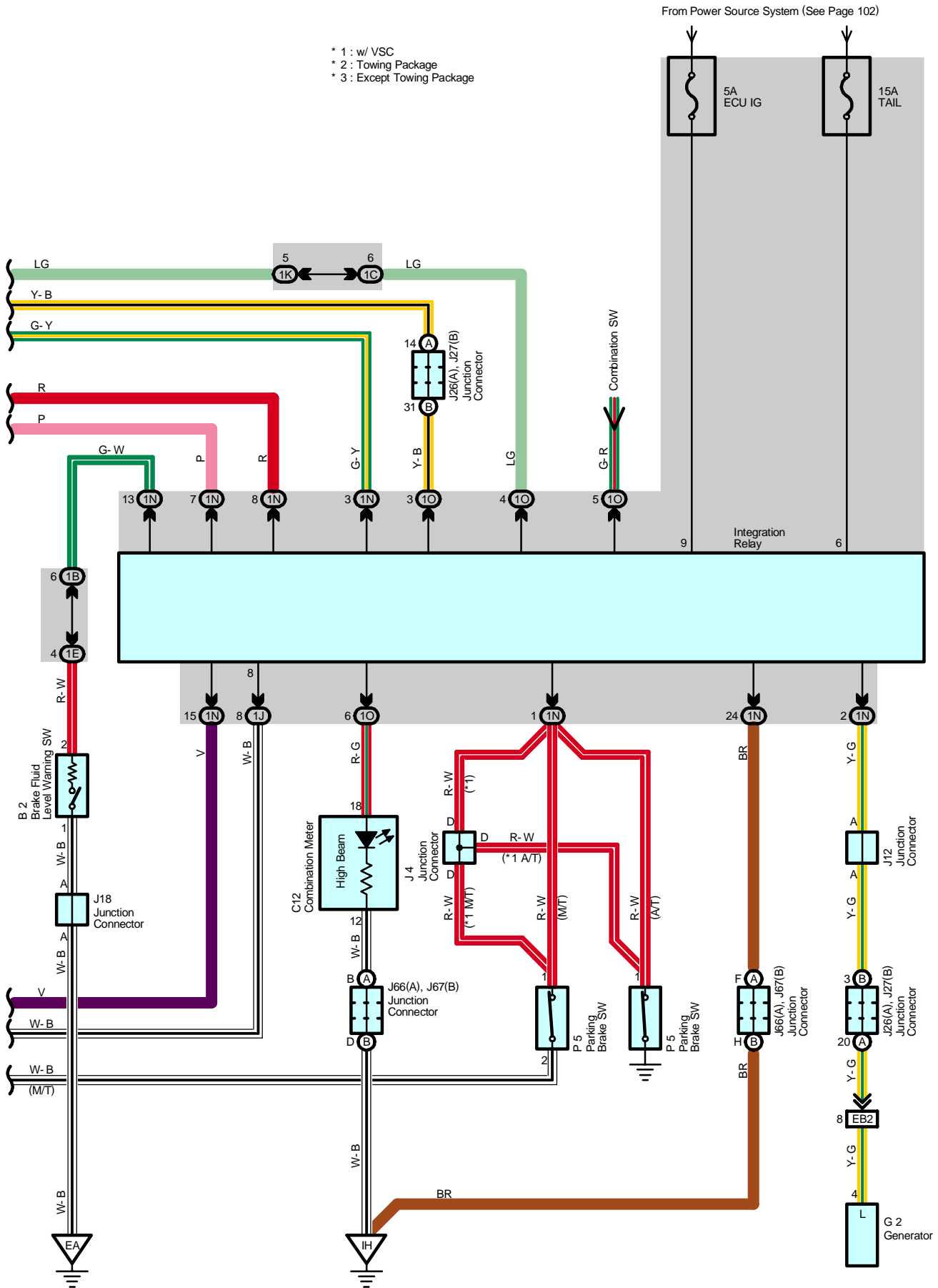
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E11	76 (1GR-FE)	Engine Room Main Wire	E18	76 (1GR-FE)	Engine Wire
E14	76 (1GR-FE)	Engine Wire	I3	80	
E15			I4	80	Cowl Wire
E17	76 (1GR-FE)	Sensor Wire			

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat



# Headlight with DRL (Access/Standard Cab)





# Headlight with DRL (Access/Standard Cab)

## System Outline

When the following conditions are met while the ignition SW is ON, and if the light control SW is at OFF or TAIL position, the daytime running light is controlled.

- \* Parking brake lever is released (Parking brake SW is OFF)
- \* Input signal from the generator

If any of the following conditions are met, the daytime running light control is canceled.

- \* Ignition SW is turned OFF.
- \* Light control SW is at HEAD position.

## Service Hints

### H-LP Relay

- 5-3 : Closed with light control SW at HEAD position or dimmer SW at FLASH position
- Closed with engine running and parking brake lever released

### DIMMER Relay

- 3-5 : 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	<a href="#">52 (2UZ-FE)</a>	H1	<a href="#">54 (1GR-FE)</a>	J18	<a href="#">53 (2UZ-FE)</a>	
	<a href="#">54 (1GR-FE)</a>	H2	<a href="#">52 (2UZ-FE)</a>		<a href="#">55 (1GR-FE)</a>	
C12	<a href="#">56</a>			J26	A	<a href="#">58</a>
C15	<a href="#">56</a>	J2	<a href="#">53 (2UZ-FE)</a>	J27	B	<a href="#">58</a>
D2	<a href="#">52 (2UZ-FE)</a>		<a href="#">55 (1GR-FE)</a>	J66	A	<a href="#">58</a>
	<a href="#">54 (1GR-FE)</a>	J3	<a href="#">58</a>	J67	B	<a href="#">58</a>
G2	<a href="#">52 (2UZ-FE)</a>	J4	<a href="#">58</a>	P5		<a href="#">58</a>
	<a href="#">54 (1GR-FE)</a>	J5	<a href="#">58</a>			
H1	<a href="#">52 (2UZ-FE)</a>	J12	<a href="#">58</a>			

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	<a href="#">23</a>	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	<a href="#">28 (*1)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1C		
1E	<a href="#">28 (*1)</a>	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1J	<a href="#">28 (*1)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1K	<a href="#">28 (*1)</a>	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1N	<a href="#">29 (*1)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1O		

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB2	<a href="#">74 (2UZ-FE)</a>	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
	<a href="#">76 (1GR-FE)</a>	

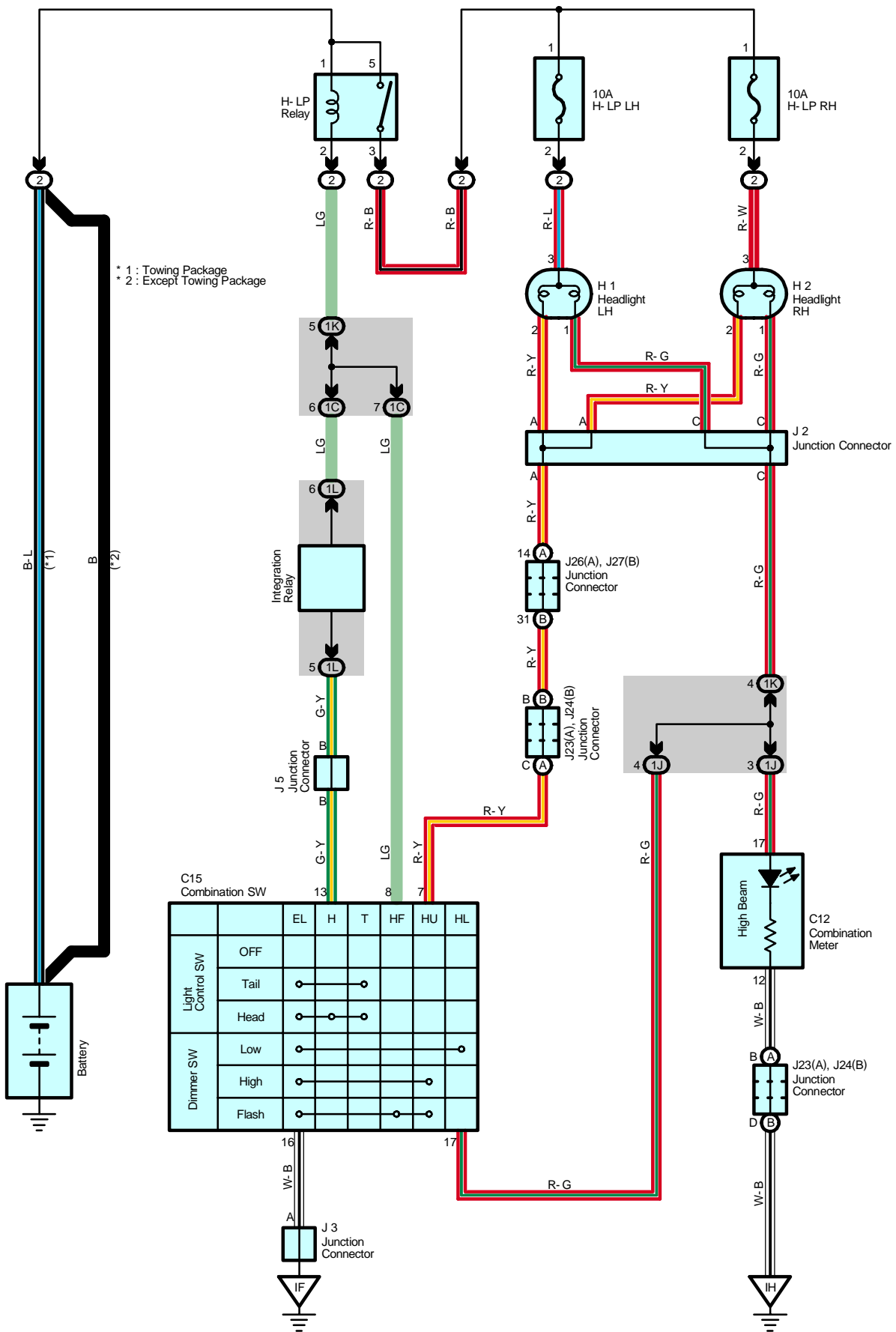
- \* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat



**: Ground Points**

Code	See Page	Ground Points Location
EA	<a href="#">74 (2UZ-FE)</a>	Front Left Fender
	<a href="#">76 (1GR-FE)</a>	
IF	<a href="#">78</a>	Left Kick Panel
IH	<a href="#">78</a>	Right Kick Panel

# Headlight without DRL (Access/Standard Cab)





**Service Hints****H-LP Relay**

5-3 : 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	56	H2	54 (1GR-FE)	J23	A 58
C15	56	J2	53 (2UZ-FE)	J24	B 58
H1	52 (2UZ-FE)		55 (1GR-FE)	J26	A 58
	54 (1GR-FE)	J3	58	J27	B 58
H2	52 (2UZ-FE)	J5	58		

**○ : Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

**○ : Junction Block and Wire Harness Connector**

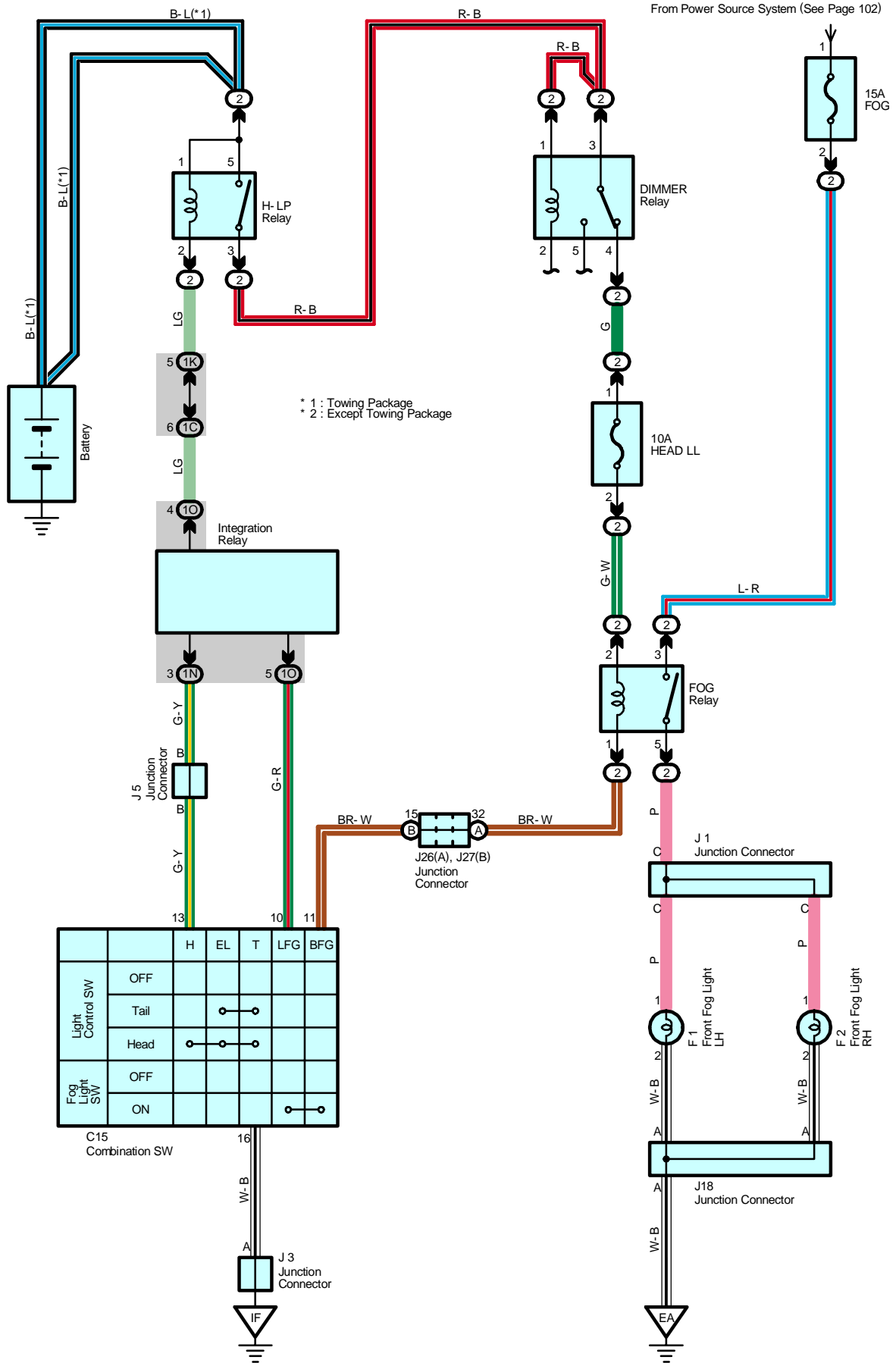
Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1L	25 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)

**▽ : Ground Points**

Code	See Page	Ground Points Location
IF	78	Left Kick Panel
IH	78	Right Kick Panel

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Fog Light with DRL (Access/Standard Cab)



**Service Hints****FOG Relay**

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

**○ : Parts Location**

Code	See Page	Code	See Page	Code	See Page
C15	56	J1	53 (2UZ-FE)	J18	55 (1GR-FE)
F1	52 (2UZ-FE)		55 (1GR-FE)	J26	A
	54 (1GR-FE)	J3	58	J27	B
F2	52 (2UZ-FE)	J5	58		
	54 (1GR-FE)	J18	53 (2UZ-FE)		

**○ : Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

**○ : Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	28 (*1)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1K	28 (*1)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1N	29 (*1)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1O		

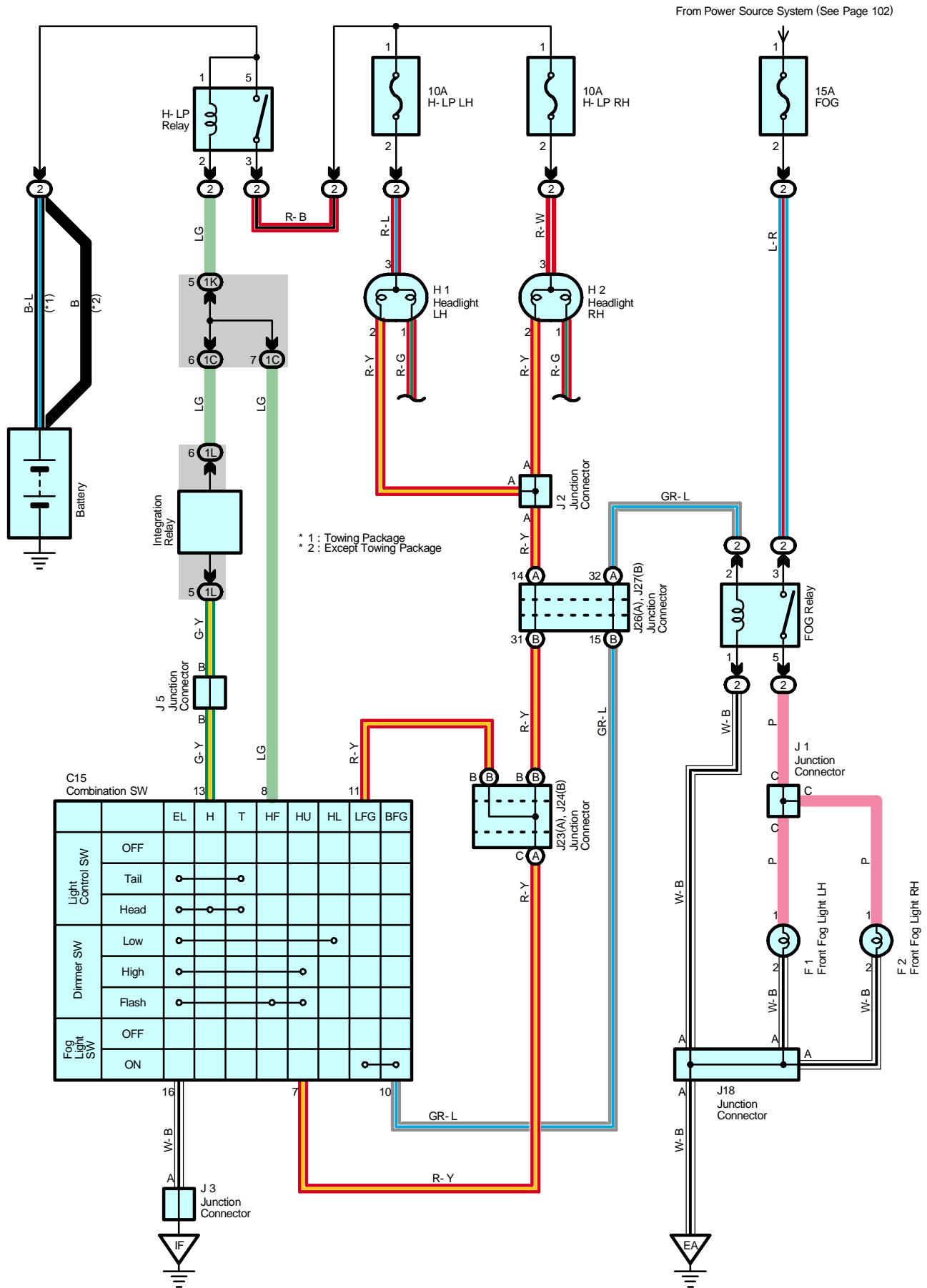
**▽ : Ground Points**

Code	See Page	Ground Points Location
EA	74 (2UZ-FE)	Front Left Fender
	76 (1GR-FE)	
IF	78	Left Kick Panel

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat

\* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Fog Light without DRL (Access/Standard Cab)



## Service Hints

### FOG Relay

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

### ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C15	56	H2	52 (2UZ-FE)	J5	58
F1	52 (2UZ-FE)		54 (1GR-FE)	J18	53 (2UZ-FE)
	54 (1GR-FE)	J1	53 (2UZ-FE)		55 (1GR-FE)
F2	52 (2UZ-FE)		55 (1GR-FE)	J23	A
	54 (1GR-FE)	J2	53 (2UZ-FE)	J24	B
H1	52 (2UZ-FE)		55 (1GR-FE)	J26	A
	54 (1GR-FE)	J3	58	J27	B

### ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

### ○ : Junction Block and Wire Harness Connector

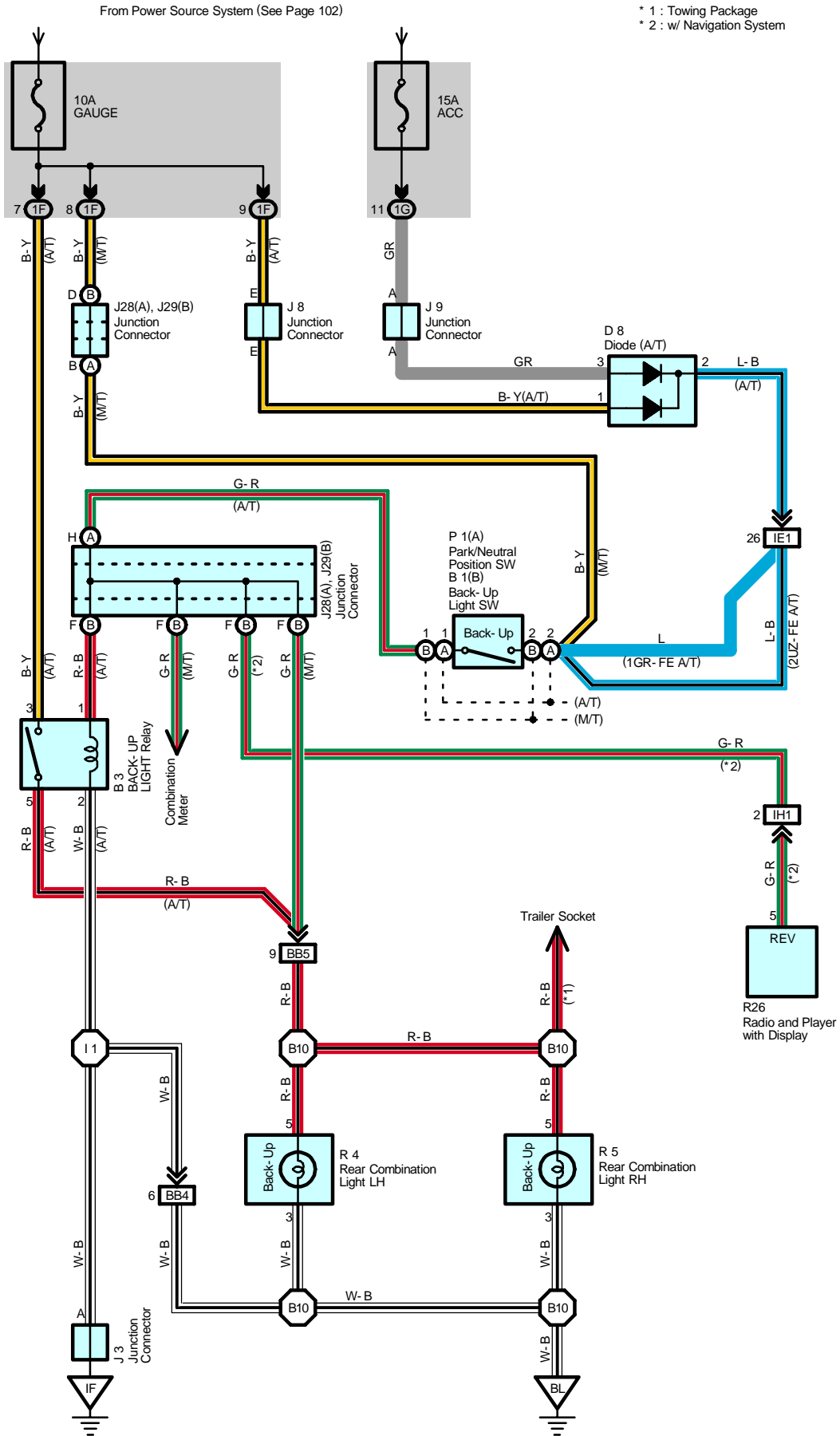
Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1K	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1L	25 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)

### ▽ : Ground Points

Code	See Page	Ground Points Location
EA	74 (2UZ-FE)	Front Left Fender
	76 (1GR-FE)	
IF	78	Left Kick Panel

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Back-Up Light (Access/Standard Cab)



### Service Hints

**P1 (A) Park/Neutral Position SW (A/T),**

**B1 (B) Back-Up Light SW (M/T)**

(A) 2-(A) 1, (B) 2-(B) 1 : Closed with shift lever in R position

**B3 Back-Up Light Relay (A/T)**

5-3 : Closed with shift level in R position and ignition SW at ON position

### ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B1	B	J9	58	R4	60 (*3)
B3	54 (1GR-FE)	J28	A	58	61 (*4)
D8	56	J29	B	58	60 (*3)
J3	57	P1	A	53 (2UZ-FE)	61 (*4)
J8	58			55 (1GR-FE)	R26

### ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1G	24 (*2)	
	28 (*1)	

### □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	80	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IH1	80	Cowl Wire and Floor No.3 Wire (Instrument Panel Brace RH)
BB4	82 (*3)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	84 (*4)	
BB5	82 (*3)	
	84 (*4)	

### ▽ : Ground Points

Code	See Page	Ground Points Location
IF	78	Left Kick Panel
BL	82 (*3)	Surrounding of the Front of the Fuel Tank
	84 (*4)	

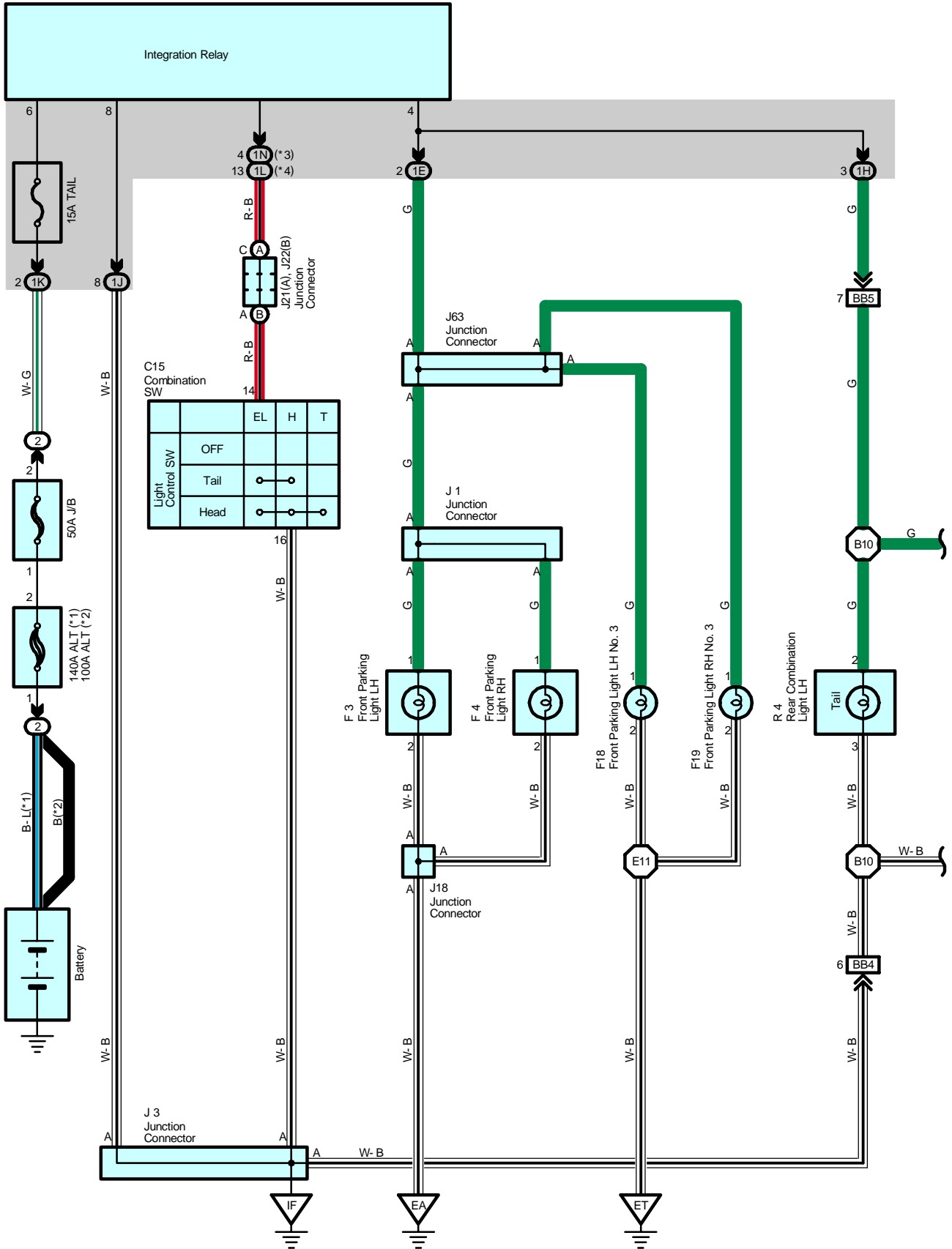
### ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I1	80	Cowl Wire	B10	84 (*4)	Frame Wire
B10	82 (*3)	Frame Wire			

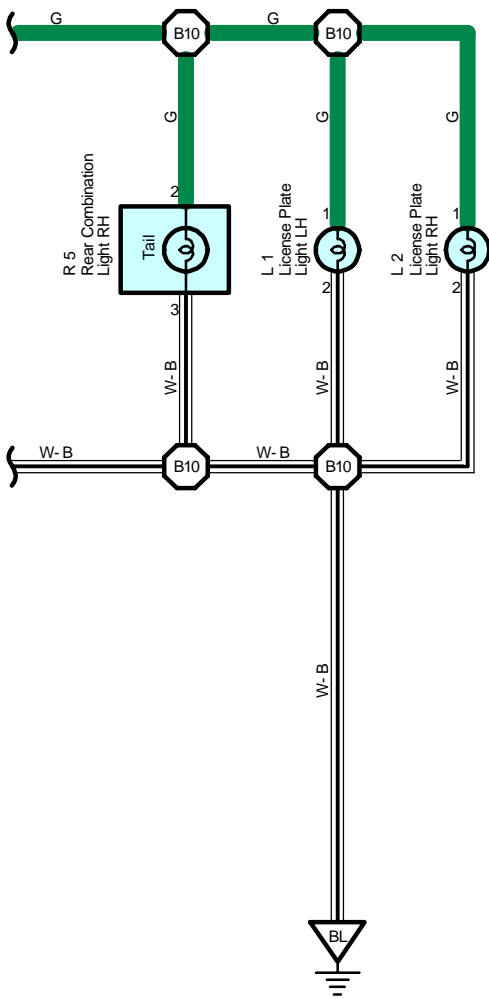
\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Taillight (Access/Standard Cab)

- \* 1 : Towing Package
- \* 2 : Except Towing Package
- \* 3 : w/ Daytime Running Light
- \* 4 : w/o Daytime Running Light







# Taillight (Access/Standard Cab)

## Service Hints

### C15 Combination SW

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

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C15	56	J1	53 (2UZ-FE)	L1	60 (*3)
F3	52 (2UZ-FE)		55 (1GR-FE)		L2
		54 (1GR-FE)	J3	58	
F4	52 (2UZ-FE)	J18	53 (2UZ-FE)	R4	61 (*4)
	54 (1GR-FE)		55 (1GR-FE)		60 (*3)
F18	52 (2UZ-FE)	J21	A	R5	61 (*4)
	54 (1GR-FE)	J22	B		60 (*3)
F19	52 (2UZ-FE)	J63	53 (2UZ-FE)		61 (*4)
	54 (1GR-FE)		55 (1GR-FE)		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1H	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1J	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1K	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1L	25 (*2)	
1N	29 (*1)	

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
BB4	82 (*3)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	84 (*4)	
BB5	82 (*3)	
	84 (*4)	

## ▽ : Ground Points

Code	See Page	Ground Points Location
EA	74 (2UZ-FE)	Front Left Fender
	76 (1GR-FE)	
ET	74 (2UZ-FE)	Front Right Fender
	76 (1GR-FE)	
IF	78	Left Kick Panel
BL	82 (*3)	Surrounding of the Front of the Fuel Tank
	84 (*4)	

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

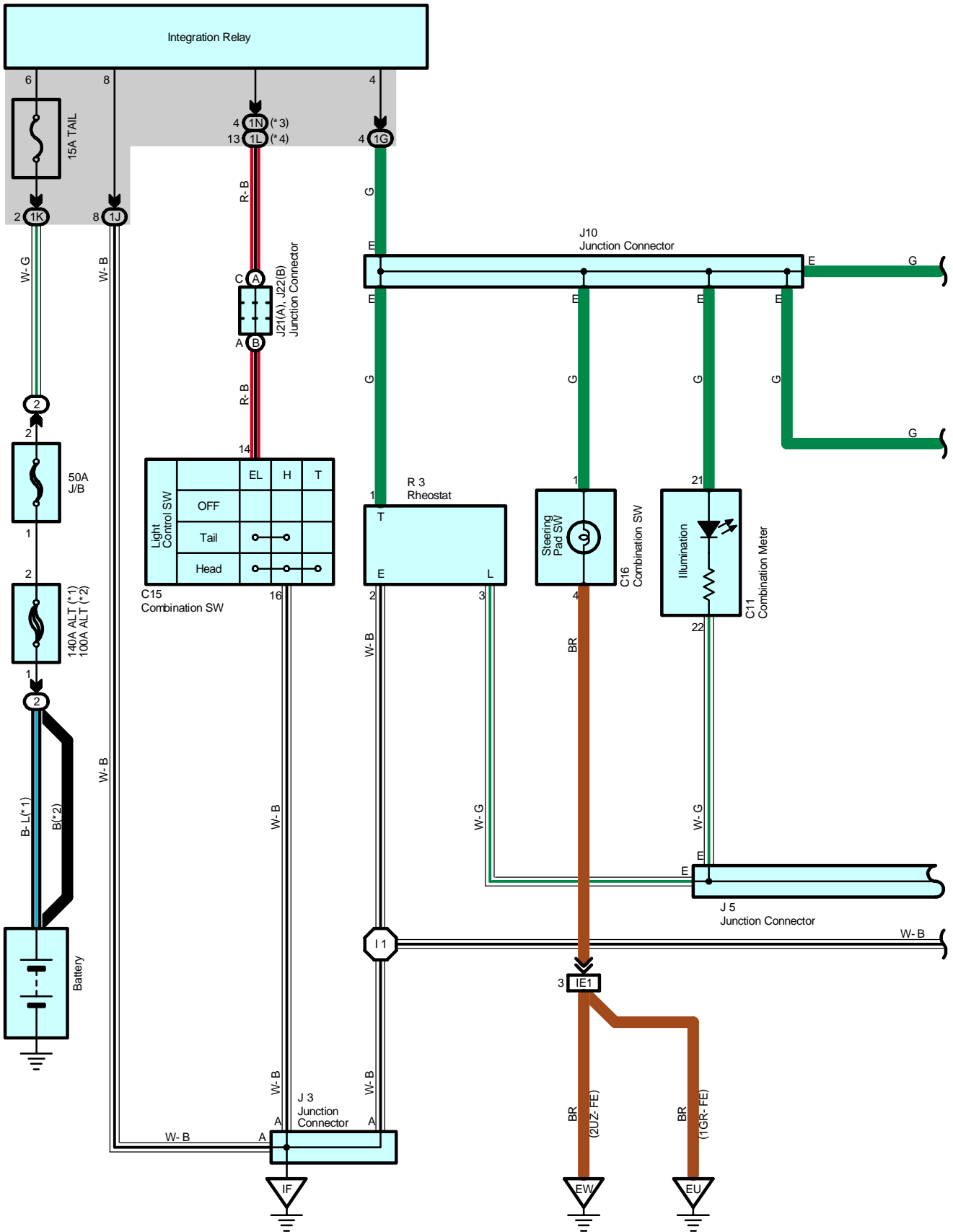


**: Splice Points**

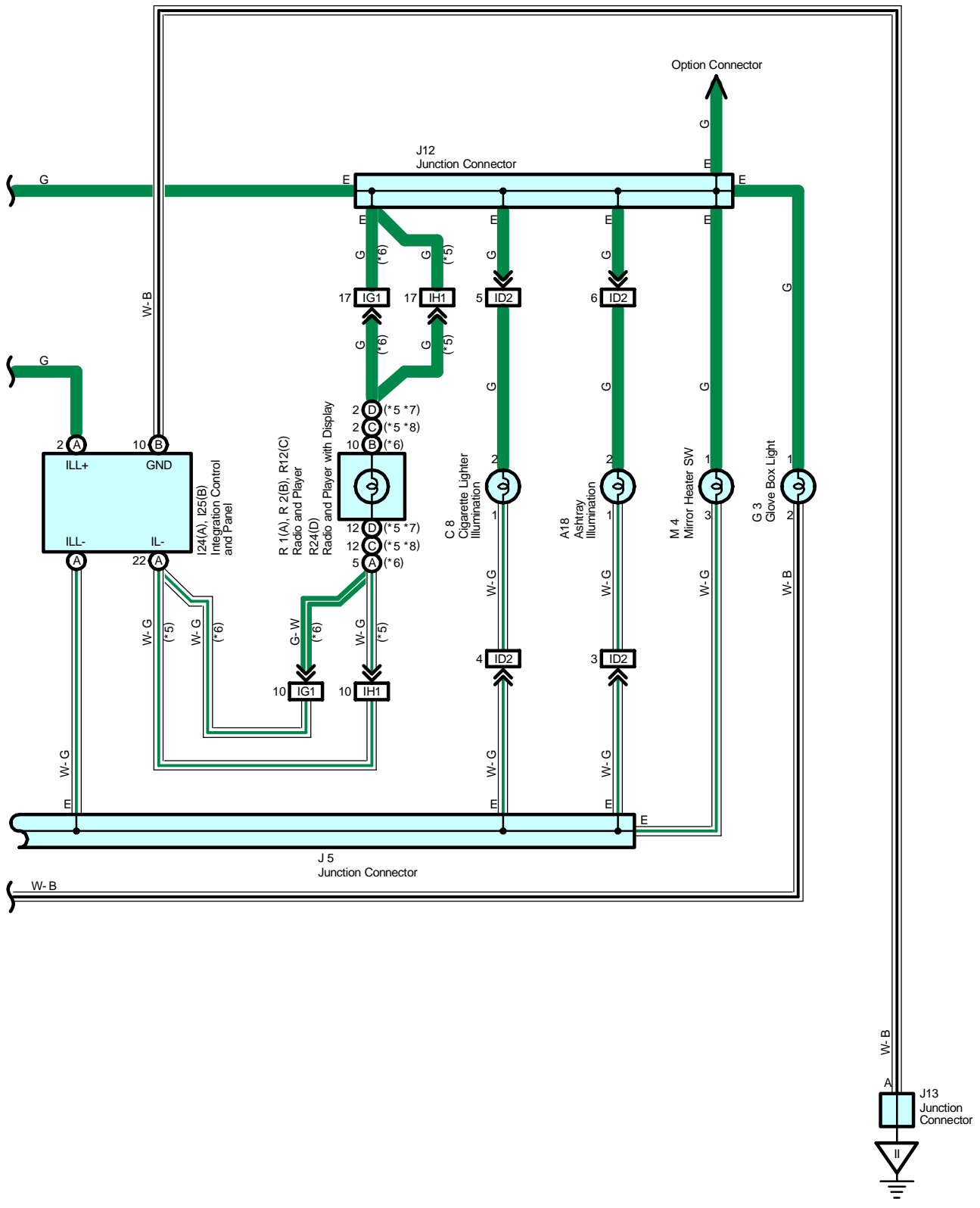
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E11	<a href="#">74 (2UZ-FE)</a>	Engine Room Main Wire	B10	<a href="#">82 (*3)</a>	Frame Wire
	<a href="#">76 (1GR-FE)</a>			<a href="#">84 (*4)</a>	

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
\* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Illumination (Access/Standard Cab)



- \* 1 : Towing Package
- \* 2 : Except Towing Package
- \* 3 : w/ Daytime Running Light
- \* 4 : w/o Daytime Running Light
- \* 5 : Separate Type Amplifier
- \* 6 : Built-in Type Amplifier
- \* 7 : w/ Navigation System
- \* 8 : w/o Navigation System



# Illumination (Access/Standard Cab)

## Service Hints

### C15 Combination SW

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

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A18	56	I25   B	57	J22   B	58
C8	56	J3	58	M4	58
C11	56	J5	58	R1   A	59
C15	56	J10	58	R2   B	59
C16	56	J12	58	R3	59
G3	57	J13	58	R12   C	59
I24   A	57	J21   A	58	R24   D	59

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1J	24 (*2)	
	28 (*1)	
1K	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1L	25 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1N	29 (*1)	

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
ID2	78	Cigarette Lighter Wire and Cowl Wire (Instrument Panel Brace LH)
IE1	80	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IG1	80	Cowl Wire and Instrument Panel No.2 Wire (Instrument Panel Brace RH)
IH1	80	Cowl Wire and Floor No.3 Wire (Instrument Panel Brace RH)

## ▽ : Ground Points

Code	See Page	Ground Points Location
EU	76 (1GR-FE)	Rear Bank of Right Cylinder Head
EW	74 (2UZ-FE)	Front Left Side of Cylinder Head
IF	78	Left Kick Panel
II	78	Right Kick Panel

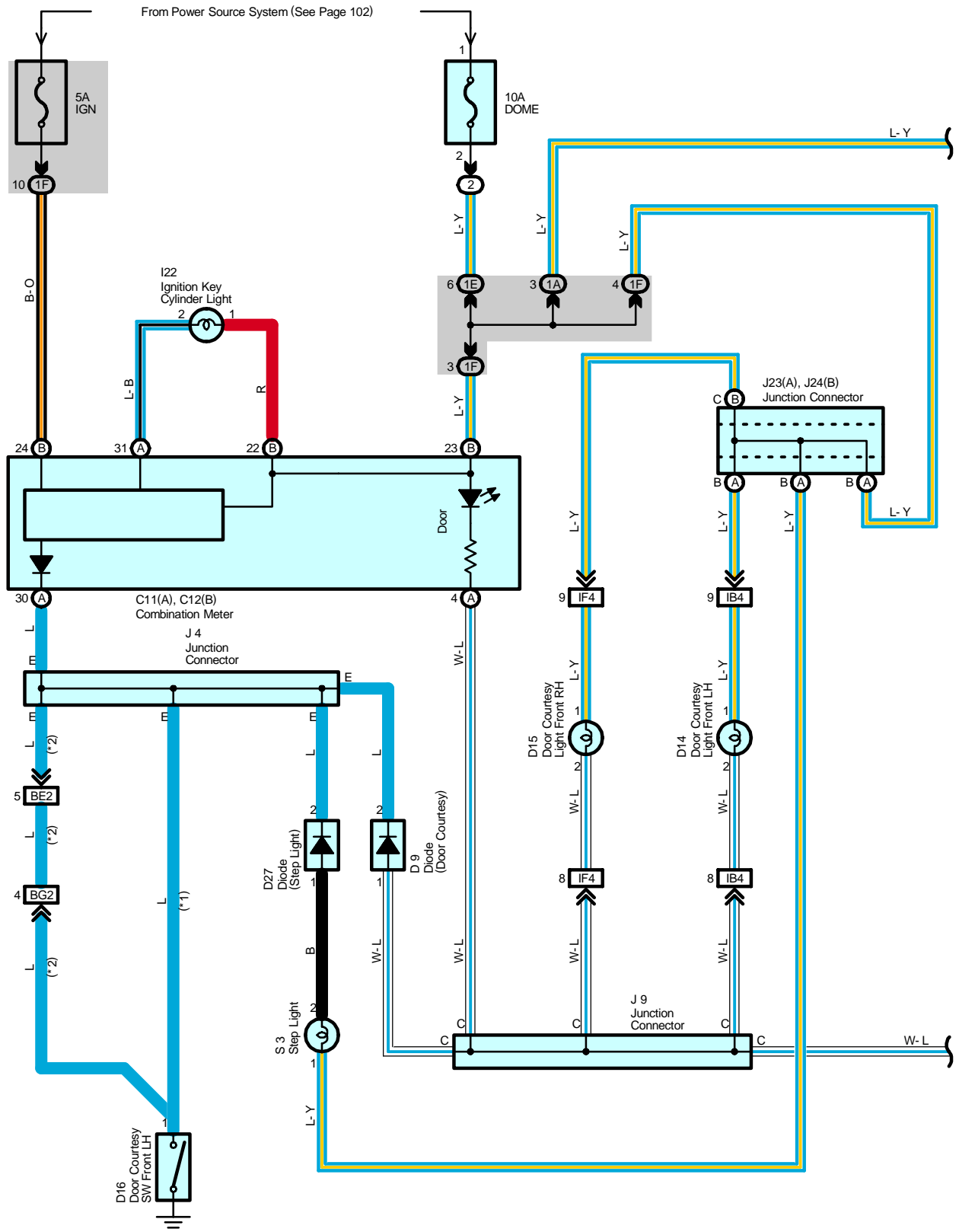
## ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I1	80	Cowl Wire			

\* 1 : w/ Daytime Running Light   \* 2 : w/o Daytime Running Light   \* 3 : Access Cab   \* 4 : Standard Cab   \* 5 : Bench Seat  
 \* 6 : Captain Seat   \* 7 : Access Cab Captain Seat   \* 8 : Standard Cab Bench Seat   \* 9 : Access Cab w/o Power Seat

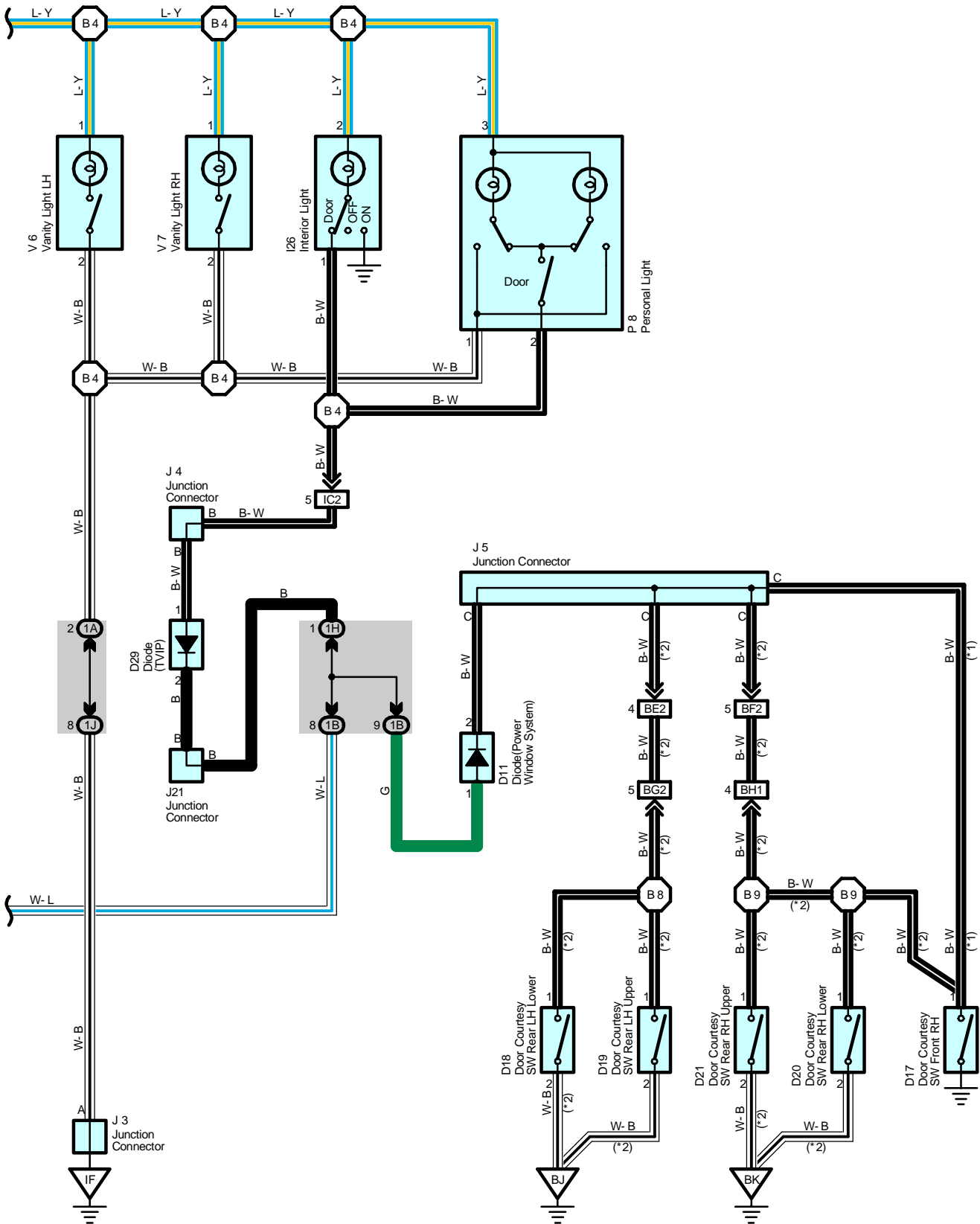


# Interior Light (Access/Standard Cab)





- \* 1 : Standard Cab
- \* 2 : Access Cab



# Interior Light (Access/Standard Cab)

## Service Hints

### C11 (A), C12 (B) Combination Meter

- (A) 4-Ground : Continuity with each door open
- (A)30-Ground : Continuity with front LH door open
- (B)23-Ground : Always approx. 12 volts
- (B)24-Ground : Approx. 12 volts with ignition SW at ON or ST position

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C11	A 56	D17	61 (*4)	J4	58
C12	B 56	D18	60 (*3)	J5	58
D9	57	D19	60 (*3)	J9	58
D11	57	D20	60 (*3)	J21	58
D14	60 (*3)	D21	60 (*3)	J23	A 58
	61 (*4)	D27	57	J24	B 58
D15	60 (*3)	D29	57	P8	60 (*3)
	61 (*4)	I22	57		61 (*4)
D16	60 (*3)	I26	60 (*3)	S3	59
	61 (*4)		61 (*4)	V6	60 (*3)
D17	60 (*3)	J3	58	V7	60 (*3)

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24 (*2)	Roof Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1B	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1E	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1H	24 (*2)	
	28 (*1)	
1J	24 (*2)	
	28 (*1)	

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB4	78	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC2	78	Cowl Wire and Roof Wire (Left Side of Instrument Panel)
IF4	80	Front Door RH Wire and Cowl Wire (Right Kick Panel)
BE2	82 (*3)	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BF2	82 (*3)	Floor No.1 Wire and Cowl Wire (Center of Right Rocker Panel)
BG2	82 (*3)	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)
BH1	82 (*3)	Floor No.1 Wire and Rear Door No.1 Wire (Under the Right Quarter Panel)

- \* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

**: Ground Points**

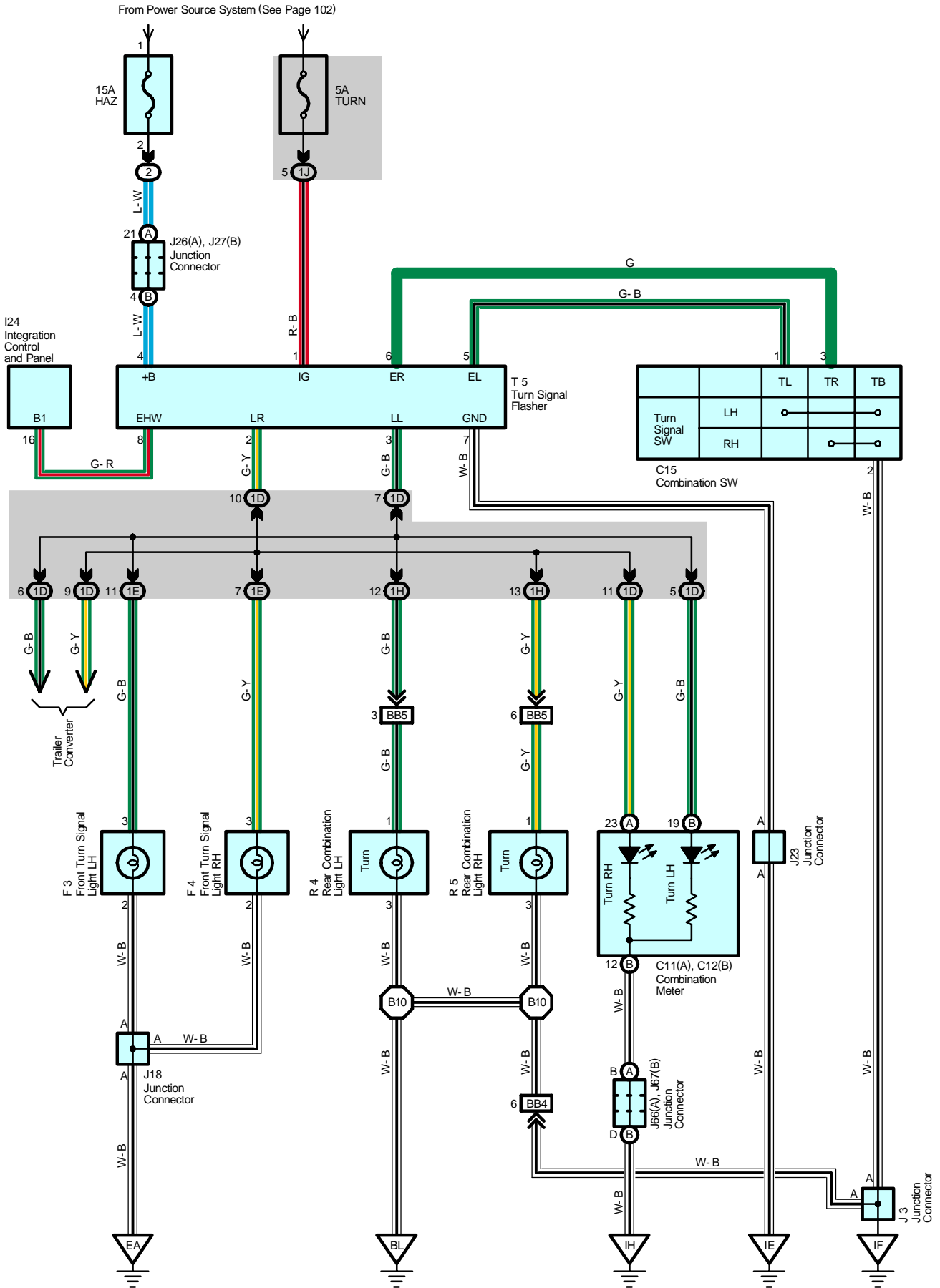
Code	See Page	Ground Points Location
IF	<a href="#">78</a>	Left Kick Panel
BJ	<a href="#">82 (*3)</a>	Inside of Rear Door LH
BK	<a href="#">82 (*3)</a>	Inside of Rear Door RH

**: Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B4	<a href="#">82 (*3)</a>	Roof Wire	B8	<a href="#">82 (*3)</a>	Rear Door No.1 Wire LH
	<a href="#">84 (*4)</a>		B9	<a href="#">82 (*3)</a>	Rear Door No.1 Wire RH

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Turn Signal and Hazard Warning Light (Access/Standard Cab)



## Service Hints

### T5 Turn Signal Flasher

- 4-Ground : Always approx. 12 volts
- 1-Ground : Approx. 12 volts with ignition SW at ON or ST position
- 7-Ground : Always continuity

### ○ : Parts Location

Code		See Page	Code		See Page	Code		See Page
C11	A	56	I24	57	J66	A	58	
C12	B	56	J3	58	J67	B	58	
C15		56	J18	53 (2UZ-FE)	R4	60 (*3)		
F3	52 (2UZ-FE)			55 (1GR-FE)		61 (*4)		
	54 (1GR-FE)		J23	58	R5	60 (*3)		
F4	52 (2UZ-FE)		J26	A		58	61 (*4)	
	54 (1GR-FE)		J27	B	58	T5	59	

### ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

### ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1E	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1H	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1J	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

### □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
BB4	82 (*3)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	84 (*4)	
BB5	82 (*3)	
	84 (*4)	

### ▽ : Ground Points

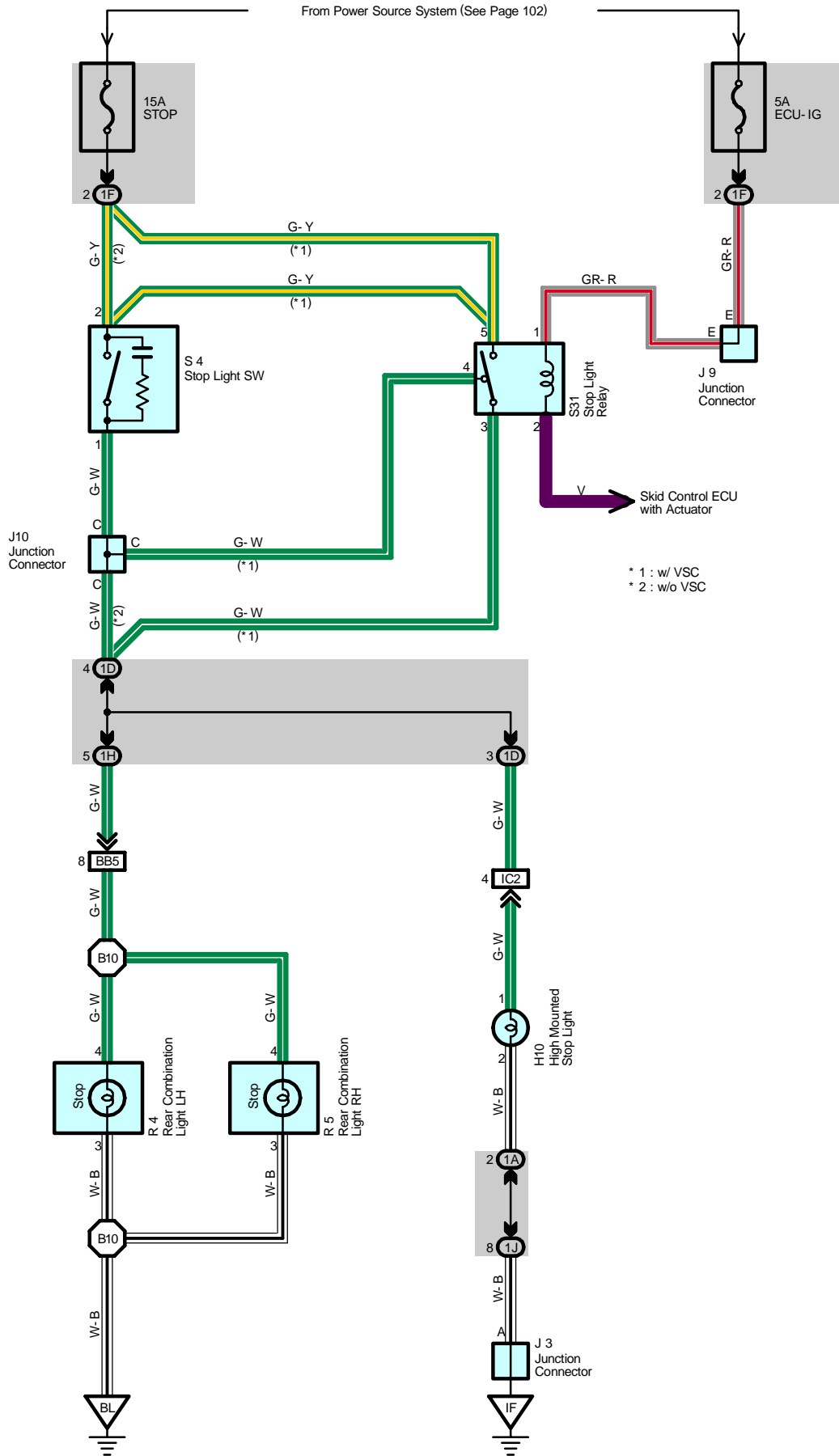
Code	See Page	Ground Points Location
EA	74 (2UZ-FE)	Front Left Fender
	76 (1GR-FE)	
IE	78	Left Kick Panel
IF		
IH	78	Right Kick Panel
BL	82 (*3)	Surrounding of the Front of the Fuel Tank
	84 (*4)	

### ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B10	82 (*3)	Frame Wire	B10	84 (*4)	Frame Wire

- \* 1 : w/ Daytime Running Light
- \* 2 : w/o Daytime Running Light
- \* 3 : Access Cab
- \* 4 : Standard Cab
- \* 5 : Bench Seat
- \* 6 : Captain Seat
- \* 7 : Access Cab Captain Seat
- \* 8 : Standard Cab Bench Seat
- \* 9 : Access Cab w/o Power Seat

# Stop Light (Access/Standard Cab)



### Service Hints

#### S4 Stop Light SW

2-1 : Closed with brake pedal depressed

#### ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
H10	60 (*3)	J10	58	R5	61 (*4)
	61 (*4)	R4	60 (*3)	S4	59
J3	58		61 (*4)	S31	59
J9	58	R5	60 (*3)		

#### ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24 (*2)	Roof Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1D	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1F	24 (*2)	
	28 (*1)	
1H	24 (*2)	
	28 (*1)	
1J	24 (*2)	
	28 (*1)	

#### □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC2	78	Cowl Wire and Roof Wire (Left Side of Instrument Panel)
BB5	82 (*3)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	84 (*4)	

#### ▽ : Ground Points

Code	See Page	Ground Points Location
IF	78	Left Kick Panel
BL	82 (*3)	Surrounding of the Front of the Fuel Tank
	84 (*4)	

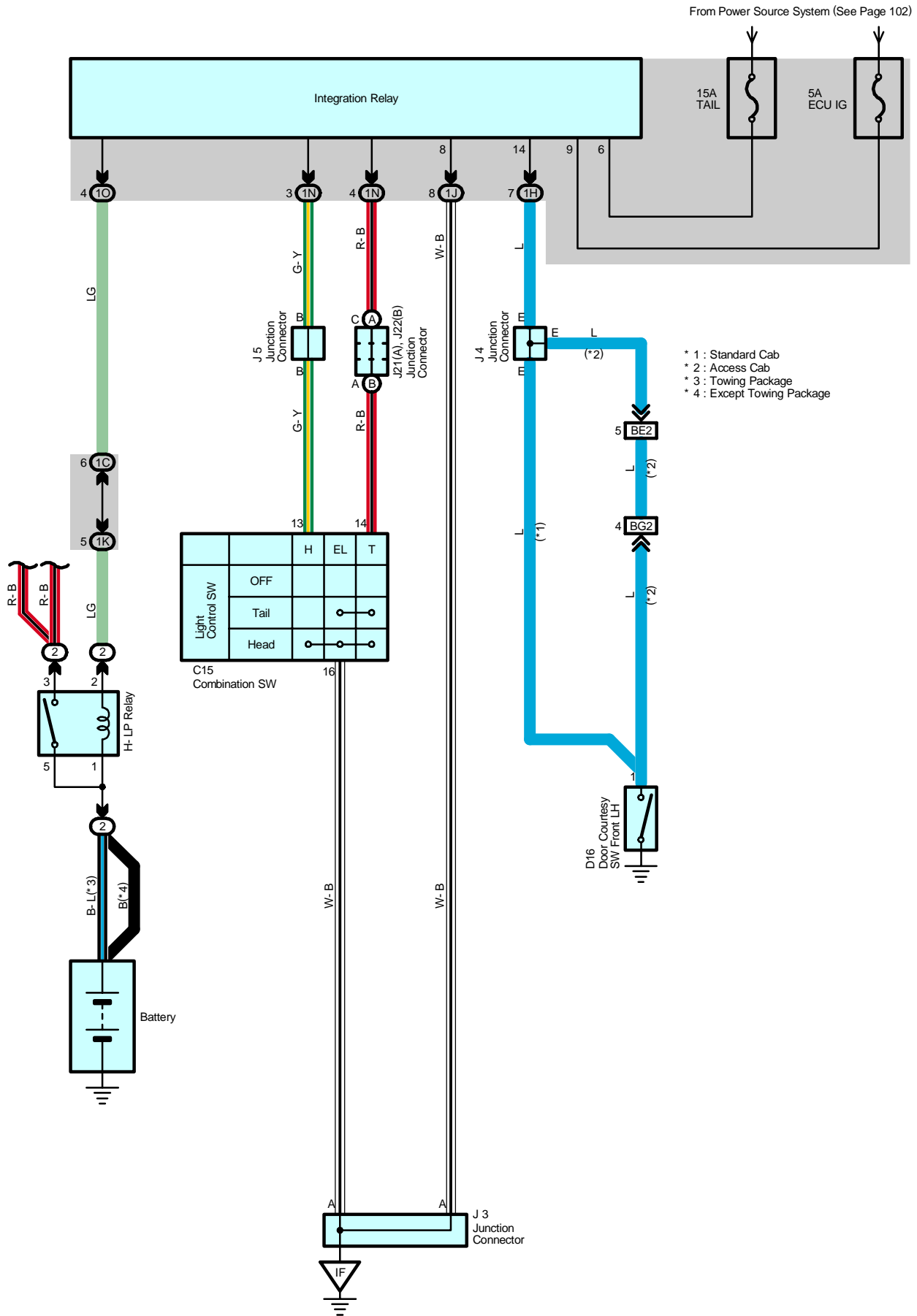
#### ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B10	82 (*3)	Frame Wire	B10	84 (*4)	Frame Wire

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat

\* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Light Auto Turn Off System with DRL (Access/Standard Cab)



- \* 1 : Standard Cab
- \* 2 : Access Cab
- \* 3 : Towing Package
- \* 4 : Except Towing Package



## System Outline

With the ignition SW turned on, the current flows to TERMINAL 9 of the integration relay through ECU IG fuse. Voltage is applied at all times to TERMINAL 6 of the integration relay through the TAIL fuse, and through the H-LP relay coil side.

### 1. Normal Lighting Operation

<Turn taillight on>

With the light control SW turned to TAIL position, a signal is input into the integration relay. Due to this signal, the current flowing to TERMINAL 6 of the relay flows to TERMINAL 14 of the light control SW to TERMINAL 16 to GROUND, and taillights to turn on.

<Turn headlight on>

With the light control SW turned to HEAD position, a signal is input into the integration relay. Due to this signal, the current flowing to the relay flows to TERMINAL 13 of the light control SW to TERMINAL 16 to GROUND in the headlight circuit, and causes taillight and H-LP relay to turn the lights on. The taillight circuit is same as above.

### 2. Light Auto Turn Off Operation

With light on and ignition SW turned off (Input signal goes to TERMINAL 9 of the relay), when the driver's door is opened (Input signal goes to TERMINAL 14 of the relay), the relay operates and the current is cut off which flows from TERMINAL 6 and through the H-LP relay coil side of the relay to taillight circuit and headlight circuit.

As a result, all lights are turned off automatically.

## Service Hints

### H-LP Relay

- 5-3 : Closed with the light control SW at HEAD position or the dimmer SW at FLASH position
- Closed with the engine running and the parking brake lever released

### C15 Combination SW

- 13-16 : Closed with light control SW at HEAD position
- 14-16 : Closed with light control SW at TAIL or HEAD position

### D16 Door Courtesy SW Front LH

- 1-Ground : Continuity with the front LH door open

### INTEGRATION Relay

- 9-Ground : Approx. 12 volts with the ignition SW at ON position
- 14-Ground : Continuity with the front LH door open
- 6-Ground : Always approx. 12 volts
- 8-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C15	56	J3	58	J21	A 58
D16	60 (*3)	J4	58	J22	B 58
	61 (*4)	J5	58		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C		
1H	28 (*1)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K	28 (*1)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1N	29 (*1)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1O		

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

## Light Auto Turn Off System with DRL (Access/Standard Cab)

---

 : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
BE2	<a href="#">82 (*3)</a>	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BG2	<a href="#">82 (*3)</a>	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)

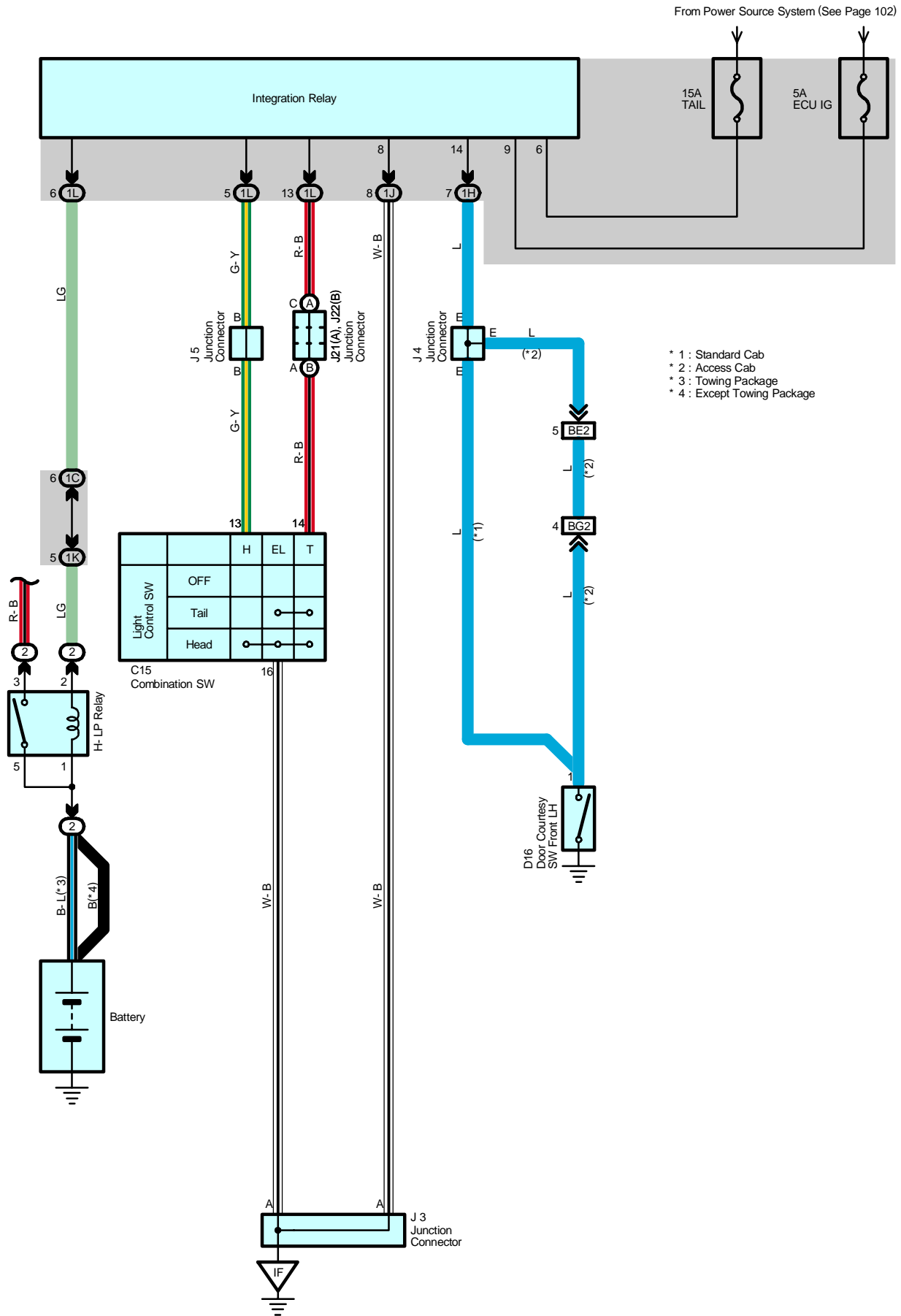
 : Ground Points

Code	See Page	Ground Points Location
IF	<a href="#">78</a>	Left Kick Panel

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
\* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat



# Light Auto Turn Off System without DRL (Access/Standard Cab)



- \* 1 : Standard Cab
- \* 2 : Access Cab
- \* 3 : Towing Package
- \* 4 : Except Towing Package

## System Outline

With the ignition SW turned on, the current flows to TERMINAL 9 of the integration relay through ECU IG fuse. Voltage is applied at all times to TERMINAL 6 of the integration relay through the TAIL fuse, and through the H-LP relay coil side.

### 1. Normal Lighting Operation

<Turn taillight on>

With the light control SW turned to TAIL position, a signal is input into the integration relay. Due to this signal, the current flowing to TERMINAL 6 of the relay flows to TERMINAL 14 of the light control SW to TERMINAL 16 to GROUND, and taillights to turn on.

<Turn headlight on>

With the light control SW turned to HEAD position, a signal is input into the integration relay. Due to this signal, the current flowing to the relay flows to TERMINAL 13 of the light control SW to TERMINAL 16 to GROUND in the headlight circuit, and causes taillight and H-LP relay to turn the lights on. The taillight circuit is same as above.

### 2. Light Auto Turn Off Operation

With light on and ignition SW turned off (Input signal goes to TERMINAL 9 of the relay), when the driver's door is opened (Input signal goes to TERMINAL 14 of the relay), the relay operates and the current is cut off which flows from TERMINAL 6 and through the H-LP relay coil side of the relay to taillight circuit and headlight circuit.

As a result, all lights are turned off automatically.

## Service Hints

### H-LP Relay

5-3 : Closed with the light control SW at HEAD position or the dimmer SW at FLASH position

### C15 Combination SW

13-16 : Closed with light control SW at HEAD position

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

### D16 Door Courtesy SW Front LH

1-Ground : Continuity with the front LH door open

### INTEGRATION Relay

9-Ground : Approx. 12 volts with the ignition SW at ON position

14-Ground : Continuity with the front LH door open

6-Ground : Always approx. 12 volts

8-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C15	56	J3	58	J21	A 58
D16	60 (*3)	J4	58	J22	B 58
	61 (*4)	J5	58		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1H		
1J		
1K	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1L	25 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat

\* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

## Light Auto Turn Off System without DRL (Access/Standard Cab)

---

 : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
BE2	<a href="#">82 (*3)</a>	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BG2	<a href="#">82 (*3)</a>	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)

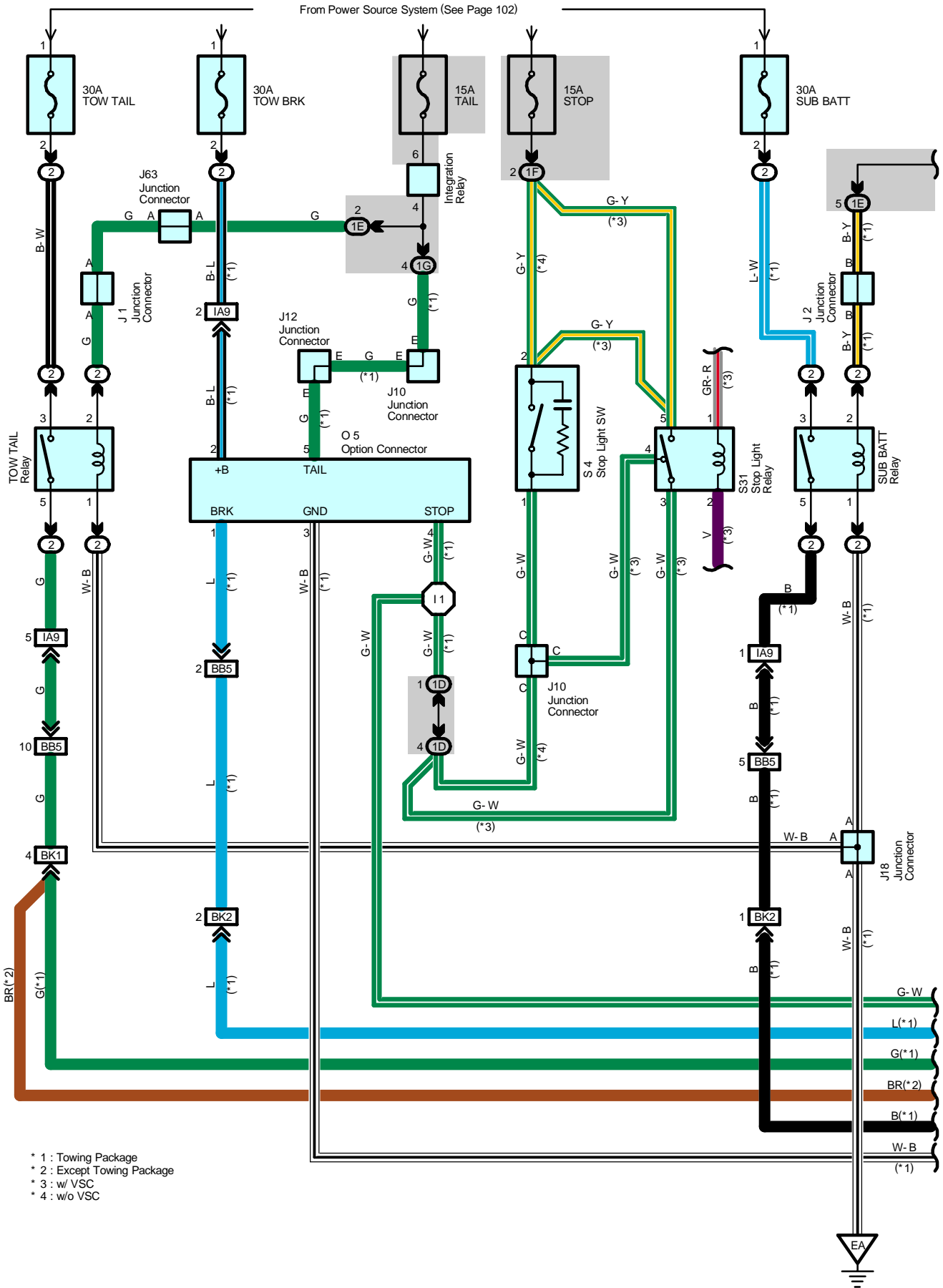
 : Ground Points

Code	See Page	Ground Points Location
IF	<a href="#">78</a>	Left Kick Panel

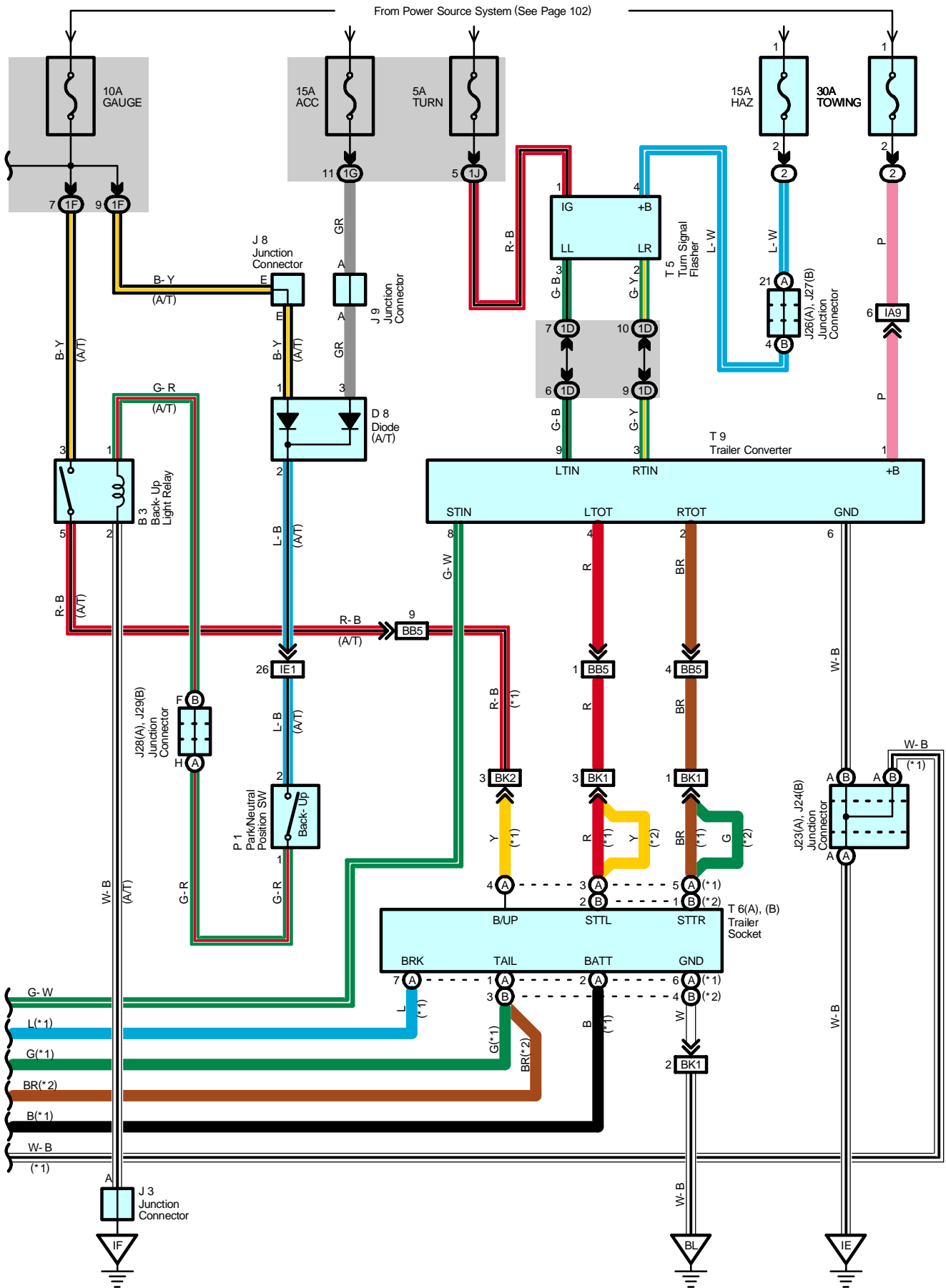
\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
\* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat



# Trailer Towing (Access/Standard Cab)







# Trailer Towing (Access/Standard Cab)

## Service Hints

### T9 Trailer Converter

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

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B3	56	J18	53 (2UZ-FE)	P1	53 (2UZ-FE)
D8	57		55 (1GR-FE)		55 (1GR-FE)
J1	53 (2UZ-FE)	J23	A 58	S4	59
	55 (1GR-FE)	J24	B 58	S31	59
J2	53 (2UZ-FE)	J26	A 58	T5	59
	55 (1GR-FE)	J27	B 58	T6	A 60 (*3)
J3	58	J28	A 58		61 (*4)
J8	58	J29	B 58		B 60 (*3)
J9	58	J63	53 (2UZ-FE)	T9	61 (*4)
J10	58		55 (1GR-FE)		59
J12	58	O5	58		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1E	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1G	24 (*2)	
	28 (*1)	
1J	24 (*2)	
	28 (*1)	

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA9	78	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IE1	80	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
BB5	82 (*3)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	84 (*4)	
BK1	82 (*3)	Frame Wire and Frame No.3 Wire (Near the License Plate Light)
	84 (*4)	
BK2	82 (*3)	
	84 (*4)	

\* 1 : w/ Daytime Running Light   \* 2 : w/o Daytime Running Light   \* 3 : Access Cab   \* 4 : Standard Cab   \* 5 : Bench Seat  
 \* 6 : Captain Seat   \* 7 : Access Cab Captain Seat   \* 8 : Standard Cab Bench Seat   \* 9 : Access Cab w/o Power Seat

**: Ground Points**

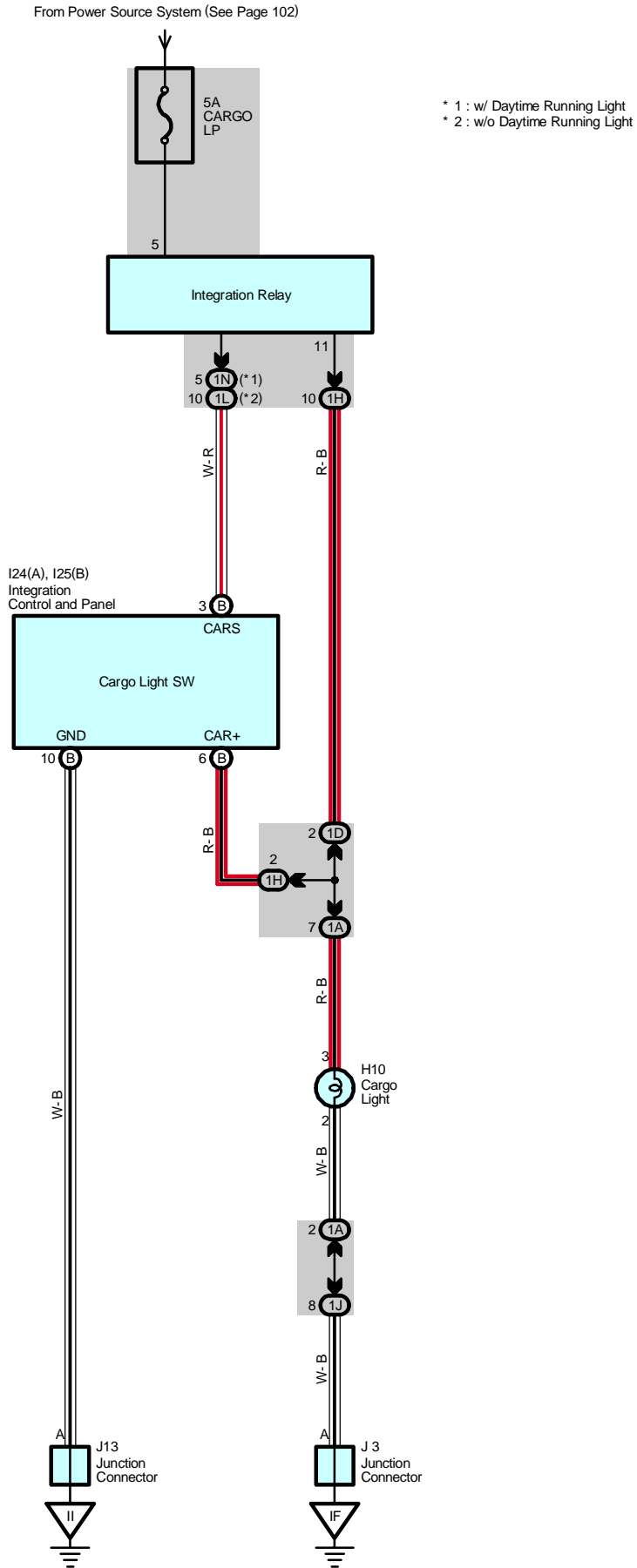
Code	See Page	Ground Points Location
EA	<a href="#">74 (2UZ-FE)</a>	Front Left Fender
	<a href="#">76 (1GR-FE)</a>	
IE	78	Left Kick Panel
IF		
BL	<a href="#">82 (*3)</a>	Surrounding of the Front of the Fuel Tank
	<a href="#">84 (*4)</a>	

**: Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I1	<a href="#">80</a>	Cowl Wire			

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Cargo Light (Access/Standard Cab)



### Service Hints

#### I24 (A), I25 (B) Integration Control and Panel

(B) 3-Ground : Always approx. 12 volts

(B)10-Ground : Always continuity

#### ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page	
H10	60 (*3)	I24	A	57	J3	58
	61 (*4)	I25	B	57	J13	58

#### ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24 (*2)	Roof Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1D	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1H	24 (*2)	
	28 (*1)	
1J	24 (*2)	
	28 (*1)	
1L	25 (*2)	
1N	29 (*1)	

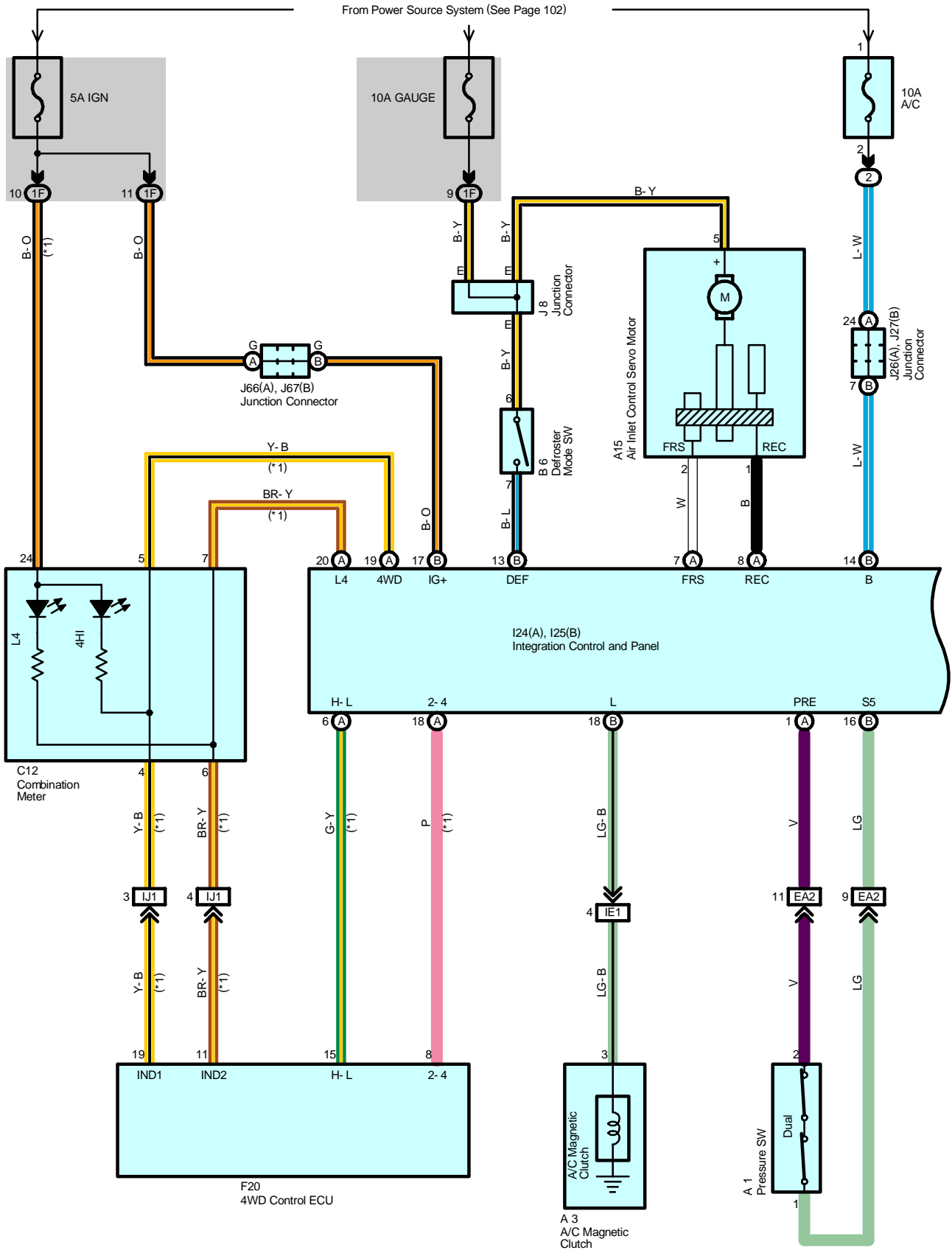
#### ▽ : Ground Points

Code	See Page	Ground Points Location
IF	78	Left Kick Panel
II	78	Right Kick Panel

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat

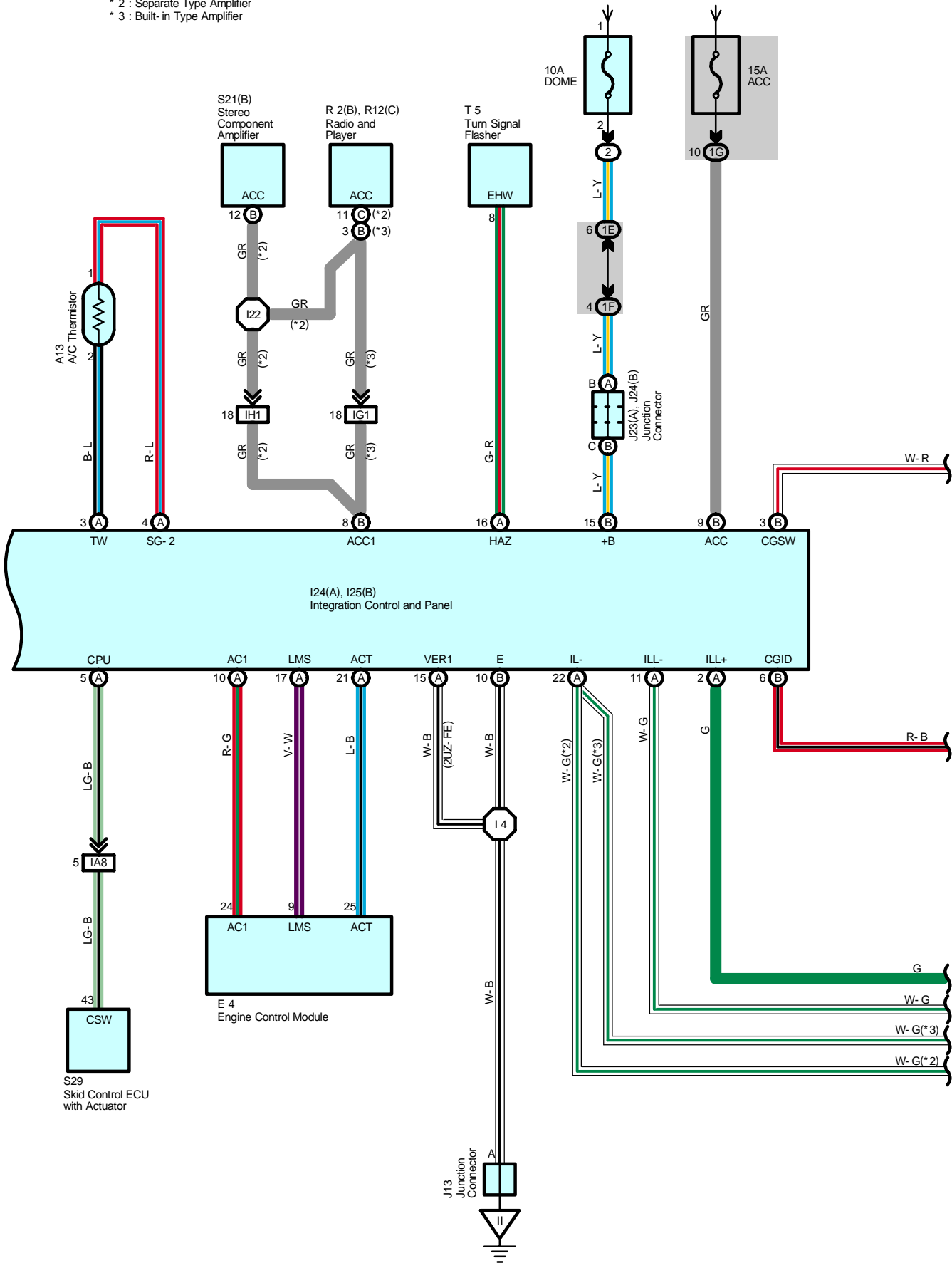
\* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Center Cluster Integration Control System (Access/Standard Cab)

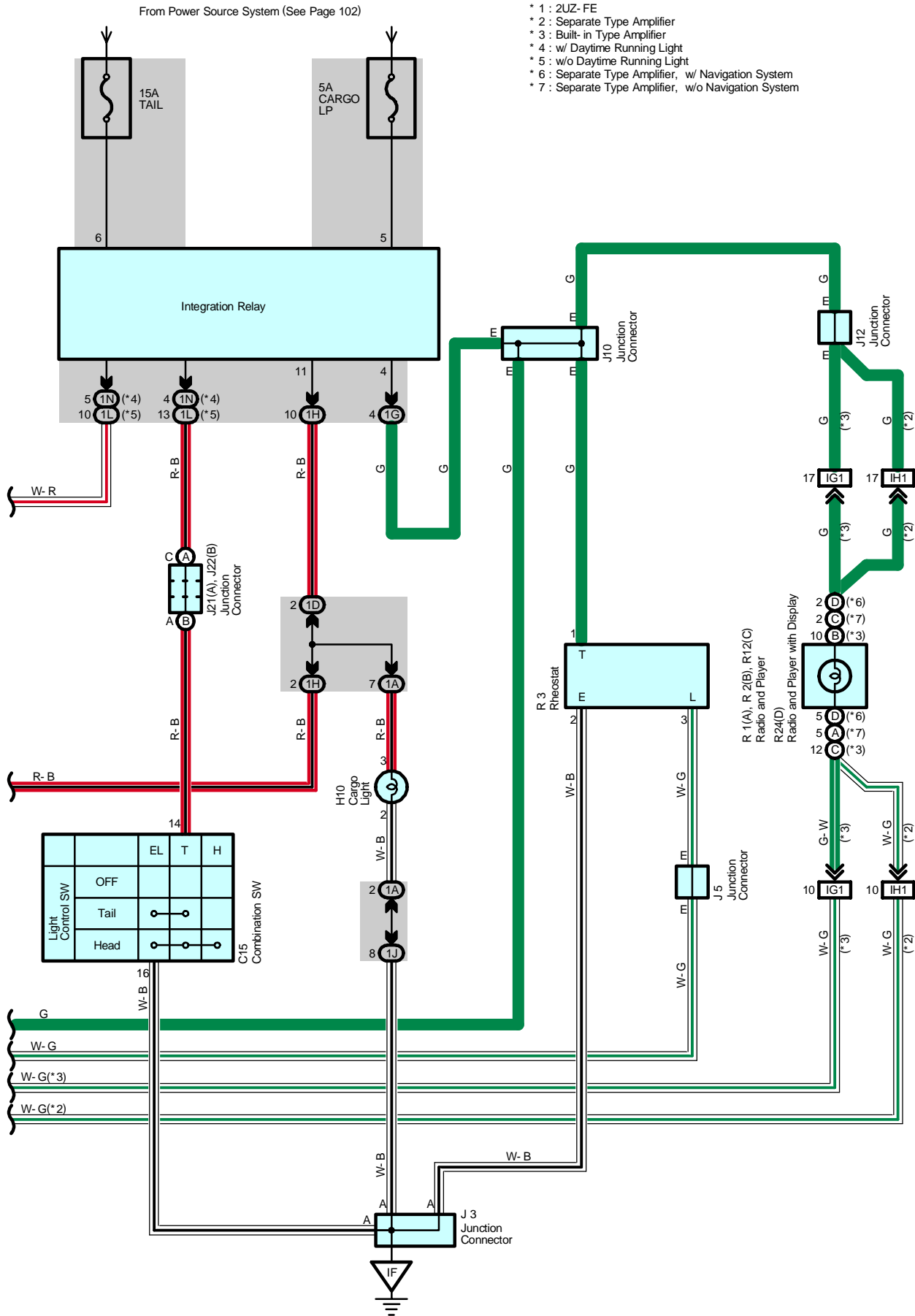


- \* 1 : 2UZ- FE
- \* 2 : Separate Type Amplifier
- \* 3 : Built-in Type Amplifier

From Power Source System (See Page 102)



# Center Cluster Integration Control System (Access/Standard Cab)





## System Outline

The integration control panel is composed by design components such as the cluster, resistor, heater control panel, and SW. The integration control panel controls systems such as the air conditioning, cargo light, 4WD and hazard warning light, clock, and the SRS.

## Service Hints

### I24 (A), I25 (B) Integration Control and Panel

- (B)12-Ground : Approx. 12 volts with ignition SW on and blower SW on
- (B) 4-Ground : Approx. 12 volts with ignition SW at ON or ST position
- (B) 5-Ground : Always approx. 12 volts
- (B)13-Ground : Approx. 12 volts with ignition SW at ACC or ON position
- (B) 1-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A1	<a href="#">52 (2UZ-FE)</a>	I24	A	<a href="#">57</a>	J27 B <a href="#">58</a>
	<a href="#">54 (1GR-FE)</a>	I25	B	<a href="#">57</a>	J66 A <a href="#">58</a>
A3	<a href="#">52 (2UZ-FE)</a>	J3		<a href="#">58</a>	J67 B <a href="#">58</a>
	<a href="#">54 (1GR-FE)</a>	J5		<a href="#">58</a>	R1 A <a href="#">59</a>
A13	<a href="#">56</a>	J8		<a href="#">58</a>	R2 B <a href="#">59</a>
A15	<a href="#">56</a>	J10		<a href="#">58</a>	R3 <a href="#">59</a>
B6	<a href="#">56</a>	J12		<a href="#">58</a>	R12 C <a href="#">59</a>
C12	<a href="#">56</a>	J13		<a href="#">58</a>	R24 D <a href="#">59</a>
C15	<a href="#">56</a>	J21	A	<a href="#">58</a>	S21 B <a href="#">60 (*3)</a>
E4	<a href="#">57</a>	J22	B	<a href="#">58</a>	S29 <a href="#">53 (2UZ-FE)</a> <a href="#">55 (1GR-FE)</a>
F20	<a href="#">57</a>	J23	A	<a href="#">58</a>	
H10	<a href="#">60 (*3)</a>	J24	B	<a href="#">58</a>	T5 <a href="#">59</a>
	<a href="#">61 (*4)</a>	J26	A	<a href="#">58</a>	

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	<a href="#">23</a>	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	<a href="#">24 (*2)</a>	Roof Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	
1D	<a href="#">24 (*2)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	
1E	<a href="#">24 (*2)</a>	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	
1F	<a href="#">24 (*2)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	
1G	<a href="#">24 (*2)</a>	
	<a href="#">28 (*1)</a>	
1H	<a href="#">24 (*2)</a>	
	<a href="#">28 (*1)</a>	
1J	<a href="#">24 (*2)</a>	
	<a href="#">28 (*1)</a>	
1L	<a href="#">25 (*2)</a>	
1N	<a href="#">29 (*1)</a>	

- \* 1 : w/ Daytime Running Light
- \* 2 : w/o Daytime Running Light
- \* 3 : Access Cab
- \* 4 : Standard Cab
- \* 5 : Bench Seat
- \* 6 : Captain Seat
- \* 7 : Access Cab Captain Seat
- \* 8 : Standard Cab Bench Seat
- \* 9 : Access Cab w/o Power Seat

## Center Cluster Integration Control System (Access/Standard Cab)

### : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA2	<a href="#">74 (2UZ-FE)</a>	Cowl Wire and Engine Room Main Wire (Right Fender)
	<a href="#">76 (1GR-FE)</a>	
IA8	<a href="#">78</a>	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IE1	<a href="#">80</a>	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IG1	<a href="#">80</a>	Cowl Wire and Instrument Panel No.2 Wire (Instrument Panel Brace RH)
IH1	<a href="#">80</a>	Cowl Wire and Floor No.3 Wire (Instrument Panel Brace RH)
IJ1	<a href="#">80</a>	Cowl Wire and Cowl Wire (Instrument Panel Reinforcement RH)

### : Ground Points

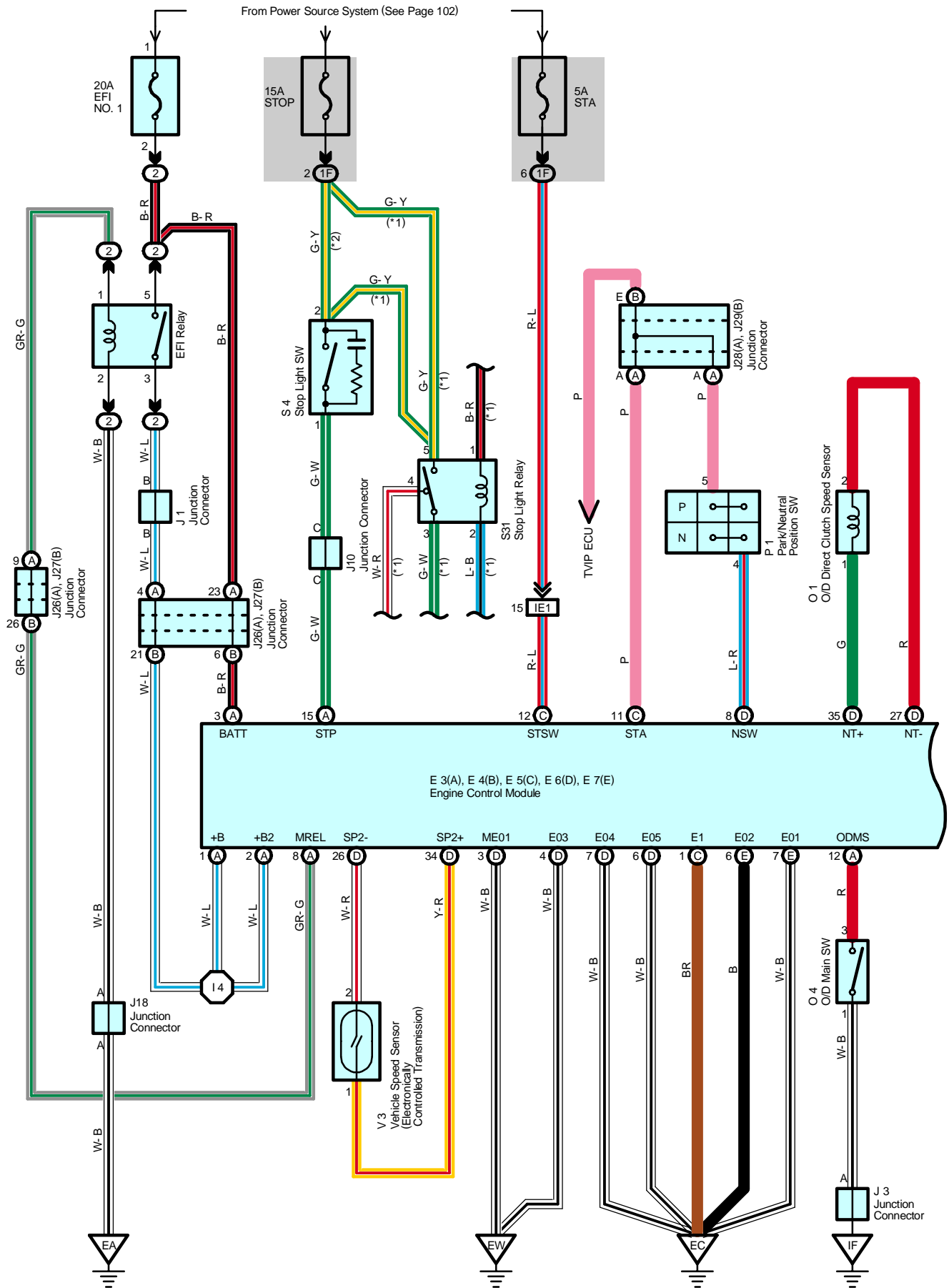
Code	See Page	Ground Points Location
IF	<a href="#">78</a>	Left Kick Panel
II	<a href="#">78</a>	Right Kick Panel

### : Splice Points

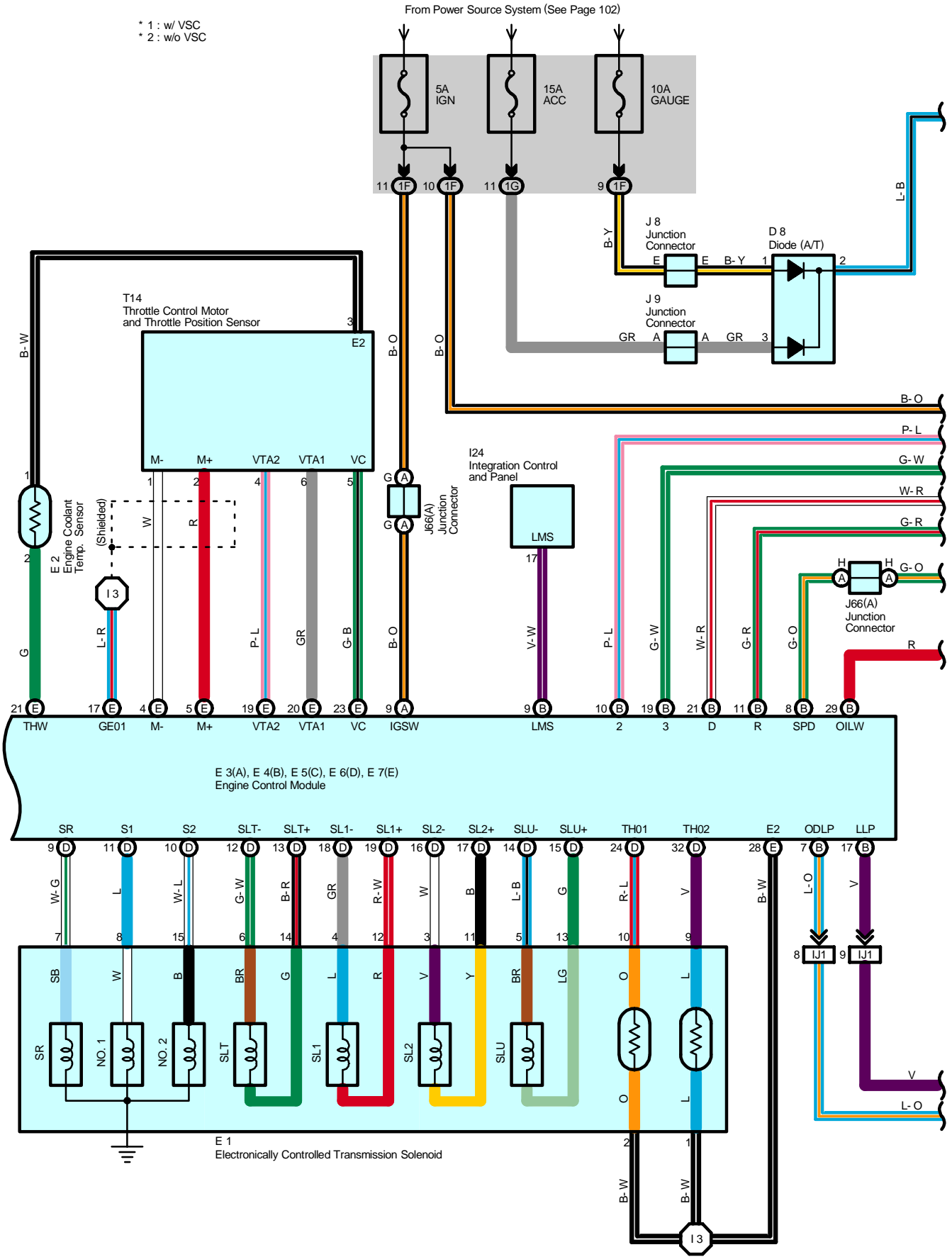
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I4	<a href="#">80</a>	Cowl Wire	I22	<a href="#">80</a>	Floor No.3 Wire



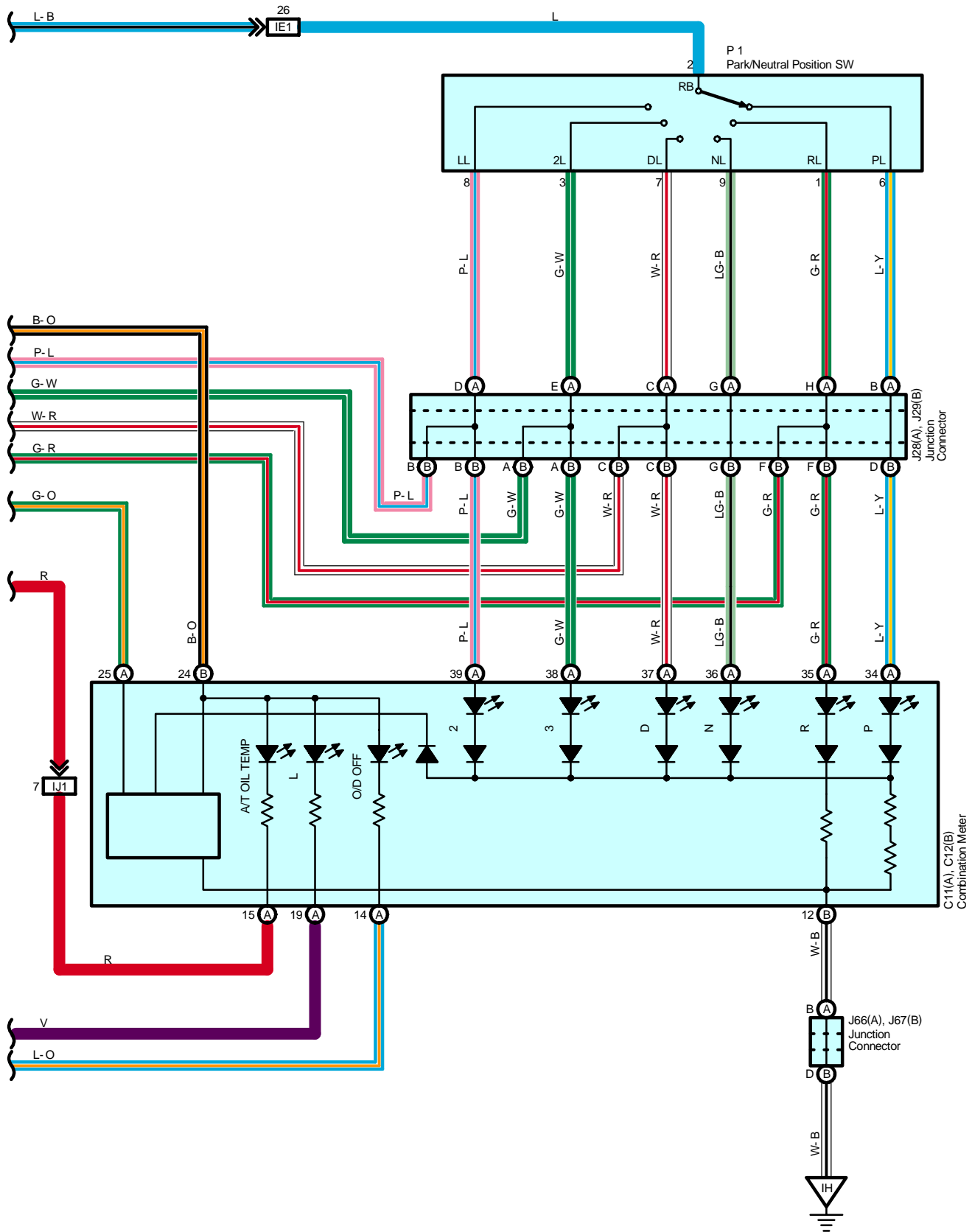
# ECT and A/T Indicator for 2UZ-FE (Access/Standard Cab)



- \* 1 : w/ VSC
- \* 2 : w/o VSC



# ECT and A/T Indicator for 2UZ-FE (Access/Standard Cab)



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## System Outline

The electronically controlled transmission electrically controls the, throttle pressure, lock-up pressure, and accumulator pressure etc. through the solenoid valve.

The electronically controlled transmission is a system which precisely controls the gear shift timing and lock-up timing in response to the vehicle's driving conditions and the engine condition detected by various sensors. It makes smooth driving possible by shift selection of the gear which is the most appropriate to the driving conditions at that time, and by preventing downing, squat and gear shift shock when starting off.

### 1. Gear Shift Operation

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

### 2. Lock-Up Operation

When the engine control module decides based on each signal that the lock-up condition has been met, the current flows through TERMINAL SLU+ of the engine control module to TERMINAL 5 of the electronically controlled transmission solenoid to TERMINAL 13 to TERMINAL SLU- of the engine control module to GROUND.

### 3. Stop Light SW Circuit

If the brake pedal is depressed (Stop light SW on) when driving in lock-up position, a signal is input to TERMINAL STP of the engine control module. As a result, the engine control module cuts the current to the solenoid to release the lock-up.

### 4. Overdrive Circuit

#### \* O/D main SW on

When the O/D main SW is switched to ON position, a signal is input to TERMINAL ODMS of the engine control module, and enables shift change to the overdrive range, through the control of the engine control module.

#### \* O/D main SW off

When the O/D main SW is switched to OFF position, a signal is input to TERMINAL ODMS of the engine control module, and prohibits shift change to the overdrive range through the control of the engine control module. When in the overdrive range already, shift down is made.

# ECT and A/T Indicator for 2UZ-FE (Access/Standard Cab)

## Service Hints

### E1 Electronically Controlled Transmission Solenoid

7, 8, 15-Ground : Approx. 13 Ω

### O4 O/D Main SW

3-1 : Open with O/D main SW at ON position  
 Closed with O/D main SW at OFF position

### S4 Stop Light SW

1-2 : Closed with brake pedal depressed

### E3(A), E4 (B), E5 (C), E6 (D), E7 (E) Engine Control Module

S1-E1 : 9-14 volts with vehicle not move and shift lever in D position

S2, SR-E1 : 0-1.5 volts with vehicle not move

STP-E1 : 7.5-14 volts with brake pedal depressed  
 : 0-1.5 volts with brake pedal released

THW-E1 : 0.2-1.0 volts with idling, engine coolant temp. 60°C (140°F)-120 °C (248°F)

VTA1, VTA2-E1 : 0.4-1.0 volts with ignition SW on and throttle valve fully closed  
 : 3.2-4.8 volts with ignition SW on and throttle valve fully open

VC-E1 : 4.5-5.5 volts with ignition SW at ON or ST position

ODMS-E1 : 9-14 volts with O/D main SW turned on  
 : 0-3 volts with O/D main SW turned off

SPD-E1 : Pulse generation with vehicle moving

2-E1 : 7.5-14 volts with shift lever at 2 position  
 : 0-1.5 volts with shift lever at except 2 position

L-E1 : 7.5-14 volts with shift lever at L position  
 : 0-1.5 volts with shift lever at except L position

+B-E1 : 9-14 volts with ignition SW at ON or ST position

BATT-E1 : Always 9-14 volts

### P1 Park/Neutral Position SW

2-6 : Closed with shift lever in P position

2-1 : Closed with shift lever in R position

2-9 : Closed with shift lever in N position

2-7 : Closed with shift lever in D position

2-3 : Closed with shift lever in 2 position

2-8 : Closed with shift lever in L position

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C11	A 56	I24	57	J29	B 58
C12	B 56	J1	53 (2UZ-FE)	J66	A 58
D8	57	J3	58	J67	B 58
E1	52 (2UZ-FE)	J8	58	O1	53 (2UZ-FE)
E2	52 (2UZ-FE)	J9	58	O4	58
E3	A 57	J10	58	P1	53 (2UZ-FE)
E4	B 57	J18	53 (2UZ-FE)	S4	59
E5	C 57	J26	A 58	S31	59
E6	D 57	J27	B 58	T14	53 (2UZ-FE)
E7	E 57	J28	A 58	V3	53 (2UZ-FE)

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)



 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	<a href="#">24 (*2)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	
1G	<a href="#">24 (*2)</a>	
	<a href="#">28 (*1)</a>	

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	<a href="#">80</a>	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ1	<a href="#">80</a>	Cowl Wire and Cowl Wire (Instrument Panel Reinforcement RH)

 : **Ground Points**

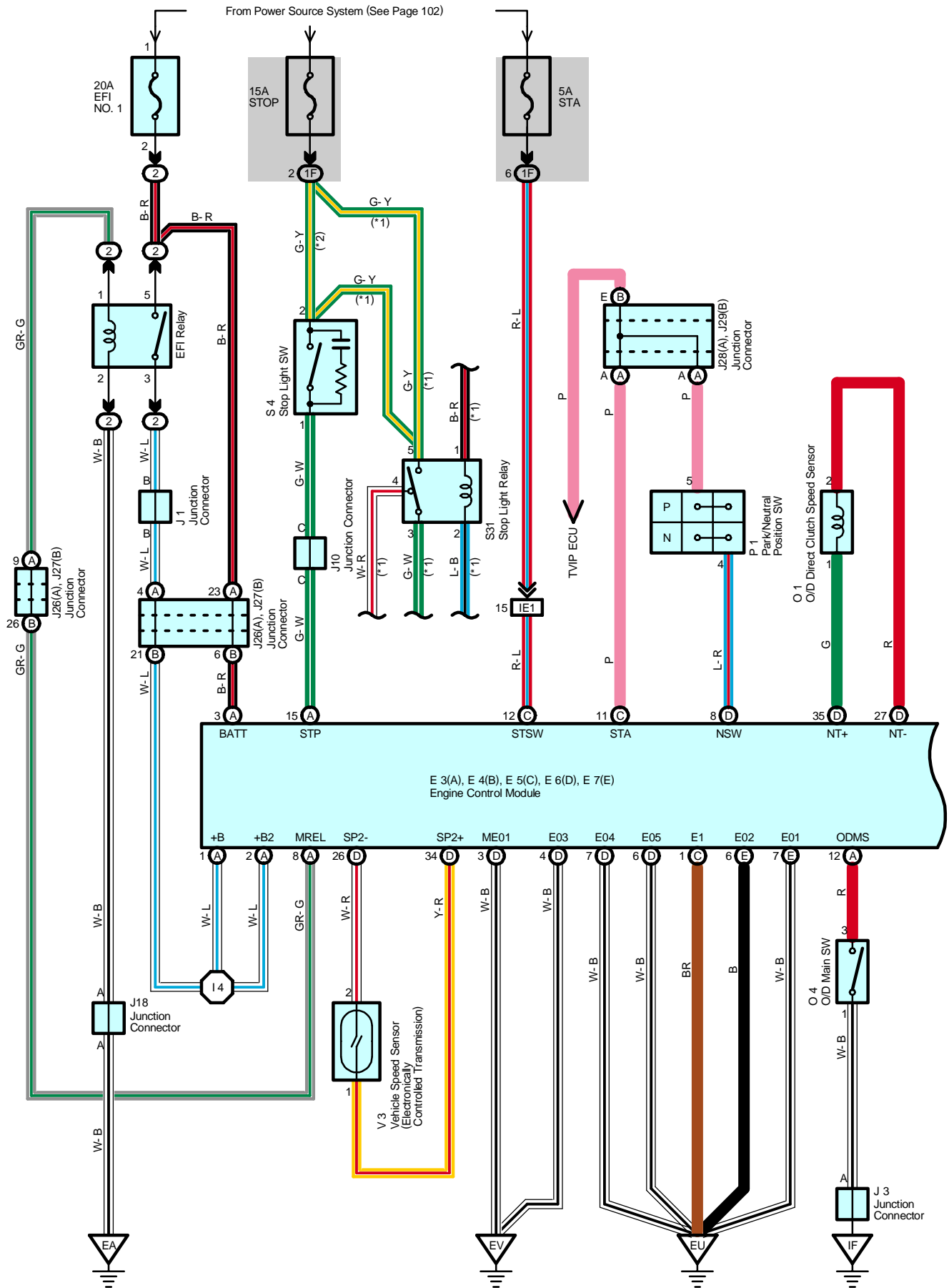
Code	See Page	Ground Points Location
EA	<a href="#">74 (2UZ-FE)</a>	Front Left Fender
EC	<a href="#">74 (2UZ-FE)</a>	Rear Bank of Left Cylinder Head
EW	<a href="#">74 (2UZ-FE)</a>	Front Left Side of Cylinder Head
IF	<a href="#">78</a>	Left Kick Panel
IH	<a href="#">78</a>	Right Kick Panel

 : **Splice Points**

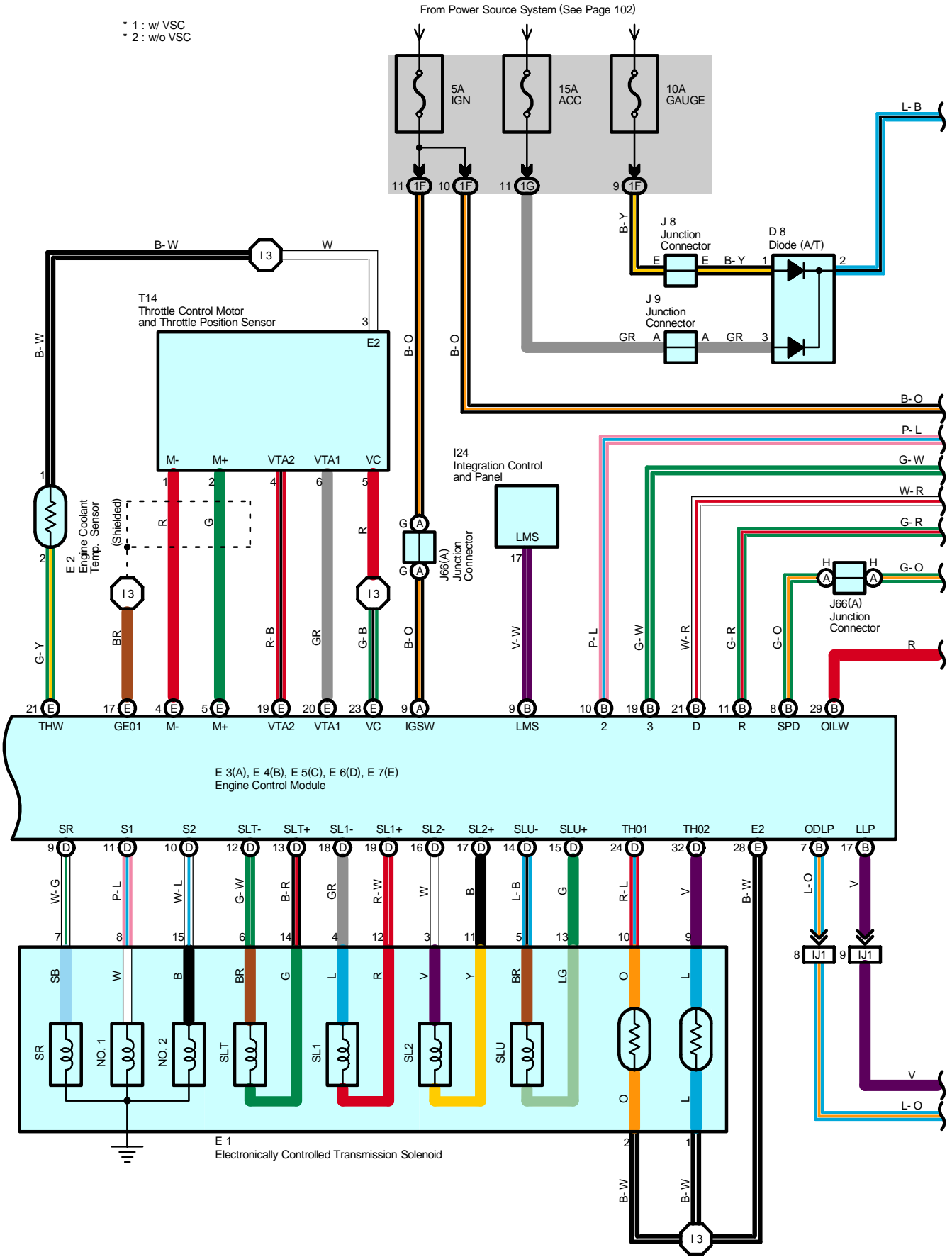
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I3	<a href="#">80</a>	Engine Wire	I4	<a href="#">80</a>	Cowl Wire

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

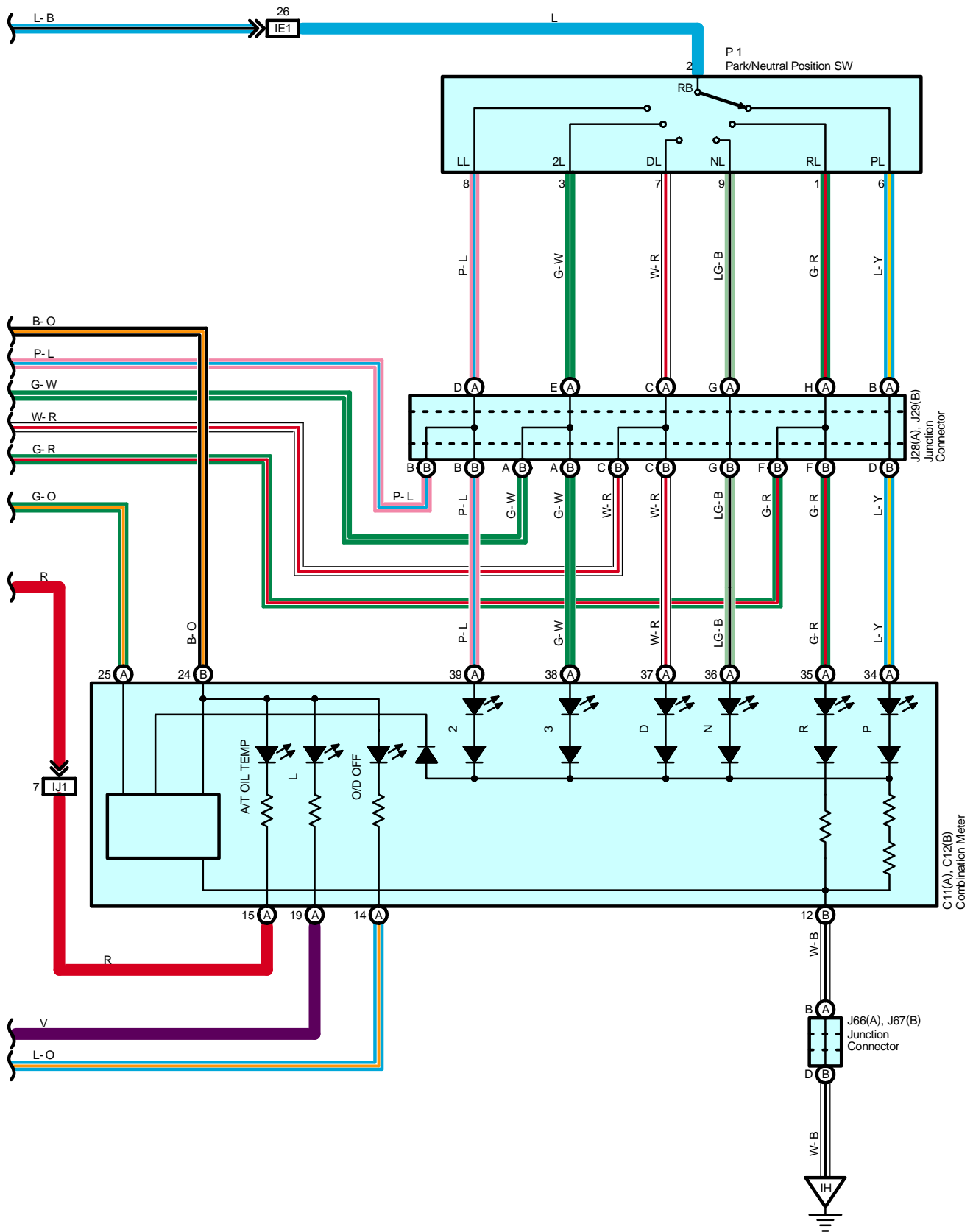
# ECT and A/T Indicator for 1GR-FE (Access/Standard Cab)



\* 1 : w/ VSC  
 \* 2 : w/o VSC



# ECT and A/T Indicator for 1GR-FE (Access/Standard Cab)



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## System Outline

The electronically controlled transmission electrically controls the, throttle pressure, lock-up pressure, and accumulator pressure etc. through the solenoid valve.

The electronically controlled transmission is a system which precisely controls the gear shift timing and lock-up timing in response to the vehicle's driving conditions and the engine condition detected by various sensors. It makes smooth driving possible by shift selection of the gear which is the most appropriate to the driving conditions at that time, and by preventing downing, squat and gear shift shock when starting off.

### 1. Gear Shift Operation

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

### 2. Lock-Up Operation

When the engine control module decides based on each signal that the lock-up condition has been met, the current flows through TERMINAL SLU+ of the engine control module to TERMINAL 5 of the electronically controlled transmission solenoid to TERMINAL 13 to TERMINAL SLU- of the engine control module to GROUND.

### 3. Stop Light SW Circuit

If the brake pedal is depressed (Stop light SW on) when driving in lock-up position, a signal is input to TERMINAL STP of the engine control module. As a result, the engine control module cuts the current to the solenoid to release the lock-up.

### 4. Overdrive Circuit

#### \* O/D main SW on

When the O/D main SW is switched to ON position, a signal is input to TERMINAL ODMS of the engine control module, and enables shift change to the overdrive range, through the control of the engine control module.

#### \* O/D main SW off

When the O/D main SW is switched to OFF position, a signal is input to TERMINAL ODMS of the engine control module, and prohibits shift change to the overdrive range through the control of the engine control module. When in the overdrive range already, shift down is made.

# ECT and A/T Indicator for 1GR-FE (Access/Standard Cab)

## Service Hints

### E1 Electronically Controlled Transmission Solenoid

7, 8, 15-Ground : Approx. 13 Ω

### O4 O/D Main SW

3-1 : Open with O/D main SW at ON position  
 Closed with O/D main SW at OFF position

### S4 Stop Light SW

1-2 : Closed with brake pedal depressed

### E3(A), E4 (B), E5 (C), E6 (D), E7 (E) Engine Control Module

S1-E1 : 9-14 volts with vehicle not move and shift lever in D position

S2, SR-E1 : 0-1.5 volts with vehicle not move

STP-E1 : 7.5-14 volts with brake pedal depressed  
 : 0-1.5 volts with brake pedal released

THW-E1 : 0.2-1.0 volts with idling, engine coolant temp. 60°C (140°F)-120 °C (248°F)

VTA1, VTA2-E1 : 0.4-1.0 volts with ignition SW on and throttle valve fully closed  
 : 3.2-4.8 volts with ignition SW on and throttle valve fully open

VC-E1 : 4.5-5.5 volts with ignition SW at ON or ST position

ODMS-E1 : 9-14 volts with O/D main SW turned on  
 : 0-3 volts with O/D main SW turned off

SPD-E1 : Pulse generation with vehicle moving

2-E1 : 7.5-14 volts with shift lever at 2 position  
 : 0-1.5 volts with shift lever at except 2 position

L-E1 : 7.5-14 volts with shift lever at L position  
 : 0-1.5 volts with shift lever at except L position

+B-E1 : 9-14 volts with ignition SW at ON or ST position

BATT-E1 : Always 9-14 volts

### P1 Park/Neutral Position SW

2-6 : Closed with shift lever in P position

2-1 : Closed with shift lever in R position

2-9 : Closed with shift lever in N position

2-7 : Closed with shift lever in D position

2-3 : Closed with shift lever in 2 position

2-8 : Closed with shift lever in L position

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C11	A 56	I24	57	J29	B 58
C12	B 56	J1	55 (1GR-FE)	J66	A 58
D8	57	J3	58	J67	B 58
E1	54 (1GR-FE)	J8	58	O1	55 (1GR-FE)
E2	54 (1GR-FE)	J9	58	O4	58
E3	A 57	J10	58	P1	55 (1GR-FE)
E4	B 57	J18	55 (1GR-FE)	S4	59
E5	C 57	J26	A 58	S31	59
E6	D 57	J27	B 58	T14	55 (1GR-FE)
E7	E 57	J28	A 58	V3	55 (1GR-FE)

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	<a href="#">24 (*2)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	
1G	<a href="#">24 (*2)</a>	
	<a href="#">28 (*1)</a>	

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	<a href="#">80</a>	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ1	<a href="#">80</a>	Cowl Wire and Cowl Wire (Instrument Panel Reinforcement RH)

 : **Ground Points**

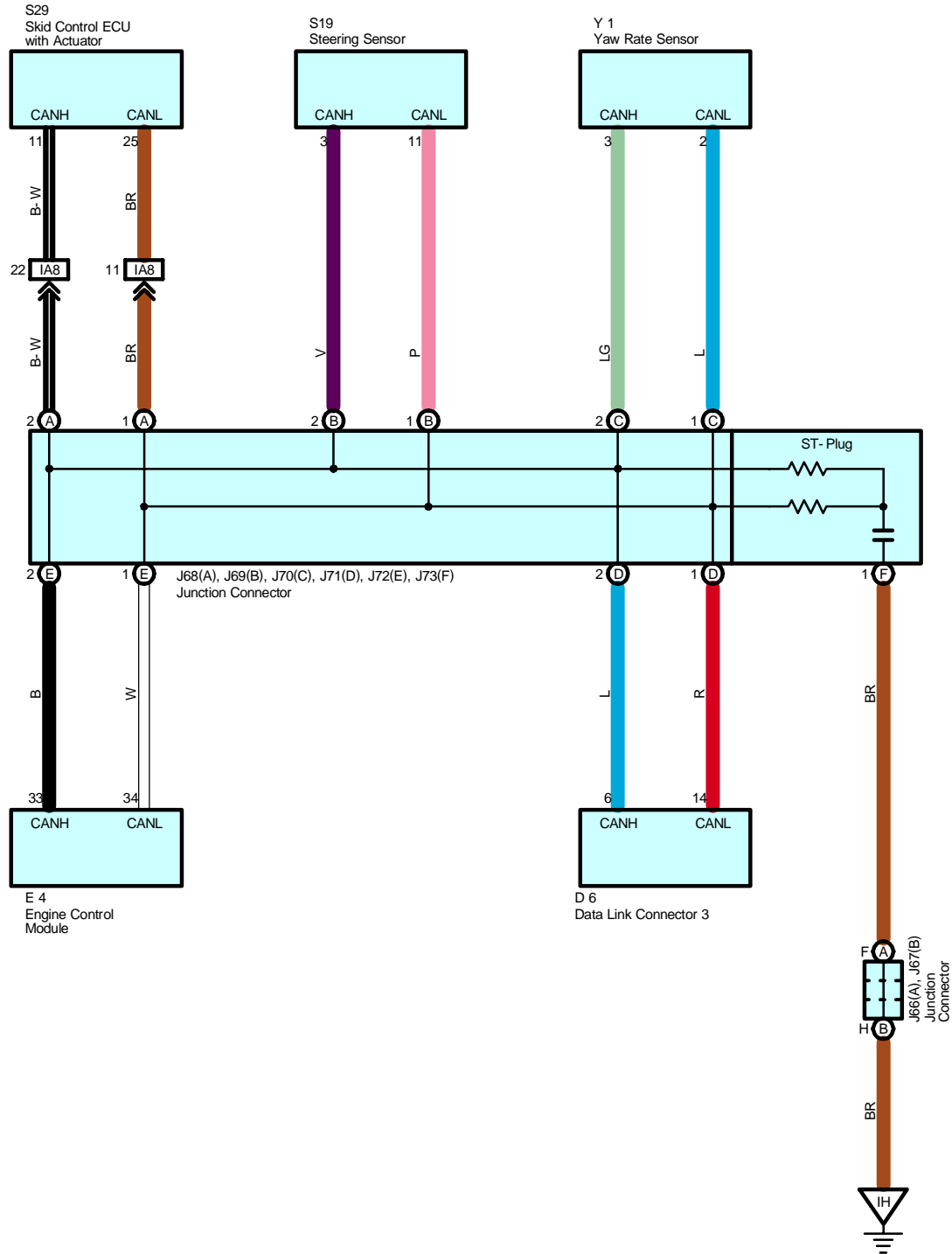
Code	See Page	Ground Points Location
EA	<a href="#">76 (1GR-FE)</a>	Front Left Fender
EU	<a href="#">76 (1GR-FE)</a>	Rear Bank of Right Cylinder Head
EV	<a href="#">76 (1GR-FE)</a>	Rear Bank of Left Cylinder Head
IF	<a href="#">78</a>	Left Kick Panel
IH	<a href="#">78</a>	Right Kick Panel

 : **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I3	<a href="#">80</a>	Engine Wire	I4	<a href="#">80</a>	Cowl Wire

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Multiplex Communication System - CAN (Access/Standard Cab)





### System Outline

CAN has two lines as a pair which make communication with operating voltage. CAN has excellent data speed and error detecting capacity. It consists of vehicle control systems such as engine control module, data link connector 3 and skid control ECU with actuator.

This system is working for the following systems:

- \* Cruise Control
- \* Electronically Controlled Transmission and A/T Indicator
- \* Engine Control
- \* VSC

### ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page		
D6	<a href="#">57</a>	J69	B	<a href="#">58</a>	S19	<a href="#">59</a>	
E4	<a href="#">57</a>	J70	C	<a href="#">58</a>	S29	<a href="#">53 (2UZ-FE)</a>	
J66	A	<a href="#">58</a>	J71	D		<a href="#">58</a>	<a href="#">55 (1GR-FE)</a>
J67	B	<a href="#">58</a>	J72	E	<a href="#">58</a>	Y1	<a href="#">60 (*3)</a>
J68	A	<a href="#">58</a>	J73	F	<a href="#">58</a>		<a href="#">61 (*4)</a>

### □ : Connector Joining Wire Harness and Wire Harness

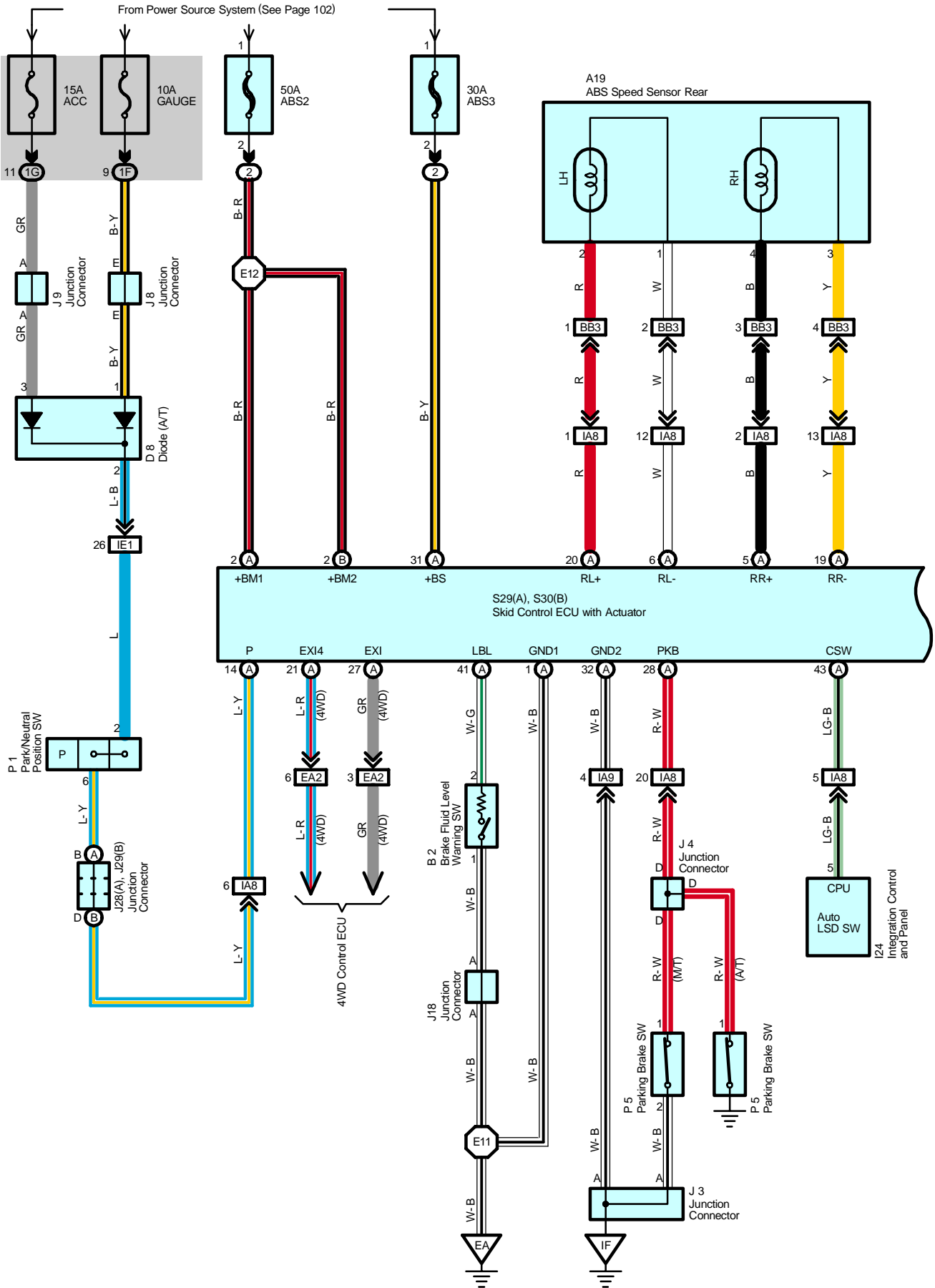
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA8	<a href="#">78</a>	Engine Room Main Wire and Cowl Wire (Left Kick Panel)

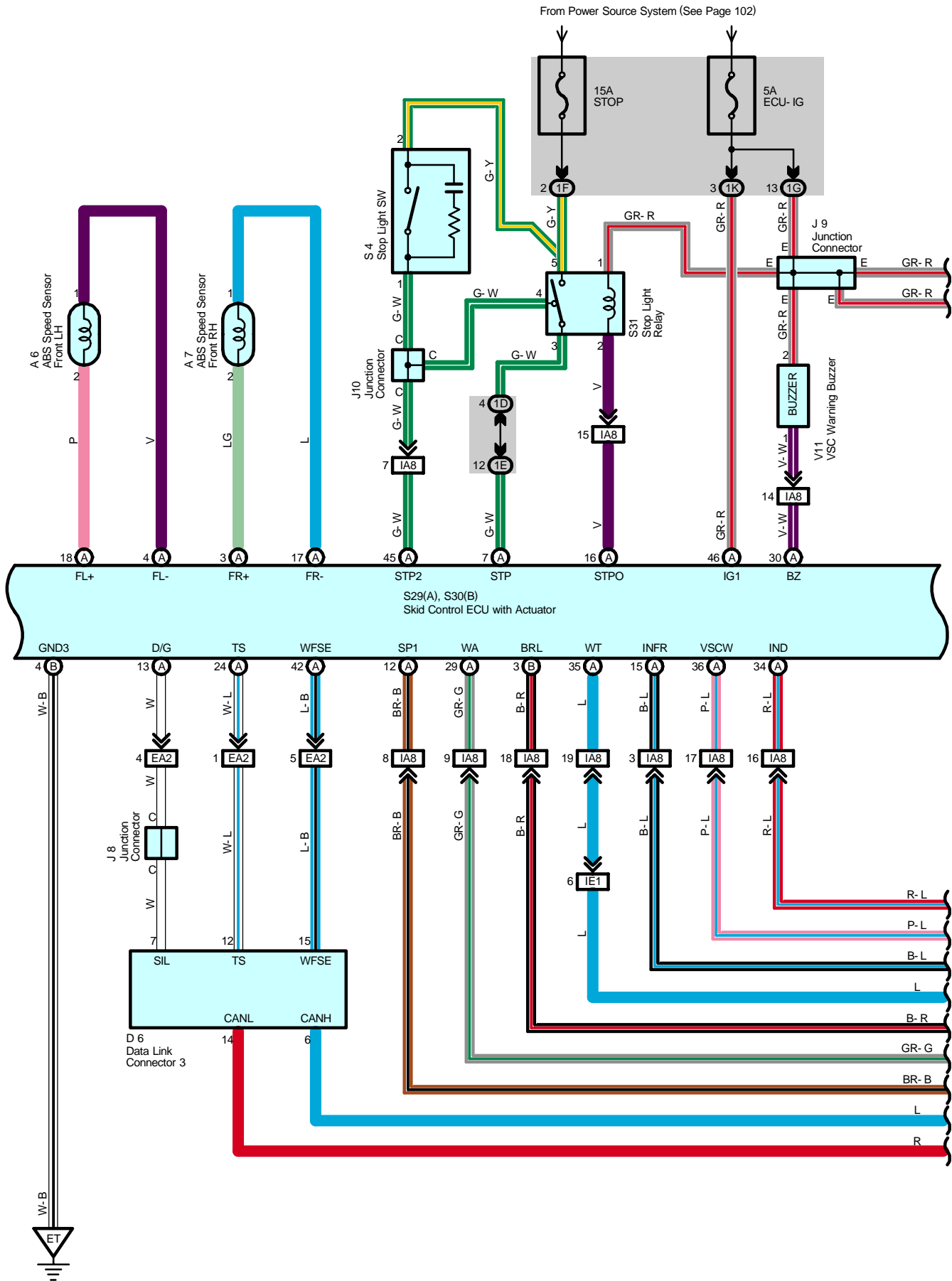
### ▽ : Ground Points

Code	See Page	Ground Points Location
IH	<a href="#">78</a>	Right Kick Panel

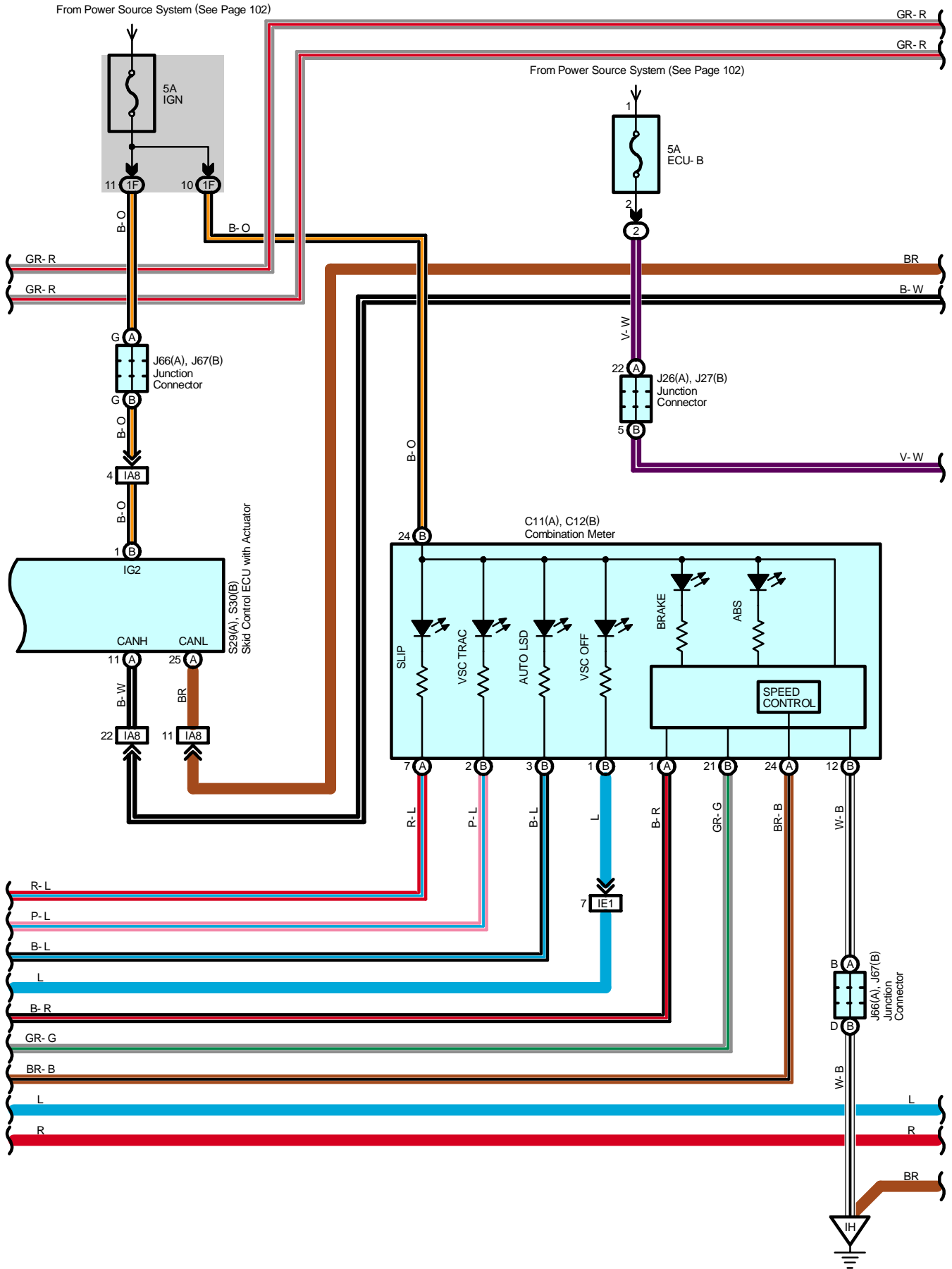
- \* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

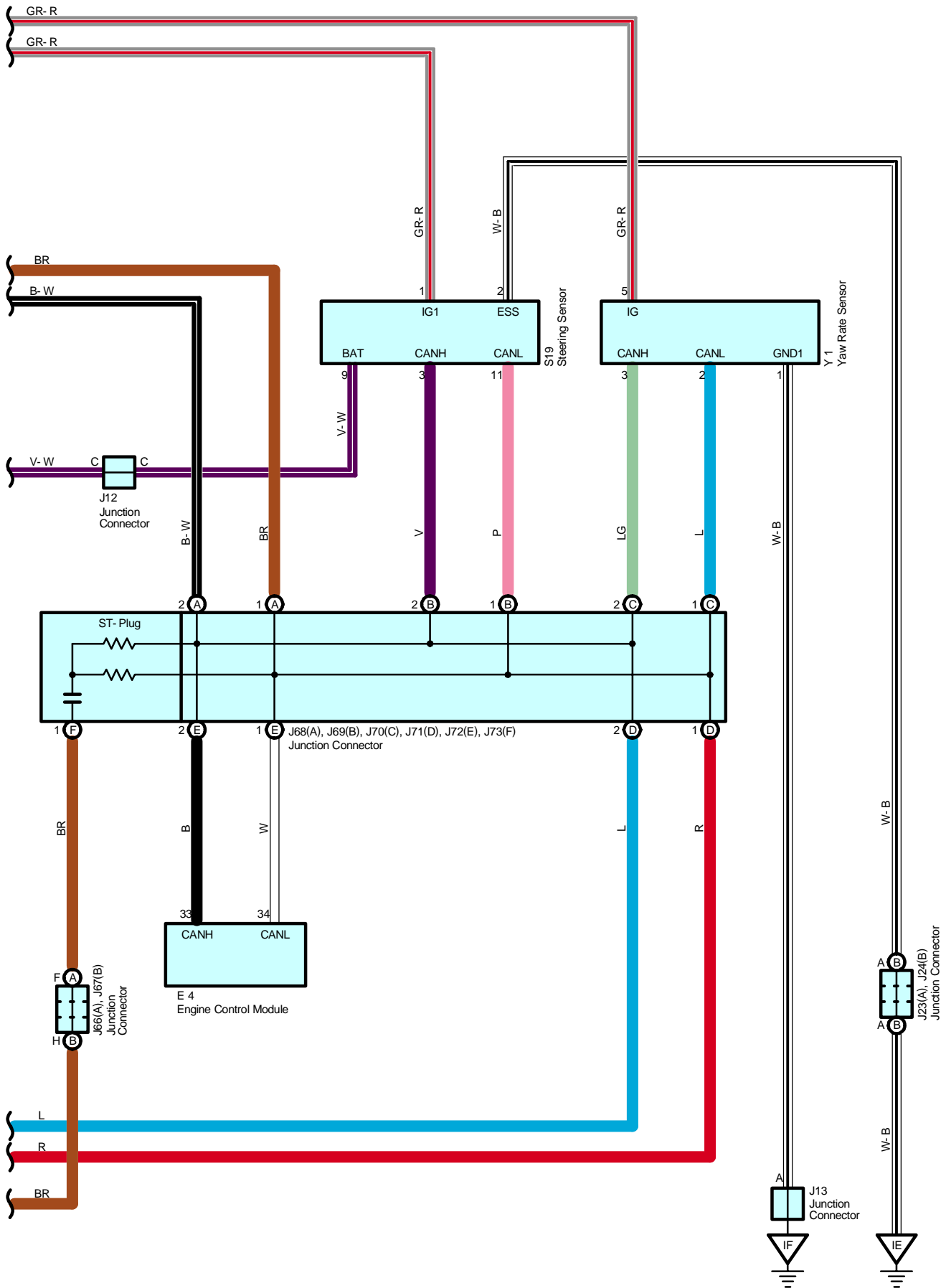
# VSC (Access/Standard Cab)





# VSC (Access/Standard Cab)





# VSC (Access/Standard Cab)

## System Outline

### 1. ABS Operation

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

### 2. Traction Control Operation

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

### 3. VSC Operation

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

To reduce large over-steering :

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

To reduce large under-steering :

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

Traction control SW

The traction control SW is used to stop the TRAC function. After the engine is started, the TRAC system is stopped (turned off) and the VSC OFF indicator light lights up. When the traction control SW is pressed again, the TRAC system enters the stand-by mode. If the engine is stopped and restarted, the TRAC system enters the stand-by mode regardless of the traction control SW.

### 4. Mutual System Control

To efficiently operate the VSC system at its optimal level, the VSC system and other control systems are mutually controlled while the VSC system is being operated.

Engine throttle control

The engine power does not interfere with the VSC brake control by controlling the opening of the throttle and reducing the engine output.

Engine control and electronically controlled transmission control

The strong braking force does not interfere with the braking force control of the VSC system by turning off the accel. and reducing changes in the driving torque at shift-down.

VSC system operation indication

The Slip indicator light flashes and the buzzer sounds intermittently to warn the driver that the current road is slippery, while the VSC system is being operated.

### 5. Fail Safe Function

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

## Service Hints

### S29 (A), S30 (B) Skid Control ECU with Actuator

(A)46-Ground : Approx. 12 volts with ignition SW at ON position

(A)1, (A) 32, (B) 4-Ground : Always continuity

**○ : Parts Location**

Code	See Page	Code	See Page	Code	See Page
A6	52 (2UZ-FE)	J9	58	J71	D 58
	54 (1GR-FE)	J10	58	J72	E 58
A7	52 (2UZ-FE)	J12	58	J73	F 58
	54 (1GR-FE)	J13	58	P1	53 (2UZ-FE)
A19	60 (*3)	J18	53 (2UZ-FE)		55 (1GR-FE)
	61 (*4)		55 (1GR-FE)	P5	58
B2	52 (2UZ-FE)	J23	A 58	S4	59
	54 (1GR-FE)	J24	B 58	S19	59
C11	A 56	J26	A 58	S29	A 53 (2UZ-FE)
C12	B 56	J27	B 58		55 (1GR-FE)
D6	57	J28	A 58	S30	B 53 (2UZ-FE)
D8	57	J29	B 58		55 (1GR-FE)
E4	57	J66	A 58	S31	59
I24	57	J67	B 58	V11	59
J3	58	J68	A 58	Y1	60 (*3)
J4	58	J69	B 58		61 (*4)
J8	58	J70	C 58		

**○ : Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

**○ : Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1E	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1G	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1K	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA2	74 (2UZ-FE)	Cowl Wire and Engine Room Main Wire (Right Fender)
	76 (1GR-FE)	
IA8	78	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA9		
IE1	80	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
BB3	82 (*3)	Frame Wire and Cowl Wire (Under the Driver's Seat)
	84 (*4)	

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

## VSC (Access/Standard Cab)



### : Ground Points

Code	See Page	Ground Points Location
EA	<a href="#">74 (2UZ-FE)</a>	Front Left Fender
	<a href="#">76 (1GR-FE)</a>	
ET	<a href="#">74 (2UZ-FE)</a>	Front Right Fender
	<a href="#">76 (1GR-FE)</a>	
IE	<a href="#">78</a>	Left Kick Panel
IF		
IH	<a href="#">78</a>	Right Kick Panel



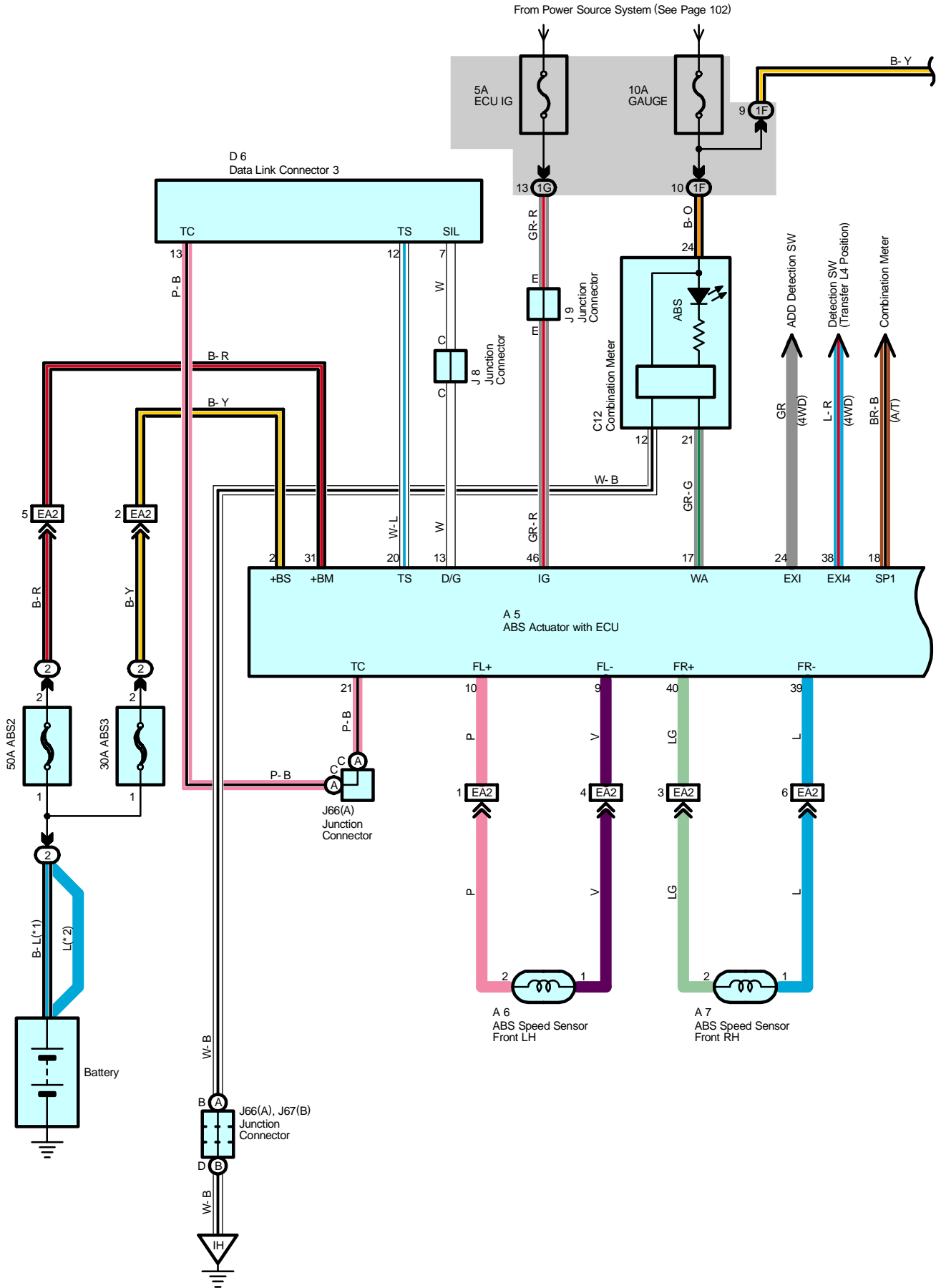
### : Splice Points

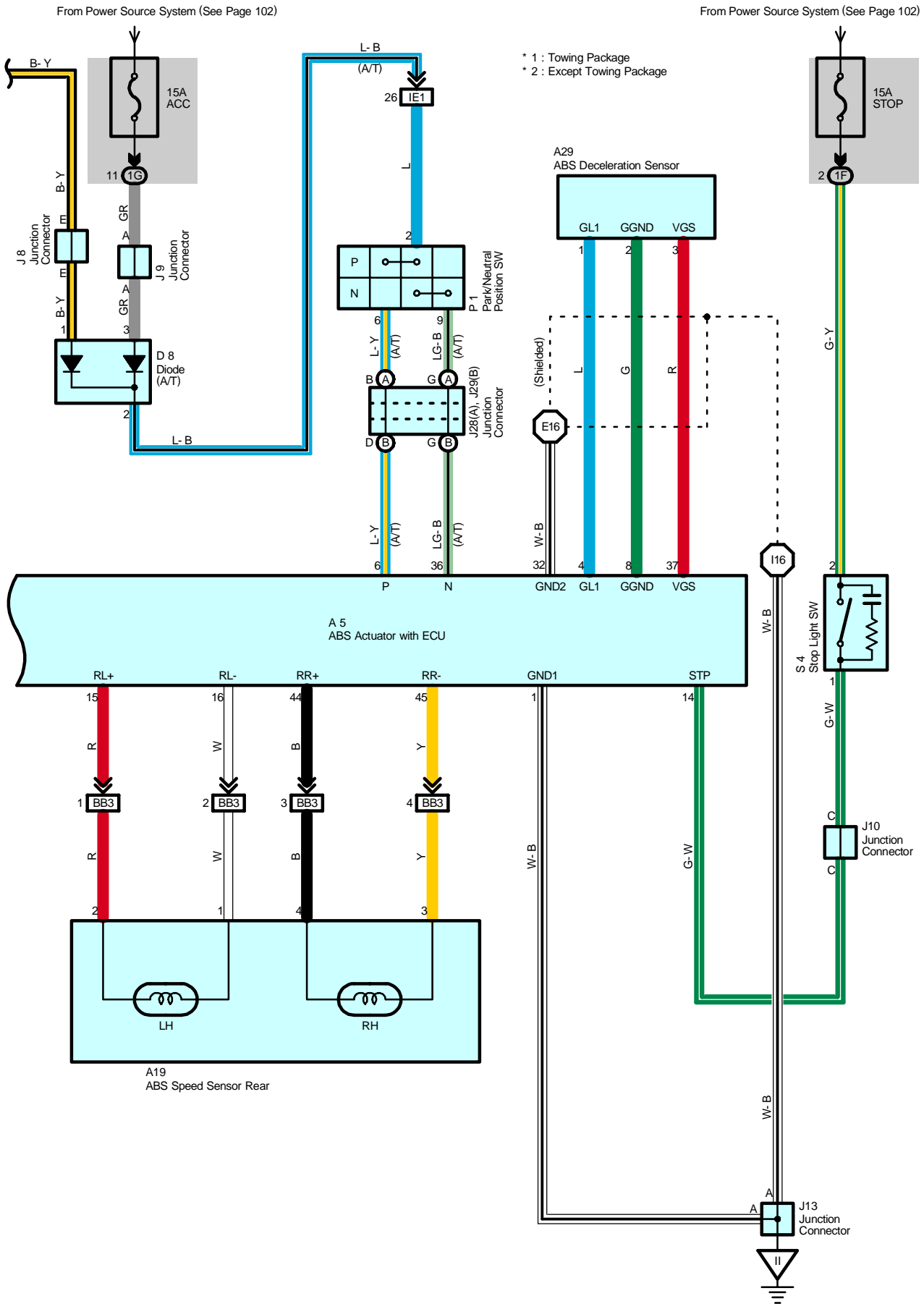
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E11	<a href="#">74 (2UZ-FE)</a>	Engine Room Main Wire	E12	<a href="#">74 (2UZ-FE)</a>	Engine Room Main Wire
	<a href="#">76 (1GR-FE)</a>			<a href="#">76 (1GR-FE)</a>	





# ABS (Access/Standard Cab)





# ABS (Access/Standard Cab)

## 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.

### 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

### A6, A7 ABS Speed Sensor Front LH, RH

1-2 : 0.92-1.22 k $\Omega$  (20°C, 68°F)

### A19 ABS Speed Sensor Rear

1-2 : 0.89-1.29 k $\Omega$  (20°C, 68°F)

3-4 : 0.89-1.29 k $\Omega$  (20°C, 68°F)

### A5 ABS Actuator with ECU

46-Ground : 10-14 volts with ignition SW at ON or ST position

14-Ground : 10-14 volts with stop light SW on (Brake pedal depressed)

1-Ground : Always continuity

### S4 Stop Light SW

2-1 : Closed with brake pedal depressed

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A5	<a href="#">52 (2UZ-FE)</a>	A29	<a href="#">60 (*3)</a>	J13	<a href="#">58</a>
	<a href="#">54 (1GR-FE)</a>			J28   A	<a href="#">58</a>
A6	<a href="#">52 (2UZ-FE)</a>	C12	<a href="#">56</a>	J29	B   <a href="#">58</a>
	<a href="#">54 (1GR-FE)</a>	D6	<a href="#">57</a>	J66	A   <a href="#">58</a>
A7	<a href="#">52 (2UZ-FE)</a>	D8	<a href="#">57</a>	J67	B   <a href="#">58</a>
	<a href="#">54 (1GR-FE)</a>	J8	<a href="#">58</a>	P1	<a href="#">53 (2UZ-FE)</a>
A19	<a href="#">60 (*3)</a>	J9	<a href="#">58</a>		<a href="#">55 (1GR-FE)</a>
	<a href="#">61 (*4)</a>	J10	<a href="#">58</a>	S4	<a href="#">59</a>

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	<a href="#">23</a>	Engine Room R/B (Engine Compartment Left)

\* 1 : w/ Daytime Running Light   \* 2 : w/o Daytime Running Light   \* 3 : Access Cab   \* 4 : Standard Cab   \* 5 : Bench Seat  
 \* 6 : Captain Seat   \* 7 : Access Cab Captain Seat   \* 8 : Standard Cab Bench Seat   \* 9 : Access Cab w/o Power Seat

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	<a href="#">24 (*2)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	
1G	<a href="#">24 (*2)</a>	
	<a href="#">28 (*1)</a>	

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA2	<a href="#">74 (2UZ-FE)</a>	Cowl Wire and Engine Room Main Wire (Right Fender)
	<a href="#">76 (1GR-FE)</a>	
IE1	<a href="#">80</a>	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
BB3	<a href="#">82 (*3)</a>	Frame Wire and Cowl Wire (Under the Driver's Seat)
	<a href="#">84 (*4)</a>	

 : **Ground Points**

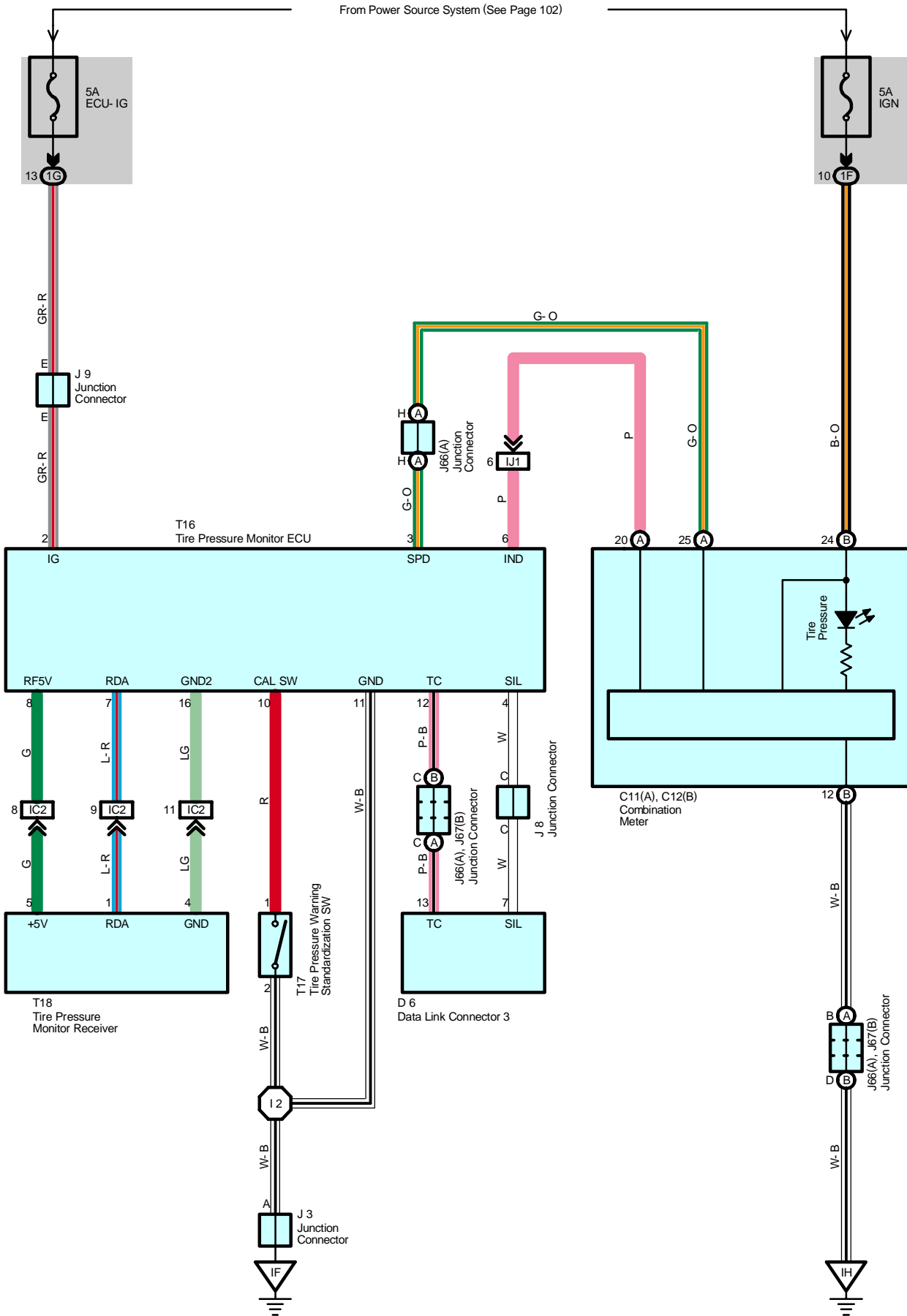
Code	See Page	Ground Points Location
IH	<a href="#">78</a>	Right Kick Panel
II		

 : **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E16	<a href="#">74 (2UZ-FE)</a>	Cowl Wire	116	<a href="#">80</a>	Cowl Wire
	<a href="#">76 (1GR-FE)</a>				

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Tire Pressure Warning System (Access/Standard Cab)



## System Outline

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

Press the tire pressure warning standardization SW for 3 seconds with the ignition SW at ON position after the tire pressure is adjusted to the specified value. It will lead the tire pressure monitor ECU to control and warn the pressure according to the specified value.

Warnings when the tire pressure is low

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

## Service Hints

### T16 Tire Pressure Monitor ECU

2-Ground : Approx. 12 volts with ignition SW at ON position

11-Ground : Always continuity

## ○ : Parts Location

Code		See Page	Code		See Page	Code		See Page
C11	A	56	J8		58	T16		59
C12	B	56	J9		58	T17		59
D6		57	J66	A	58	T18		60 (*3)
J3		58	J67	B	58			61 (*4)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1G	24 (*2)	
	28 (*1)	

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC2	78	Cowl Wire and Roof Wire (Left Side of Instrument Panel)
IJ1	80	Cowl Wire and Cowl Wire (Instrument Panel Reinforcement RH)

## ▽ : Ground Points

Code	See Page	Ground Points Location
IF	78	Left Kick Panel
IH	78	Right Kick Panel

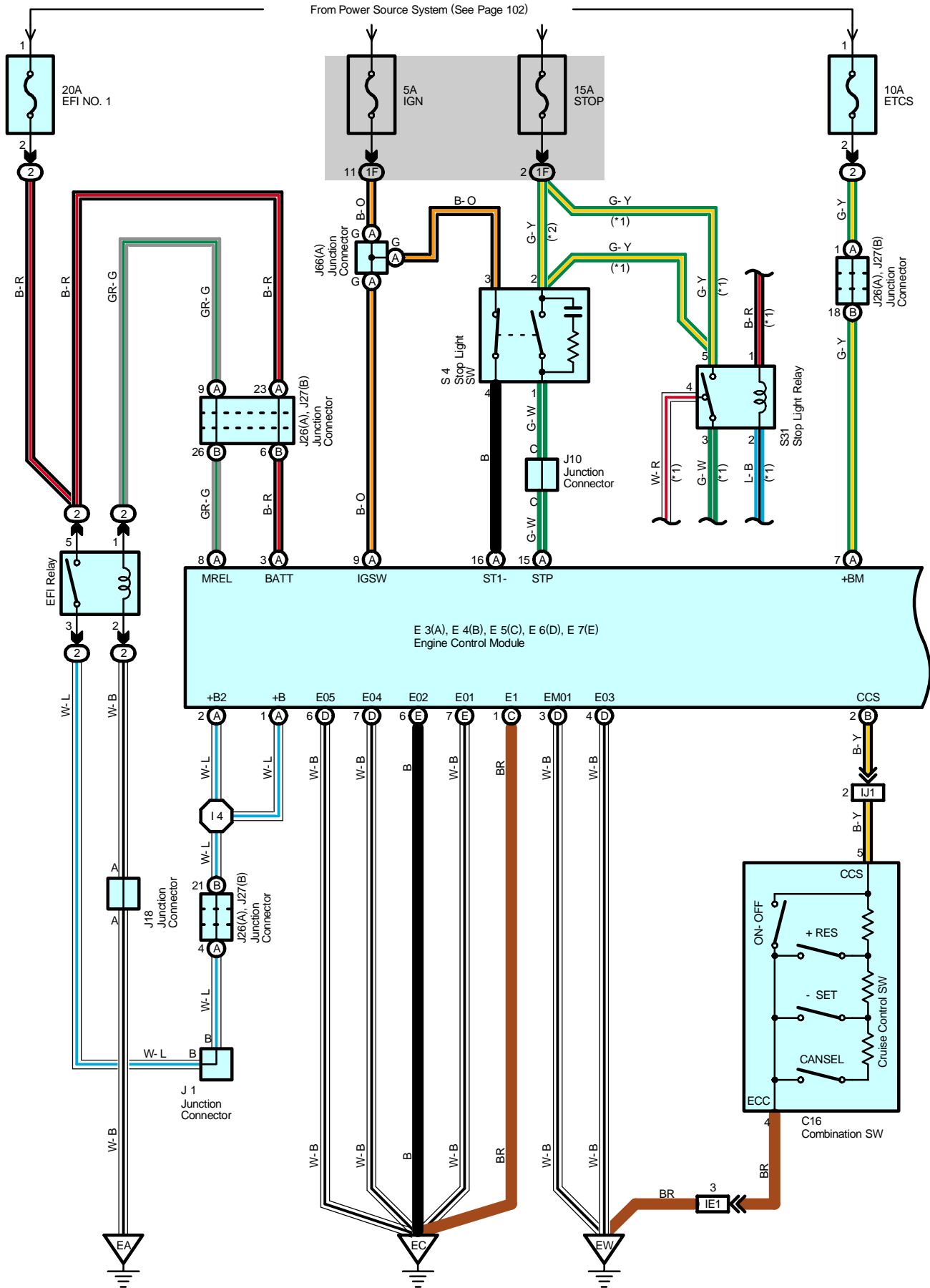
## ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I2	80	Cowl Wire			

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat

\* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

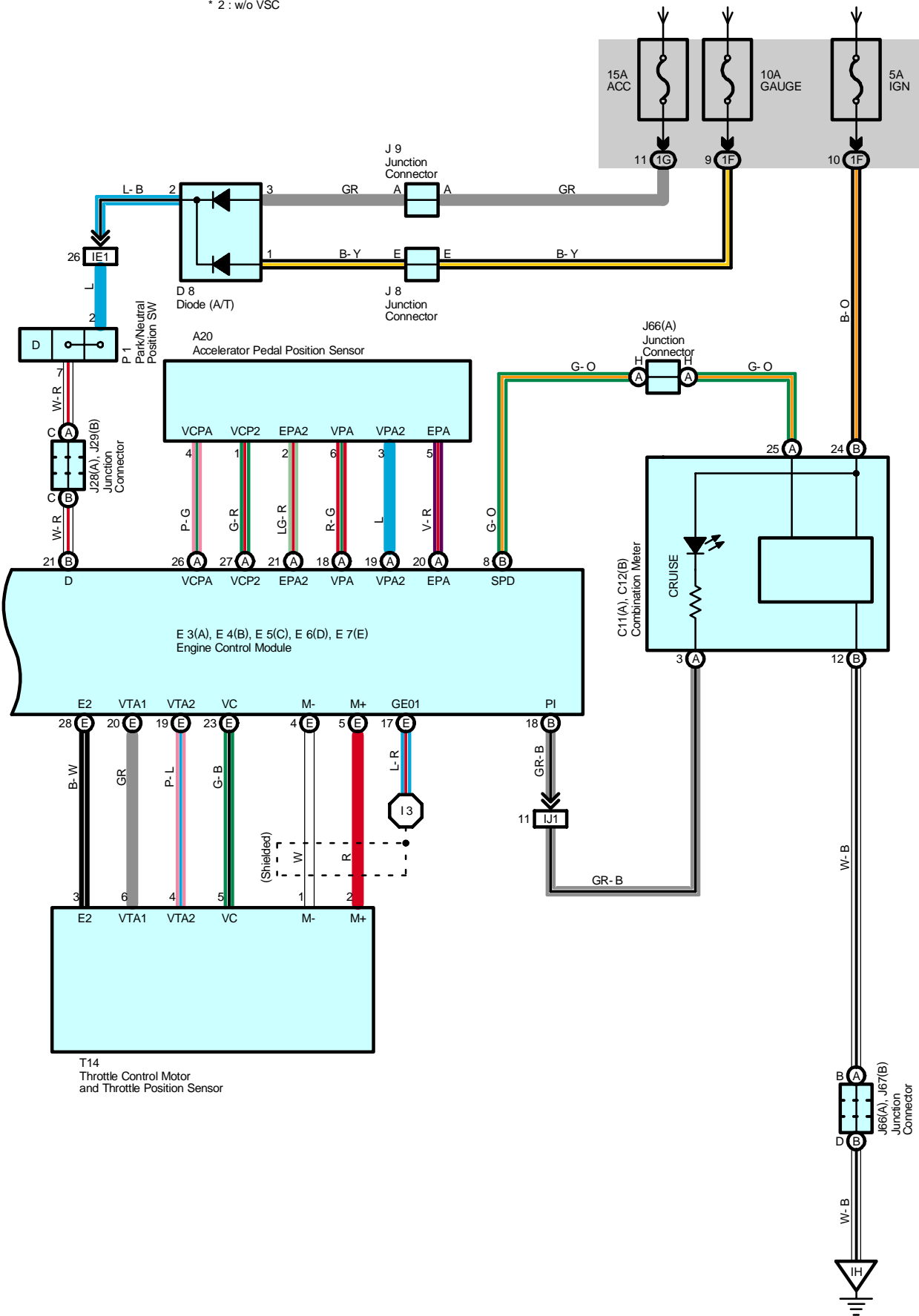
# Cruise Control for 2UZ-FE (Access/Standard Cab)





\* 1 : w/ VSC  
 \* 2 : w/o VSC

From Power Source System (See Page 102)



# Cruise Control for 2UZ-FE (Access/Standard Cab)

## System Outline

The cruise control system is a constant vehicle speed controller which controls the opening angle of the engine throttle valve by the SW, and allows driving at a constant speed without depressing the accelerator pedal.

### 1. Set Control

When the - SET SW is operated while traveling with the ON-OFF SW on, the speed when the - SET SW is operated to off is memorized, and the vehicle speed is controlled at that speed.

### 2. Coast Control

When the - SET SW is operated to on, the cruise control opening angle requirement is turned to 0 to decrease the vehicle speed, and the speed when the - SET SW is operated to off is memorized, and the vehicle speed is controlled at that speed. Furthermore, every time the - SET SW is operated momentarily (Approx. 0.5 sec.) to on, the memorized vehicle speed is decreased by approx. 1.6 km/h (1.0 mph).

### 3. Accel Control

When the + RES SW is operated to on, the throttle motor rotates the throttle valve to open direction to increase the vehicle speed, and the speed when the + RES SW is operated to off is memorized, and the vehicle speed is controlled at that speed.

Furthermore, every time the + RES SW is operated momentarily (Approx. 0.5 sec.) to on, the memorized vehicle speed is increased by approx. 1.6 km/h (1.0 mph).

### 4. Manual Cancel Mechanism

If any of the following signals are input during cruise control traveling, the current to the motor flows in the direction to close the throttle valve, and cancel the cruise control.

- (1) Stop lamp SW is on (Brake pedal is depressed)
- (2) The CANCEL SW of the control SW is on
- (3) ON-OFF SW is off
- (4) Gear is shifted from D position to other positions than D.

### 5. Resume Control

After canceling the cruise control (Except when the ON-OFF SW is off) if the vehicle speed is above the minimum speed limit (Approx. 40km/h, 25mph), operating the + RES SW to on from off will cause the system to accelerate and resume to the vehicle speed before manual cancellation.

### 6. Overdrive Function

The overdrive may be cut on an uphill grade, while traveling with the cruise control.

After the overdrive is cut, when the throttle opening information indicates the hill climbing is finished after the overdrive is canceled, the vehicle returns to overdrive mode again as the overdrive return timer is completed, and if the system determines that the uphill grade has finished, the overdrive will resume after the overdrive timer operation.

### 7. Auto Cancel Operation

If any of the following conditions are detected, the control is canceled.

- (1) Disconnection and/or short in the stop light SW
- (2) Malfunction in the vehicle speed signal
- (3) Malfunction in the electronic throttle parts
- (4) Malfunction in the stop light SW input circuit
- (5) Malfunction in the cancel circuit
- (6) When the vehicle speed gets slower than the low speed limit.
- (7) The actual vehicle speed becomes -16 km/h (10 mph) slower than the set speed

## Service Hints

### E3 (A), E4 (B), E5 (C), E7 (E) Engine Control Module

IGSW-E1 : 9.0-14.0 volts with ignition SW at ON or ST position

BATT-E1 : Always 9.0-14.0 volts

STP-E1 : 9.0-14.0 volts with brake pedal depressed  
: Below 1.5 volts with brake pedal released

### C16 Combination SW

5-4 : Approx. 1540Ω with CANCEL SW on

Approx. 240Ω with + RES SW on

Approx. 630Ω with - SET SW on

 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
A20	<a href="#">56</a>	E7   E	<a href="#">57</a>	J29   B	<a href="#">58</a>
C11   A	<a href="#">56</a>	J1	<a href="#">53 (2UZ-FE)</a>	J66   A	<a href="#">58</a>
C12   B	<a href="#">56</a>	J8	<a href="#">58</a>	J67   B	<a href="#">58</a>
C16	<a href="#">56</a>	J9	<a href="#">58</a>	P1	<a href="#">53 (2UZ-FE)</a>
D8	<a href="#">57</a>	J10	<a href="#">58</a>	S4	<a href="#">59</a>
E3   A	<a href="#">57</a>	J18	<a href="#">53 (2UZ-FE)</a>	S31	<a href="#">59</a>
E4   B	<a href="#">57</a>	J26   A	<a href="#">58</a>	T14	<a href="#">53 (2UZ-FE)</a>
E5   C	<a href="#">57</a>	J27   B	<a href="#">58</a>		
E6   D	<a href="#">57</a>	J28   A	<a href="#">58</a>		

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	<a href="#">23</a>	Engine Room R/B (Engine Compartment Left)

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	<a href="#">24 (*2)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	
1G	<a href="#">24 (*2)</a>	
	<a href="#">28 (*1)</a>	

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	<a href="#">80</a>	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ1	<a href="#">80</a>	Cowl Wire and Cowl Wire (Instrument Panel Reinforcement RH)

 : **Ground Points**

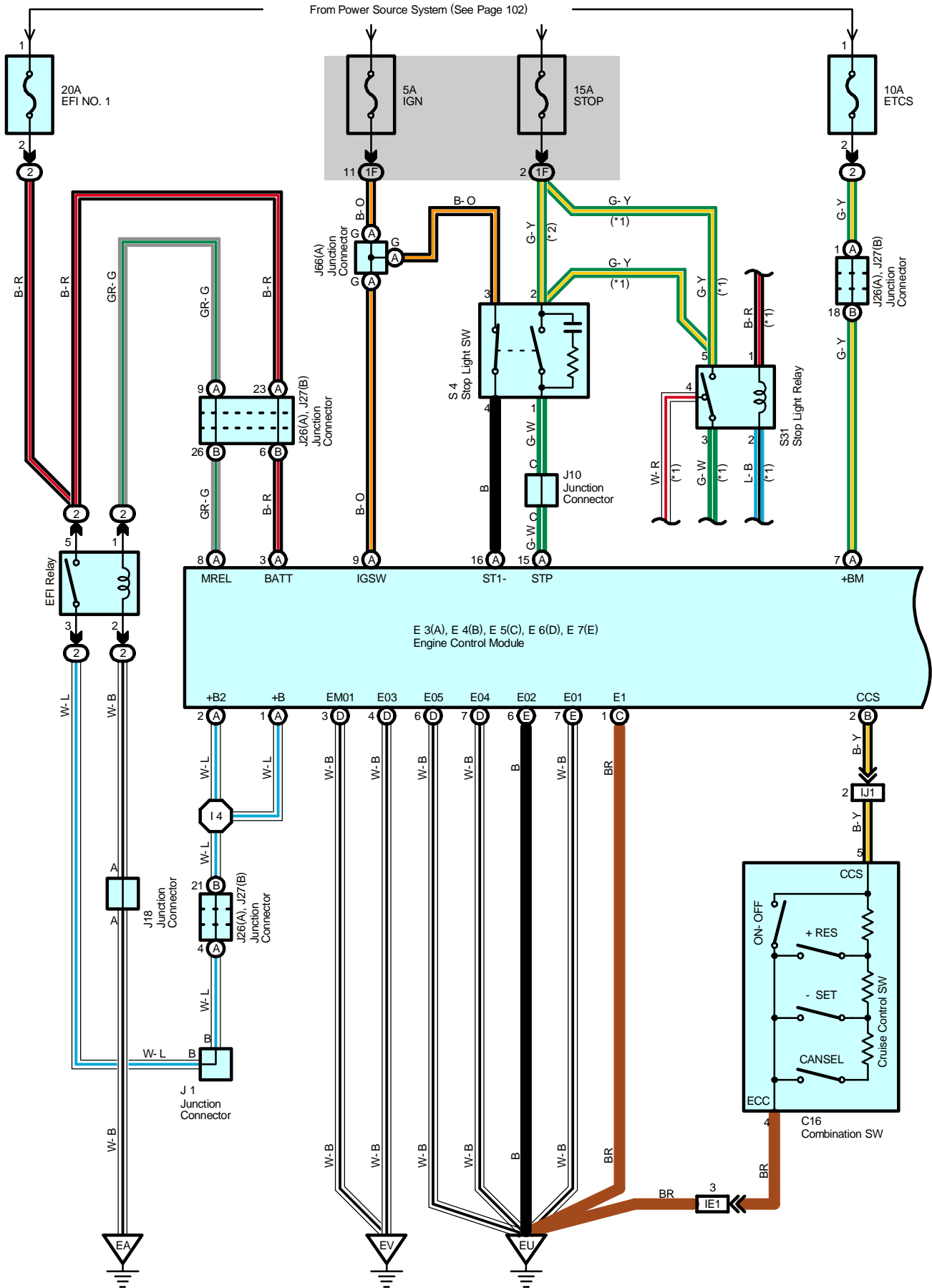
Code	See Page	Ground Points Location
EA	<a href="#">74 (2UZ-FE)</a>	Front Left Fender
EC	<a href="#">74 (2UZ-FE)</a>	Rear Bank of Left Cylinder Head
EW	<a href="#">74 (2UZ-FE)</a>	Front Left Side of Cylinder Head
IH	<a href="#">78</a>	Right Kick Panel

 : **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I3	<a href="#">80</a>	Engine Wire	I4	<a href="#">80</a>	Cowl Wire

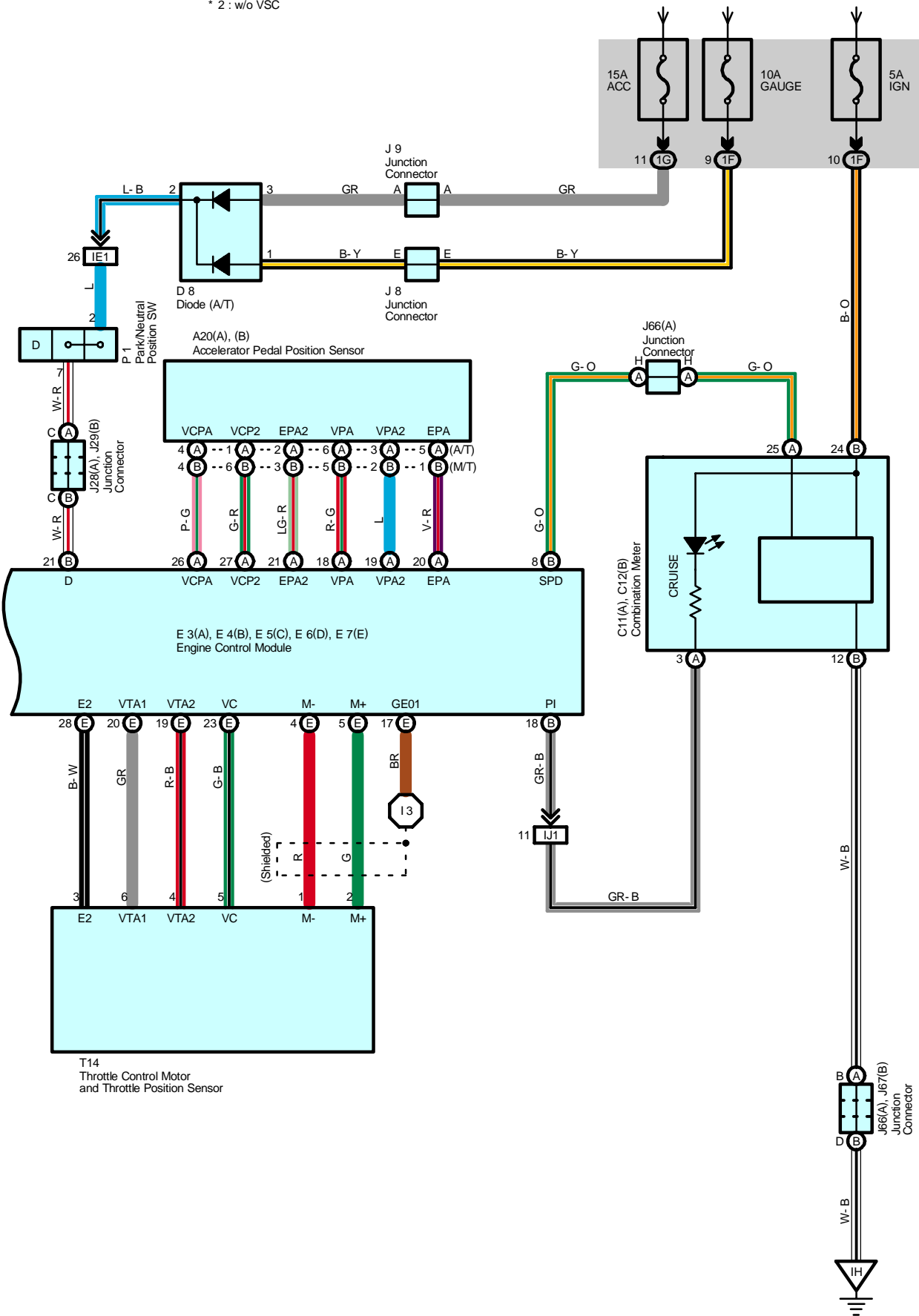
\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Cruise Control for 1GR-FE (Access/Standard Cab)



\* 1 : w/ VSC  
 \* 2 : w/o VSC

From Power Source System (See Page 102)



# Cruise Control for 1GR-FE (Access/Standard Cab)

## System Outline

The cruise control system is a constant vehicle speed controller which controls the opening angle of the engine throttle valve by the SW, and allows driving at a constant speed without depressing the accelerator pedal.

### 1. Set Control

When the - SET SW is operated while traveling with the ON-OFF SW on, the speed when the - SET SW is operated to off is memorized, and the vehicle speed is controlled at that speed.

### 2. Coast Control

When the - SET SW is operated to on, the cruise control opening angle requirement is turned to 0 to decrease the vehicle speed, and the speed when the - SET SW is operated to off is memorized, and the vehicle speed is controlled at that speed. Furthermore, every time the - SET SW is operated momentarily (Approx. 0.5 sec.) to on, the memorized vehicle speed is decreased by approx. 1.6 km/h (1.0 mph).

### 3. Accel Control

When the + RES SW is operated to on, the throttle motor rotates the throttle valve to open direction to increase the vehicle speed, and the speed when the + RES SW is operated to off is memorized, and the vehicle speed is controlled at that speed.

Furthermore, every time the + RES SW is operated momentarily (Approx. 0.5 sec.) to on, the memorized vehicle speed is increased by approx. 1.6 km/h (1.0 mph).

### 4. Manual Cancel Mechanism

If any of the following signals are input during cruise control traveling, the current to the motor flows in the direction to close the throttle valve, and cancel the cruise control.

- (1) Stop lamp SW is on (Brake pedal is depressed)
- (2) The CANCEL SW of the control SW is on
- (3) ON-OFF SW is off
- (4) Gear is shifted from D position to other positions than D.

### 5. Resume Control

After canceling the cruise control (Except when the ON-OFF SW is off) if the vehicle speed is above the minimum speed limit (Approx. 40km/h, 25mph), operating the + RES SW to on from off will cause the system to accelerate and resume to the vehicle speed before manual cancellation.

### 6. Overdrive Function

The overdrive may be cut on an uphill grade, while traveling with the cruise control.

After the overdrive is cut, when the throttle opening information indicates the hill climbing is finished after the overdrive is canceled, the vehicle returns to overdrive mode again as the overdrive return timer is completed, and if the system determines that the uphill grade has finished, the overdrive will resume after the overdrive timer operation.

### 7. Auto Cancel Operation

If any of the following conditions are detected, the control is canceled.

- (1) Disconnection and/or short in the stop light SW
- (2) Malfunction in the vehicle speed signal
- (3) Malfunction in the electronic throttle parts
- (4) Malfunction in the stop light SW input circuit
- (5) Malfunction in the cancel circuit
- (6) When the vehicle speed gets slower than the low speed limit.
- (7) The actual vehicle speed becomes -16 km/h (10 mph) slower than the set speed

## Service Hints

### E3 (A), E4 (B), E5 (C), E7 (E) Engine Control Module

IGSW-E1 : 9.0-14.0 volts with ignition SW at ON or ST position

BATT-E1 : Always 9.0-14.0 volts

STP-E1 : 9.0-14.0 volts with brake pedal depressed  
: Below 1.5 volts with brake pedal released

### C16 Combination SW

5-4 : Approx. 1540Ω with CANCEL SW on

Approx. 240Ω with + RES SW on

Approx. 630Ω with - SET SW on

 : **Parts Location**

Code		See Page	Code		See Page	Code		See Page
A20	A	56	E6	D	57	J28	A	58
	B	56	E7	E	57	J29	B	58
C11	A	56	J1		55 (1GR-FE)	J66	A	58
C12	B	56	J8		58	J67	B	58
C16		56	J9		58	P1		55 (1GR-FE)
D8		57	J10		58	S4		59
E3	A	57	J18		55 (1GR-FE)	S31		59
E4	B	57	J26	A	58	T14		55 (1GR-FE)
E5	C	57	J27	B	58			

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1G	24 (*2)	
	28 (*1)	

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	80	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ1	80	Cowl Wire and Cowl Wire (Instrument Panel Reinforcement RH)

 : **Ground Points**

Code	See Page	Ground Points Location
EA	76 (1GR-FE)	Front Left Fender
EU	76 (1GR-FE)	Rear Bank of Right Cylinder Head
EV	76 (1GR-FE)	Rear Bank of Left Cylinder Head
IH	78	Right Kick Panel

 : **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I3	80	Engine Wire	I4	80	Cowl Wire

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat





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

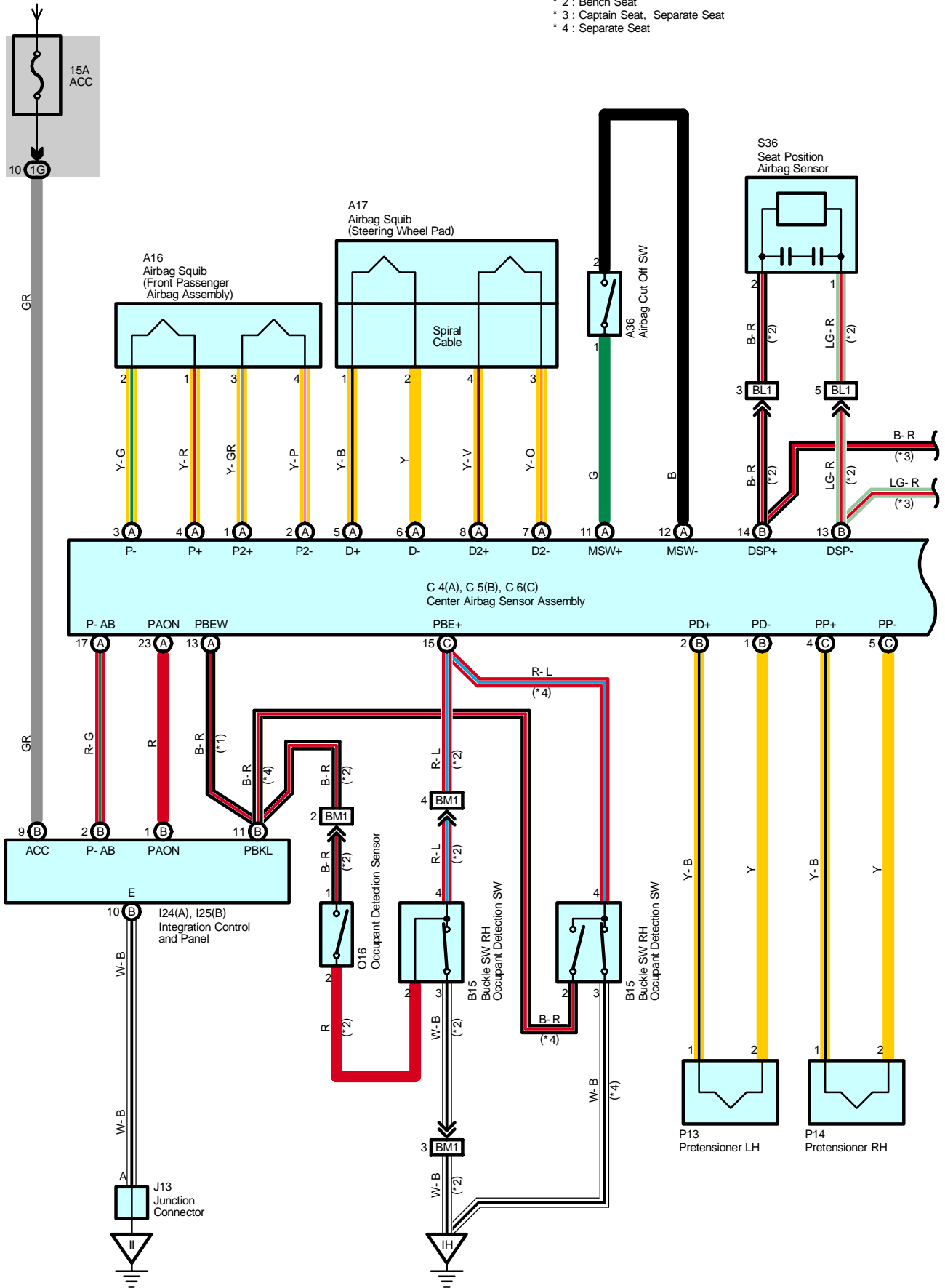
- Malfunction symptoms of the SRS are difficult to confirm, so the DTCs become the most important source of information when troubleshooting. When troubleshooting the SRS, always inspect the DTCs before disconnecting the battery.
- **Work must be started more than 90 seconds after the ignition SW is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

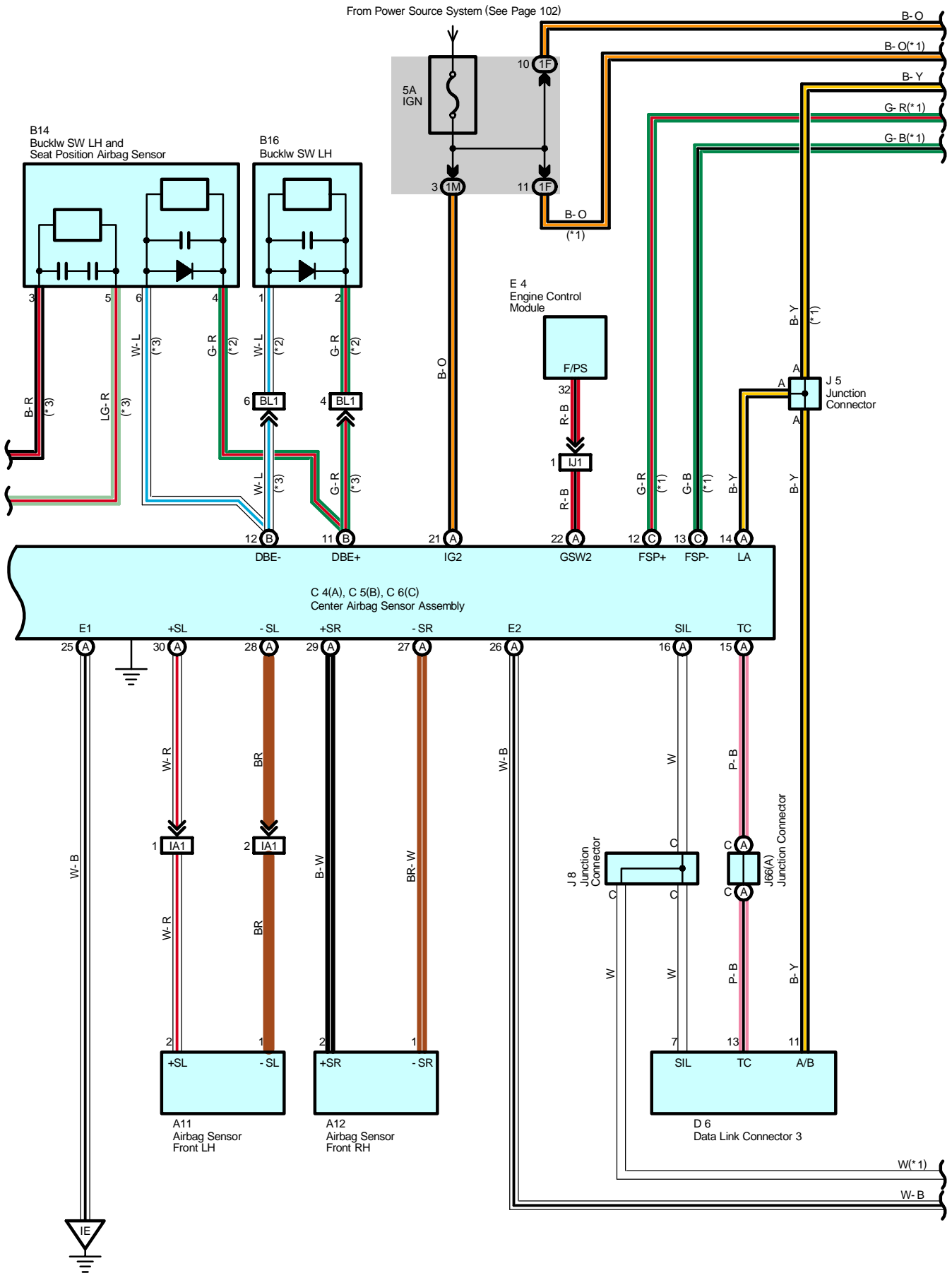
- |  |
|--|
| <ul style="list-style-type: none"><li>* Steering wheel pad</li><li>* Front passenger airbag assembly</li><li>* Seat belt pretensioner</li><li>* Center airbag sensor assembly</li><li>* Front airbag sensor assembly</li></ul> |
|--|

# SRS (Access/Standard Cab)

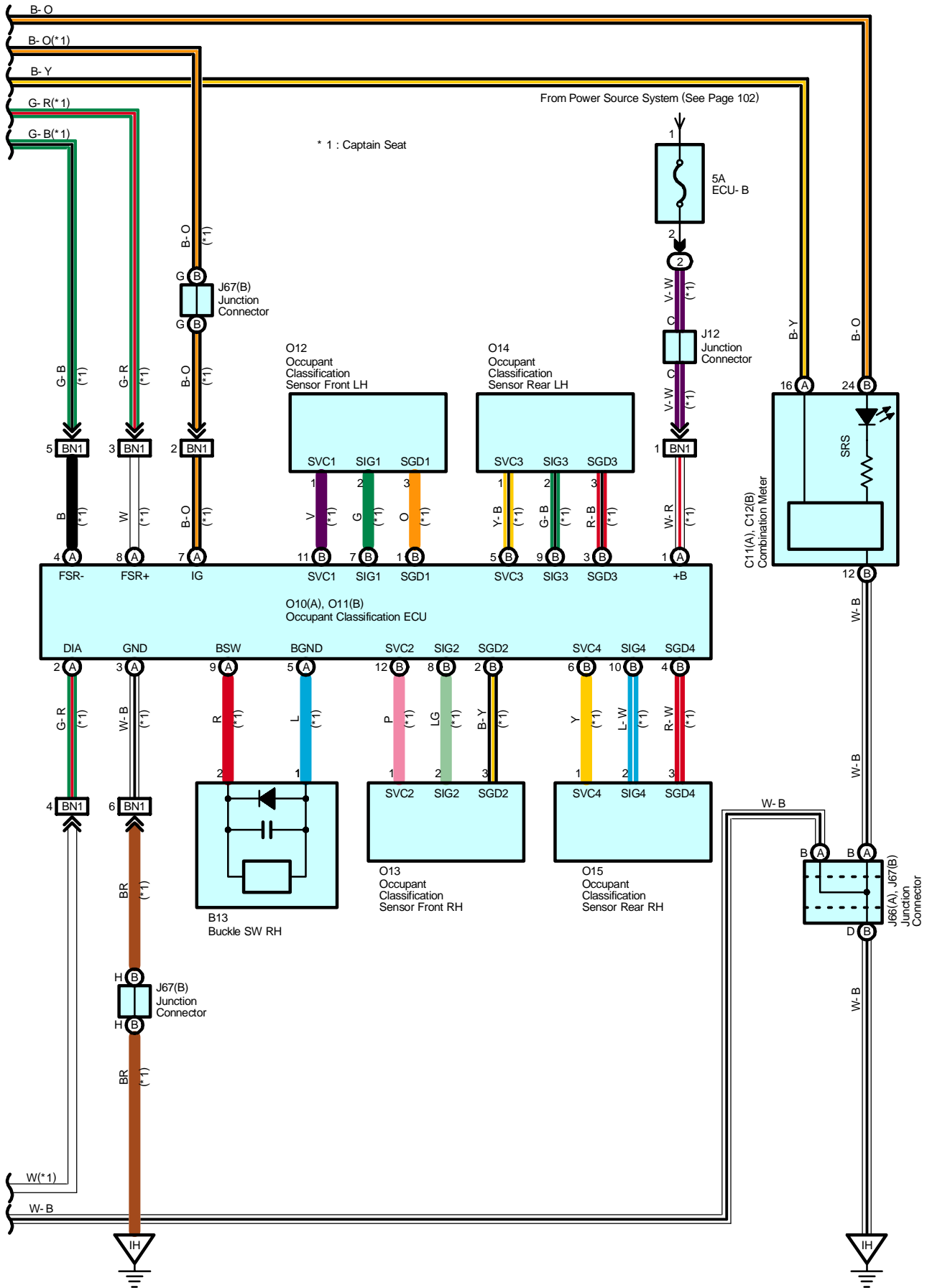
From Power Source System (See Page 102)

- \* 1 : Captain Seat
- \* 2 : Bench Seat
- \* 3 : Captain Seat, Separate Seat
- \* 4 : Separate Seat





# SRS (Access/Standard Cab)



## System Outline

The SRS is a driver protection device which has a supplemental role to the seat belts.

When the ignition SW on, the current from the IGN fuse flows to TERMINAL (A) 21 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 IGN fuse flows to TERMINAL (A) 21 of the center airbag sensor assembly.

This current flows to TERMINALS (A) 4, (A) 5, (B) 2, (C) 4 to TERMINAL 1 of the airbag squib (Steering wheel pad) and pretensioners to TERMINAL 2 to TERMINALS (A) 3, (A) 6, (B) 1, (C) 5 of the center airbag sensor assembly 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 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.

### Front Passenger Airbag On/Off Operation

When the passenger airbag manual On-Off SW is on, the current flowing from the 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.

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page		
A11	<a href="#">52 (2UZ-FE)</a>	C4	A	<a href="#">56</a>	J67	B	<a href="#">58</a>
	<a href="#">54 (1GR-FE)</a>	C5	B	<a href="#">56</a>	O10	A	<a href="#">62 (*7)</a>
A12	<a href="#">52 (2UZ-FE)</a>	C6	C	<a href="#">56</a>	O11	B	<a href="#">62 (*7)</a>
	<a href="#">54 (1GR-FE)</a>	C11	A	<a href="#">56</a>	O12		<a href="#">62 (*7)</a>
A16	<a href="#">56</a>	C12	B	<a href="#">56</a>	O13		<a href="#">62 (*7)</a>
A17	<a href="#">56</a>	D6		<a href="#">57</a>	O14		<a href="#">62 (*7)</a>
A36	<a href="#">56</a>	E4		<a href="#">57</a>	O15		<a href="#">62 (*7)</a>
B13	<a href="#">62 (*7)</a>	I24	A	<a href="#">57</a>	O16		<a href="#">63 (*8)</a>
B14	<a href="#">60 (*3)</a>	I25	B	<a href="#">57</a>	P13		<a href="#">60 (*3)</a>
	<a href="#">61 (*4)</a>	J5		<a href="#">58</a>			<a href="#">61 (*4)</a>
B15	<a href="#">60 (*3)</a>	J8		<a href="#">58</a>	P14		<a href="#">60 (*3)</a>
	<a href="#">61 (*4)</a>	J12		<a href="#">58</a>			<a href="#">61 (*4)</a>
	<a href="#">63 (*8)</a>	J13		<a href="#">58</a>	S36		<a href="#">63 (*8)</a>
B16	<a href="#">63 (*8)</a>	J66	A	<a href="#">58</a>			

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	<a href="#">23</a>	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	<a href="#">24 (*2)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	
1G	<a href="#">24 (*2)</a>	
	<a href="#">28 (*1)</a>	
1M	<a href="#">24 (*2)</a>	
	<a href="#">28 (*1)</a>	

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat

\* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

## SRS (Access/Standard Cab)

### : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	78	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IJ1	80	Cowl Wire and Cowl Wire (Instrument Panel Reinforcement RH)
BL1	88 (*5)	Seat No.1 Wire and Cowl Wire (Under the Driver's Seat)
BM1	88 (*5)	Cowl Wire and Seat No.1 Wire (Under the Passenger's Seat)
BN1	86 (*6)	Seat No.1 Wire and Cowl Wire (Under the Passenger's Seat)

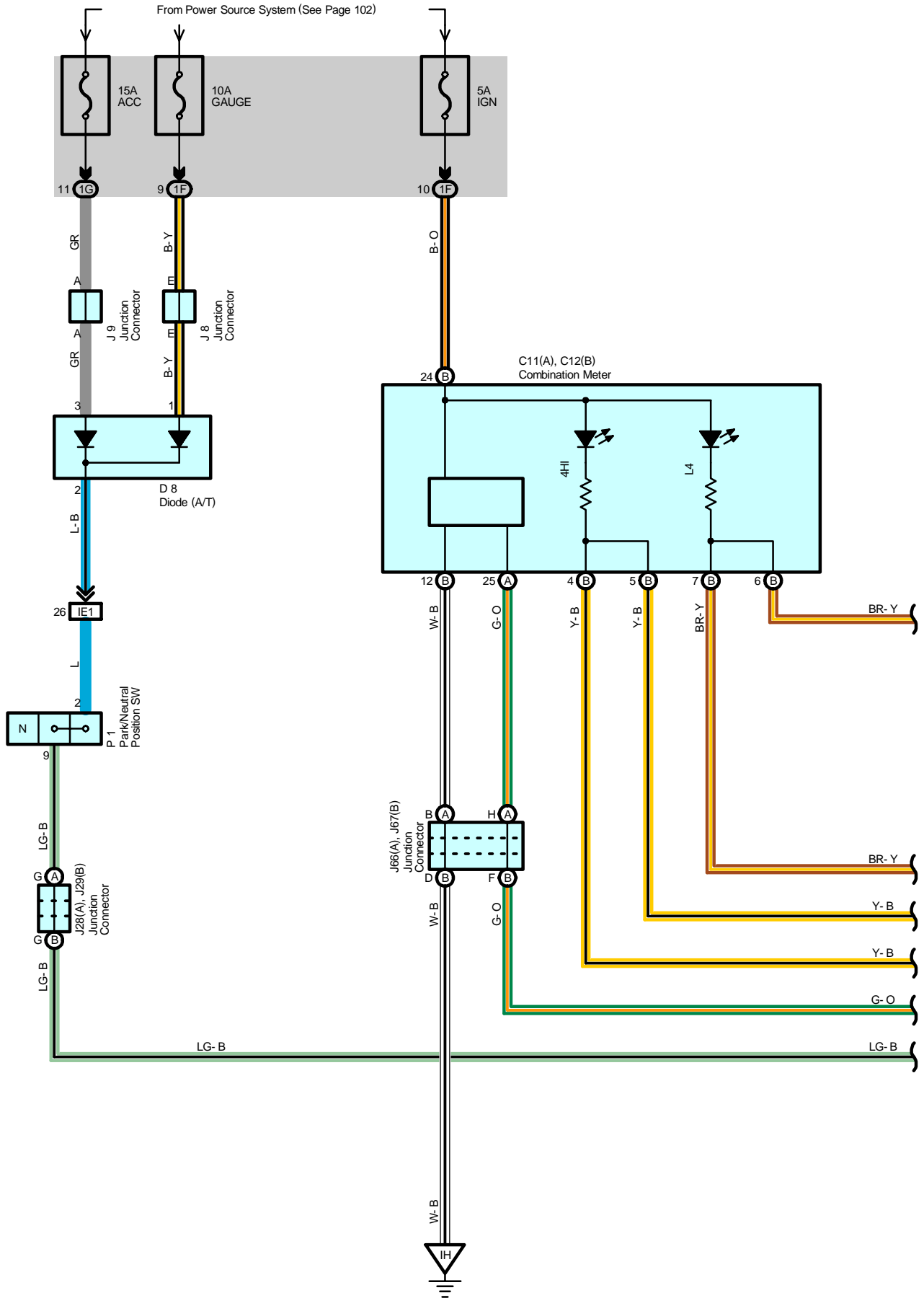
### : Ground Points

Code	See Page	Ground Points Location
IE	78	Left Kick Panel
IH	78	Right Kick Panel
II		

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat



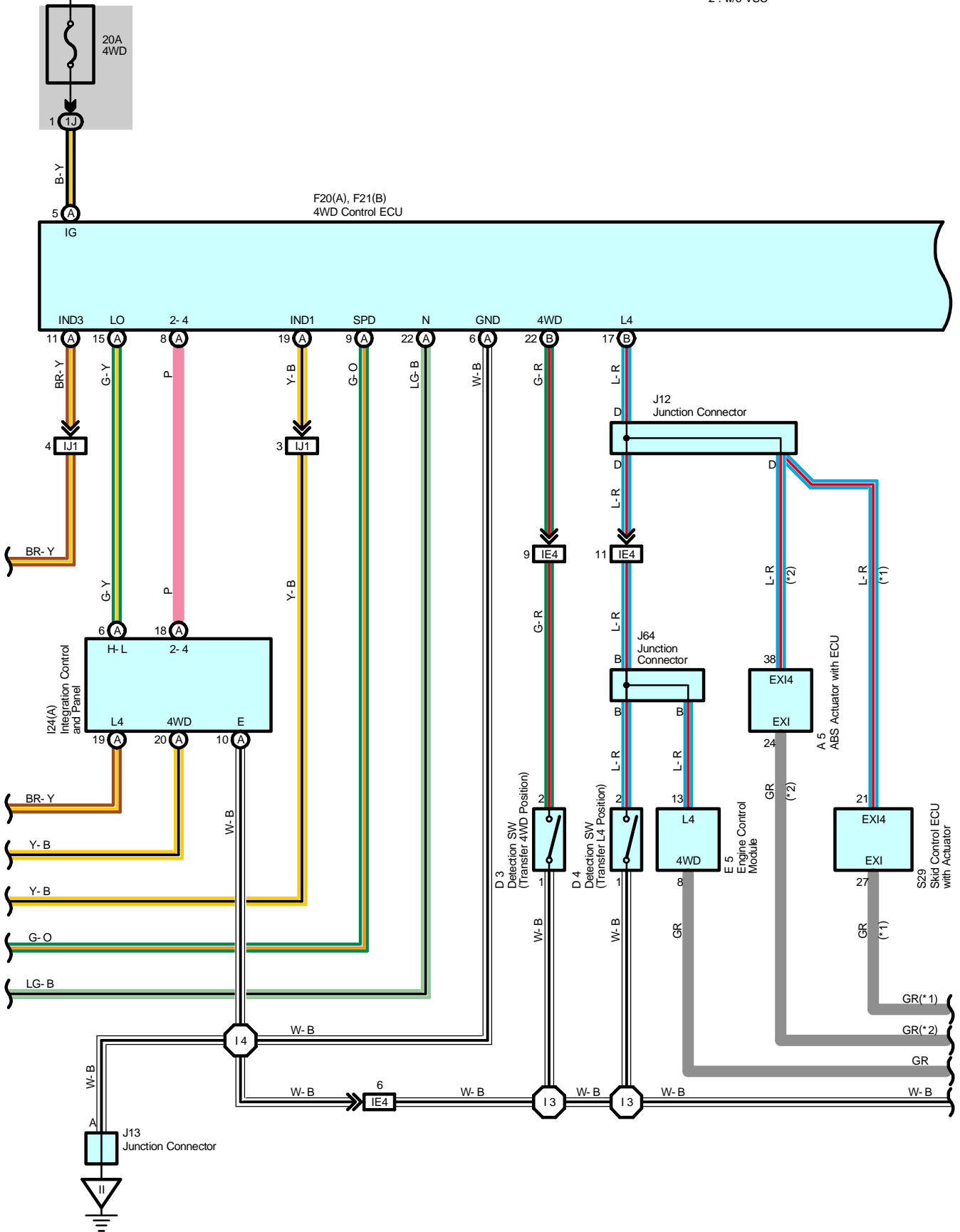
# 4WD (Access/Standard Cab)





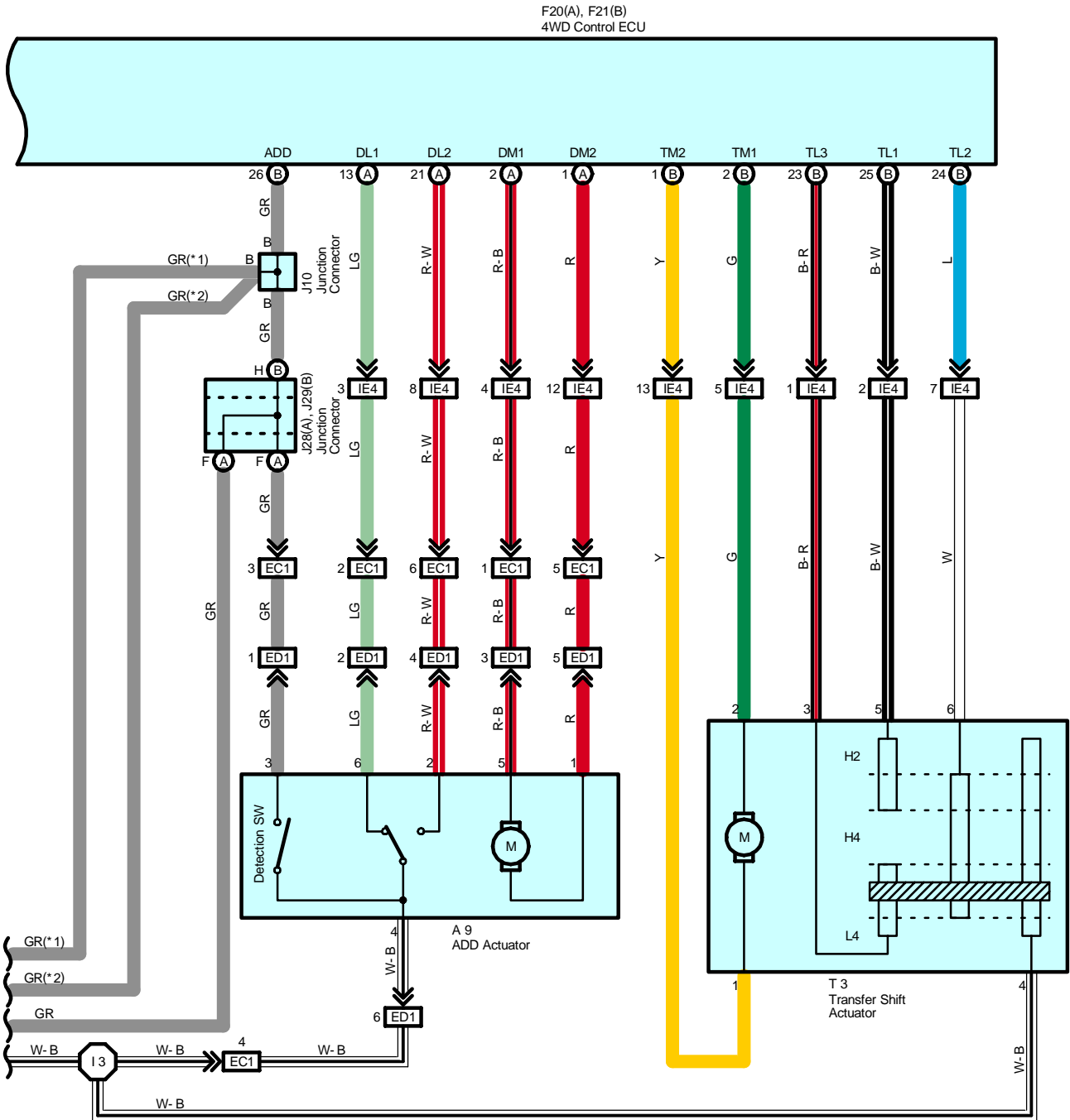
From Power Source System (See Page 102)

\* 1 : w/ VSC  
 \* 2 : w/o VSC



# 4WD (Access/Standard Cab)

\* 1 : w/ VSC  
 \* 2 : w/o VSC



## System Outline

In the conventional system, the 2-4 select SW and the transfer shift lever was used to shift the mode between H-L. In this system, the transfer shift lever is not used, and the H-L mode shift can be done by the transfer shift actuator.

The mode can be changed by the touch select 2-4 SW and touch select high-low in the integration control and panel.

The shift range is controlled according to the vehicle speed sensor and Park/Neutral position SW, and the indicator light is turned ON to inform the driver if any of the following conditions are detected:

- \* The shift is not completed even though 3 seconds have elapsed after transfer operation.
- \* The vehicle speed is above approximately 100 km/h (63 mph) when shifting from H2 to H4.
- \* The vehicle speed is below approximately 5 km/h (3 mph) or the A/T shift lever is in a position other than N position, when shifting from H4 to L4 or visa versa, and from L4 to H2.

### Transfer Operation

#### H2 to H4

When the touch select 2-4 SW in the integration control and panel is turned ON, a signal is input into TERMINAL (A) 8 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 2 to transfer shift actuator TERMINAL 2 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (B) 1 to GROUND, and the transfer shifts to 4WD (H4 position.)

When the system shifts to 4WD, the detection SW (Transfer 4WD position) is turned ON, and the current flows from 4WD control ECU TERMINAL (A) 2 to ADD actuator TERMINAL 5 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (A) 1 to GROUND, and the ADD actuator is activated, and the ADD is connected. When the ADD is connected, the detection SW (ADD position SW) is turned ON, and the 4HI Indicator light comes ON.

#### H4 to H2

When the touch select 2-4 SW in the integration control and panel is turned OFF, a signal is input into TERMINAL (A) 8 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 1 to transfer shift actuator TERMINAL 1 to motor to TERMINAL 2 to 4WD control ECU TERMINAL (B) 2 to GROUND, and the transfer shifts to 2WD (H2 position.)

When the system shifts to 2WD, the detection SW (Transfer 4WD position) is turned OFF, and the current flows from 4WD control ECU TERMINAL (A) 1 to ADD actuator TERMINAL 1 to motor to TERMINAL 5 to 4WD control ECU TERMINAL (A) 2 to GROUND, and the ADD actuator is activated, and the ADD is disconnected. When the ADD is disconnected, the detection SW (ADD position SW) is turned OFF, and the 4HI indicator Light turns OFF.

#### H4 to L4

When the touch select high-low SW in the integration control and panel is turned ON, a signal is input into TERMINAL (A) 15 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 2 to transfer shift actuator TERMINAL 2 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (B) 1 to GROUND, and the transfer shifts to 4WD LO position (L4 position.)

The 4HI Indicator is turned OFF and the 4LO indicator is turned ON.

#### L4 to H4

When the touch select high-low SW in the integration control and panel is turned OFF, a signal is input into TERMINAL (A) 15 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 1 to transfer shift actuator TERMINAL 1 to motor to TERMINAL 2 to 4WD control ECU TERMINAL (B) 2 to GROUND, and the transfer shifts to 4WD HI position (H4 Position.)

The 4HI indicator is turned ON and the 4LO indicator is turned OFF.

The shift is not completed even though 3 seconds have elapsed after transfer operation.

- \* The vehicle speed is above approximately 100 km/h (63 mph) when shifting from H2 to H4.
- \* The vehicle speed is below approximately 5 km/h (3 mph) or the A/T Shift Lever is in a position other than N position, when shifting from H4 to L4 or visa versa, and from L4 to H2.

#### L4 to H2

When the touch select 2-4 SW in the integration control and panel is turned OFF, a signal is input into TERMINAL (A) 8 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 1 to transfer shift actuator TERMINAL 1 to motor to TERMINAL 2 to 4WD control ECU TERMINAL (B) 2 to GROUND, and the detection SW (Transfer L4 position) is turned OFF.

Furthermore, the motor rotates to shift the transfer to 2WD (H2 position.)

When the system shifts to 2WD, the detection SW (Transfer 4WD position) is turned OFF, and the current flows from 4WD control ECU TERMINAL (A) 1 to ADD actuator TERMINAL 1 to motor to TERMINAL 5 to 4WD control ECU TERMINAL (A) 2 to GROUND, and the ADD actuator is activated, and the ADD is disconnected. When the ADD is disconnected, the detection SW (ADD position SW) is turned OFF, and the 4LO indicator light turns OFF.

## 4WD (Access/Standard Cab)

H2 to L4

When the touch select 2-4 SW in the integration control and panel is turned ON, and the touch select high-low SW is turned ON, a signal is input into TERMINAL (A) 8 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 2 to transfer shift actuator TERMINAL 2 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (B) 1 to GROUND, and the transfer shifts to 4WD (H4 position.)

When the system shifts to 4WD, the detection SW (Transfer 4WD position) is turned ON, and the current flows from 4WD control ECU TERMINAL (A) 2 to ADD actuator TERMINAL 5 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (A) 1 to GROUND, and the ADD actuator is activated, and the ADD is connected. Then a signal is input into TERMINAL (A) 15 of the 4WD control ECU and the 4WD control ECU is activated by this, so the current flows from the 4WD control ECU TERMINAL (B) 2 to transfer shift actuator TERMINAL 2 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (B) 1 to GROUND. The transfer shifts to 4WD LO position (L4 position), and the 4LO indicator light comes ON.

### Service Hints

#### F20 (A) 4WD Control ECU

(A) 5-Ground : Approx. 12 volts with ignition SW at ON or ST position

(A) 6-Ground : Always continuity

(A) 9-Ground : 4 pulses with 1 rotation

(A) 8-Ground : 2 volts or less with touch select 2-4 SW on

(A)17-Ground : 2 volts or less with detection SW (Transfer L4 position) on and transfer shift lever at L4 position

#### I24 (A), I25 (B) Integration Control and Panel

(A) 5-(B) 1 : Closed with touch select 2-4 SW on

#### P1 Park/Neutral Position SW

2-9 : Closed with A/T shift lever at N position

### ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page		
A5	52 (2UZ-FE)	F20	A	57	J29	B	58
	54 (1GR-FE)	F21	B	57	J64		58
A9	52 (2UZ-FE)	I24	A	57	J66	A	58
C11	A	56	J8	58	J67	B	58
C12	B	56	J9	58	P1	53 (2UZ-FE)	
D3	52 (2UZ-FE)	J10	58	55 (1GR-FE)			
D4	52 (2UZ-FE)	J12	58	S29	53 (2UZ-FE)		
D8	57	J13	58		55 (1GR-FE)		
E5	57	J28	A	58	T3	53 (2UZ-FE)	

### ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1G	24 (*2)	
	28 (*1)	
1J	24 (*2)	
	28 (*1)	

### □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EC1	74 (2UZ-FE)	Engine No.2 Wire and Engine Wire (Near the Starter)
ED1	74 (2UZ-FE)	Engine No.2 Wire and Differential Wire (Near the Transmission)
IE1	80	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IE4		
IJ1	80	Cowl Wire and Cowl Wire (Instrument Panel Reinforcement RH)

\* 1 : w/ Daytime Running Light \* 2 : w/o Daytime Running Light \* 3 : Access Cab \* 4 : Standard Cab \* 5 : Bench Seat

\* 6 : Captain Seat \* 7 : Access Cab Captain Seat \* 8 : Standard Cab Bench Seat \* 9 : Access Cab w/o Power Seat



**: Ground Points**

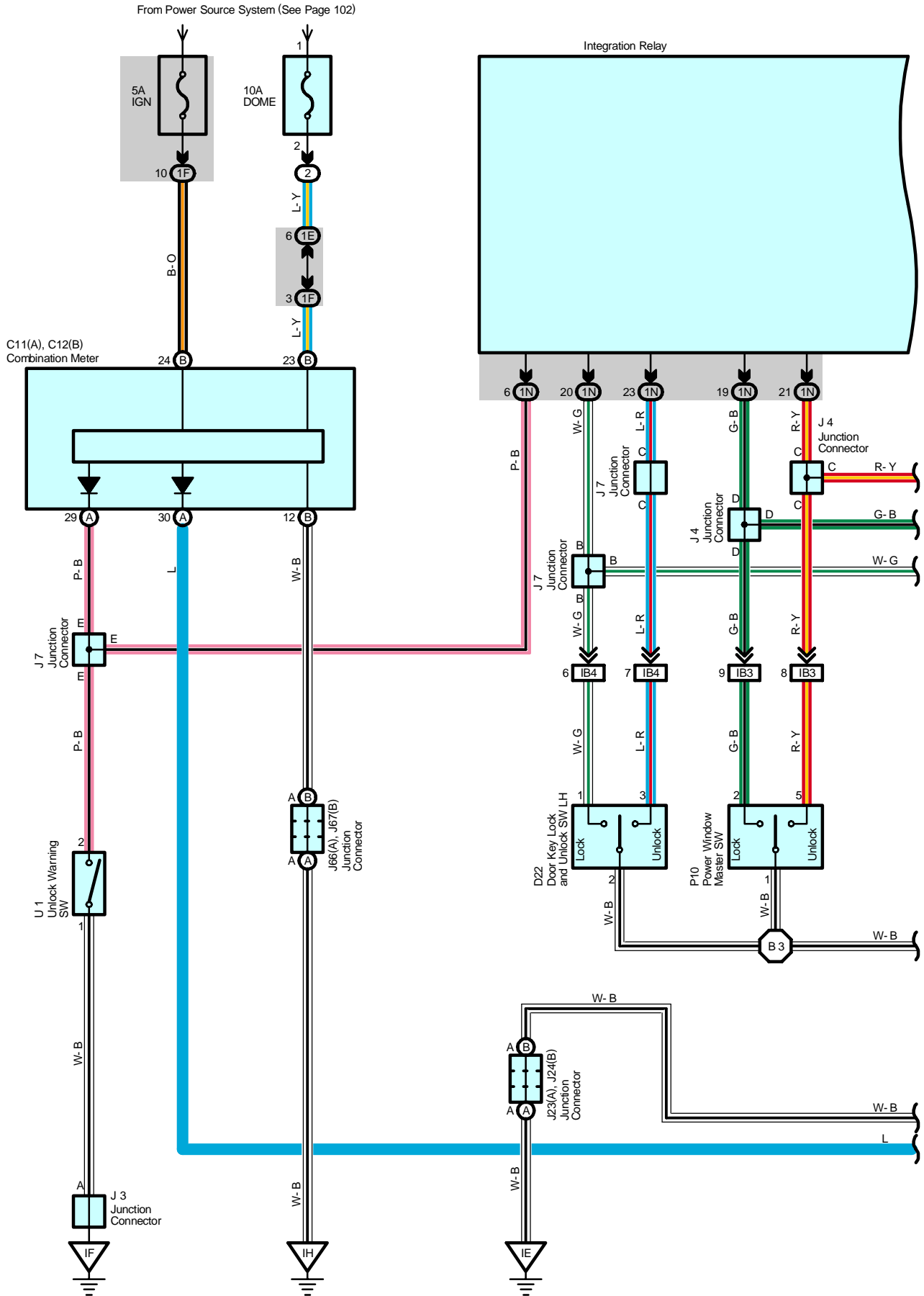
Code	See Page	Ground Points Location
IH	78	Right Kick Panel
II		

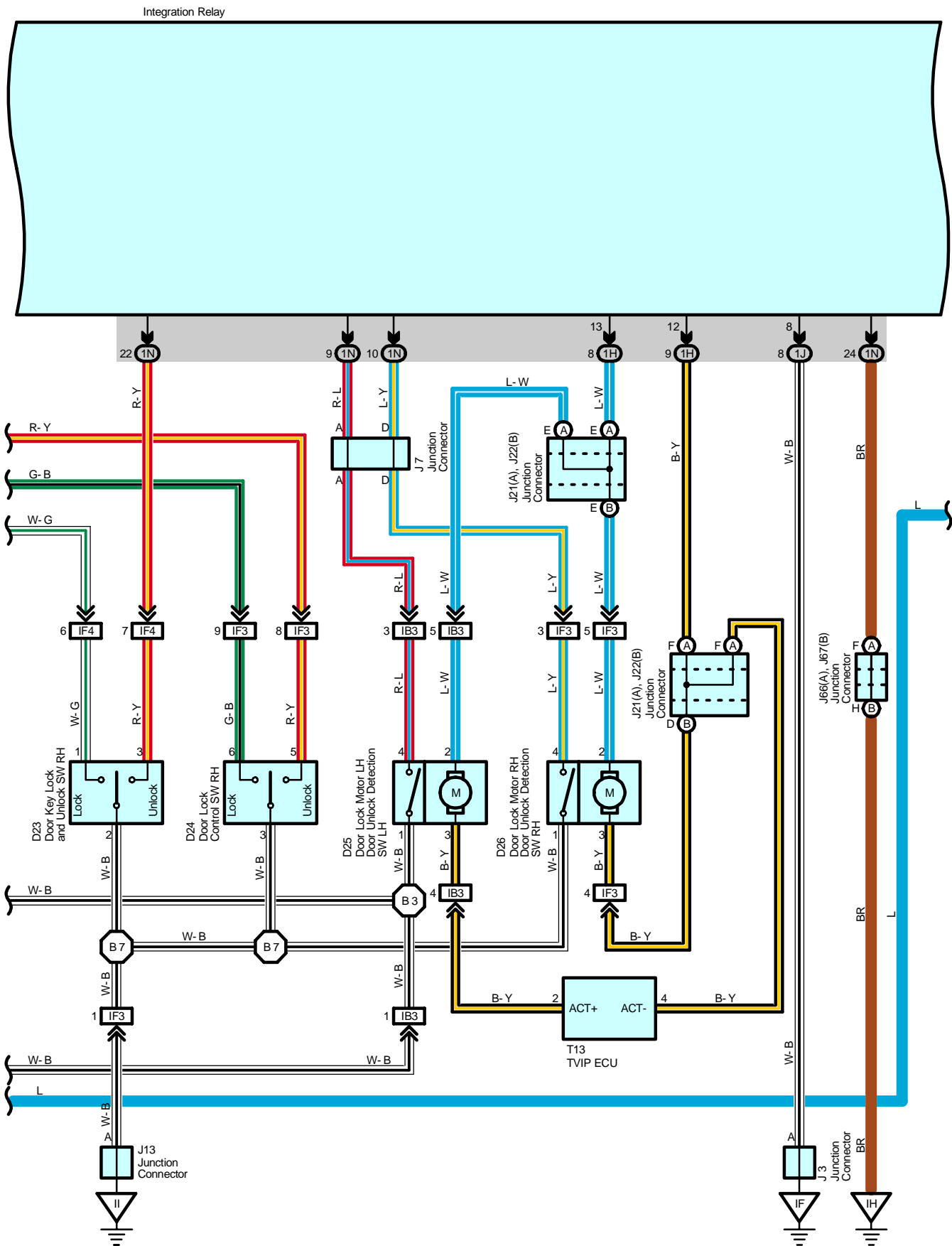


**: Splice Points**

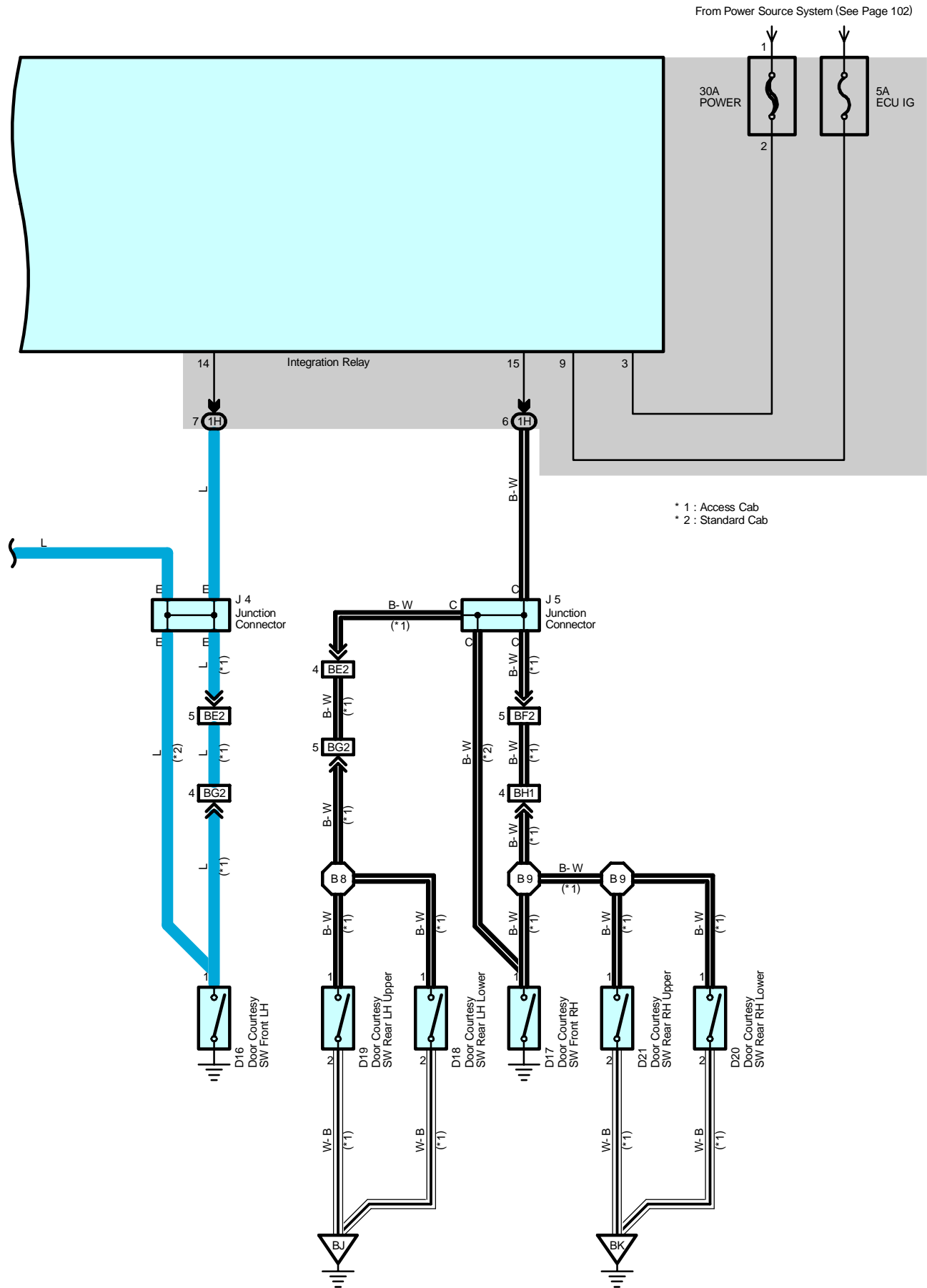
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I3	80	Engine Wire	I4	80	Cowl Wire

# Door Lock Control with DRL (Access/Standard Cab)





# Door Lock Control with DRL (Access/Standard Cab)





## System Outline

Current always flows to TERMINAL 3 of the integration relay through the POWER fuse.

### 1. Manual Lock Operation

(Driver's door)

To push the door lock control SW or door key lock and unlock SW to LOCK position, a lock signal is input to the integration relay and causes the relay to function. Current flows from TERMINAL 3 of the relay to TERMINAL 13 to TERMINAL 2 of the door lock motor to TERMINAL 3 to TERMINAL 2 of the TVIP ECU to TERMINAL 4 to TERMINAL 12 of the integration relay to TERMINAL 8 to GROUND and the door lock motor causes the door to lock.

(Passenger's door)

To push the door lock control SW or door key lock and unlock SW to LOCK position, a lock signal is input to the integration relay and causes the relay to function. Current flows from TERMINAL 3 of the relay to TERMINAL 13 to TERMINAL 2 of the door lock motor to TERMINAL 3 to TERMINAL 12 of the relay to TERMINAL 8 to GROUND and the door lock motor causes the door to lock.

### 2. Manual Unlock Operation

(Driver's door)

To push the door lock control SW or door key lock and unlock SW to UNLOCK position, an unlock signal is input to the integration relay and causes the relay to function. Current flows from TERMINAL 3 of the relay to TERMINAL 12 to TERMINAL 4 of the TVIP ECU to TERMINAL 2 to TERMINAL 3 of the door lock motor to TERMINAL 2 to TERMINAL 13 of the integration relay to TERMINAL 8 to GROUND and the door lock motor causes the door to unlock.

(Passenger's door)

To push the door lock control SW or door key lock and unlock SW to UNLOCK position, an unlock signal is input to the integration relay and causes the relay to function. Current flows from TERMINAL 3 of the relay to TERMINAL 12 to TERMINAL 3 of the door lock motor to TERMINAL 2 to TERMINAL 13 of the relay to TERMINAL 8 to GROUND and the door lock motor causes the door to unlock.

### 3. Double Operation Unlock Operation

When the door key lock and unlock SW LH is turned to unlock position, only the front LH door is mechanically unlocked. Turning the door key lock and unlock SW LH to the unlock side causes a signal to be input to the relay, and if the signal is input again within 3 seconds by turning the door key lock and unlock SW LH to the unlock side again, current flows from TERMINAL 12 of the integration relay to TERMINAL 4 of the TVIP ECU to TERMINAL 2 to TERMINAL 3 of the door lock motor, TERMINAL 2 to TERMINAL 13 of the integration relay to TERMINAL 8 to GROUND, causing the door lock motors to operate and unlock the doors.

### 4. Key Confine Prevention Function

- \* 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), the door is locked once but each door is unlocked soon by the function of the integration relay. As a result, current flows from TERMINAL 3 of the relay to TERMINAL 12 to TERMINAL 3 of the door lock motors to TERMINAL 2 to TERMINAL 13 of the relay 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 integration relay. According to this input signal, current flows from TERMINAL 3 of the relay to TERMINAL 12 to TERMINAL 3 of the door lock motors to TERMINAL 2 to TERMINAL 13 of the relay to TERMINAL 8 to GROUND and causes all the doors to unlock.

# Door Lock Control with DRL (Access/Standard Cab)

## Service Hints

### INTEGRATION Relay

- 8-Ground : Always continuity
- 3-Ground : Always approx. 12 volts
- 12-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 or RH door open (Ignition key reminder function)
  - \* Door lock knob locked with ignition key in cylinder and LH or RH door open. (Ignition key reminder function)
  - \* Unlocking the LH, RH door cylinder with key
- 13-Ground : Approx. 12 volts for 0.2 seconds with following operations
  - \* Door lock control SW locked
  - \* Locking the LH, RH door cylinder with key
- 14-Ground : Continuity with front LH door open
- 15-Ground : Continuity with front RH door open (Standard cab)
- 15-Ground : Continuity with front RH, rear LH, RH door open (Access cab)

### D16, D17 Door Courtesy SW Front LH, RH

- 1-Ground : Closed with door open

### D22, D23 Door Key Lock and Unlock SW LH, RH

- 1-2 : Closed with door lock cylinder locked with key
- 3-2 : Closed with door lock cylinder unlocked with key

### D25, D26 Door Lock Motor and Door Unlock Detection SW LH, RH

- 4-1 : Closed with door lock knob UNLOCK position

### U1 Unlock Warning SW

- 1-2 : Closed with key in cylinder

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C11	A 56	D23	60 (*3)	J13	58
C12	B 56		61 (*4)	J21	A 58
D16	60 (*3)	D24	60 (*3)	J22	B 58
	61 (*4)		61 (*4)	J23	A 58
D17	60 (*3)	D25	60 (*3)	J24	B 58
	61 (*4)		61 (*4)	J66	A 58
D18	60 (*3)	D26	60 (*3)	J67	B 58
D19	60 (*3)		61 (*4)	P10	60 (*3)
D20	60 (*3)	J3	58		61 (*4)
D21	60 (*3)	J4	58	T13	59
D22	60 (*3)	J5	58	U1	59
	61 (*4)	J7	58		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	28 (*1)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1F	28 (*1)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1H		
1J		
1N		

- \* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

 : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB3	78	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IB4		
IF3	80	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IF4		
BE2	82 (*3)	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BF2	82 (*3)	Floor No.1 Wire and Cowl Wire (Center of Right Rocker Panel)
BG2	82 (*3)	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)
BH1	82 (*3)	Floor No.1 Wire and Rear Door No.1 Wire (Under the Right Quarter Panel)

 : Ground Points

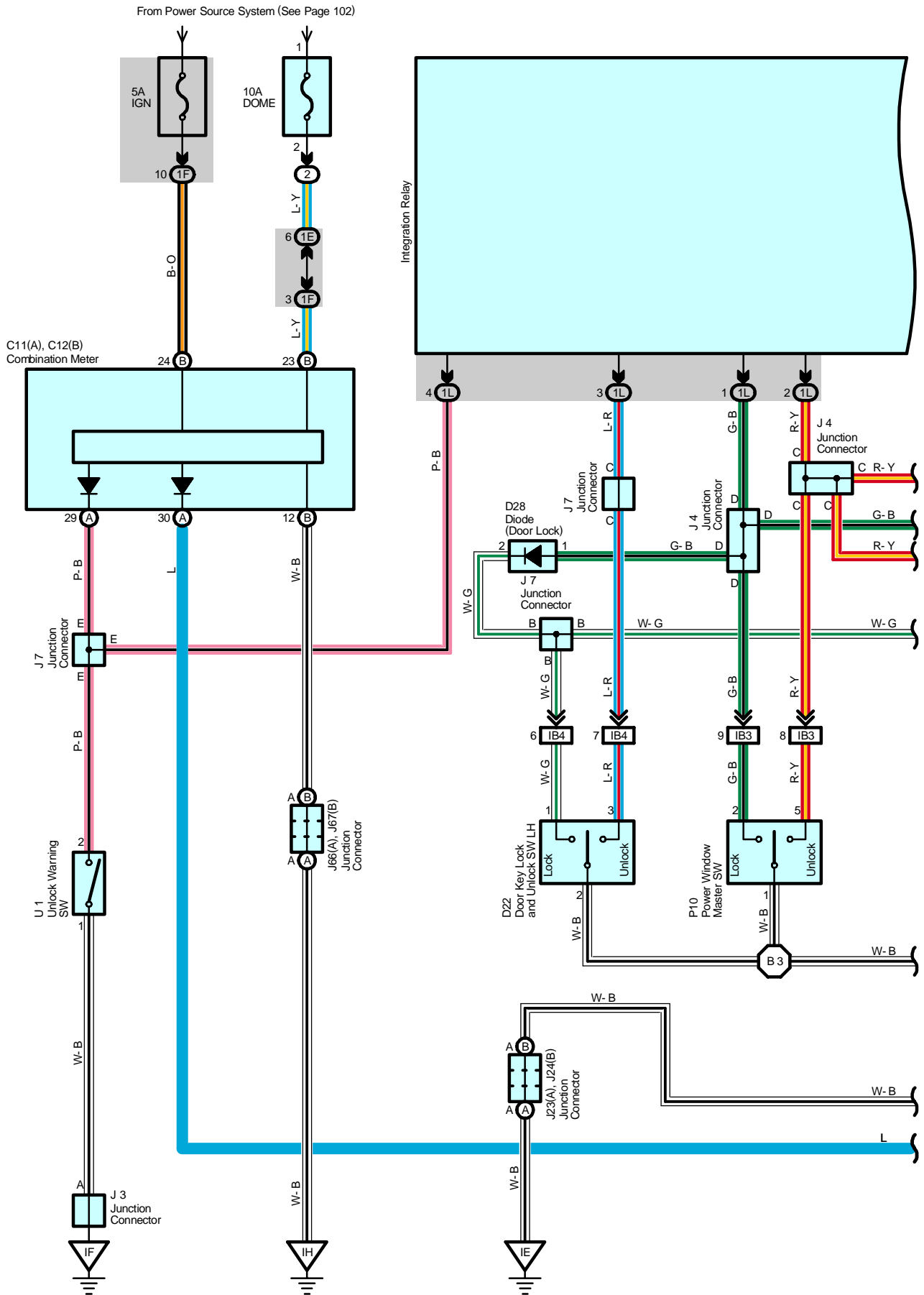
Code	See Page	Ground Points Location
IE	78	Left Kick Panel
IF		
IH	78	Right Kick Panel
II		
BJ	82 (*3)	Inside of Rear Door LH
BK	82 (*3)	Inside of Rear Door RH

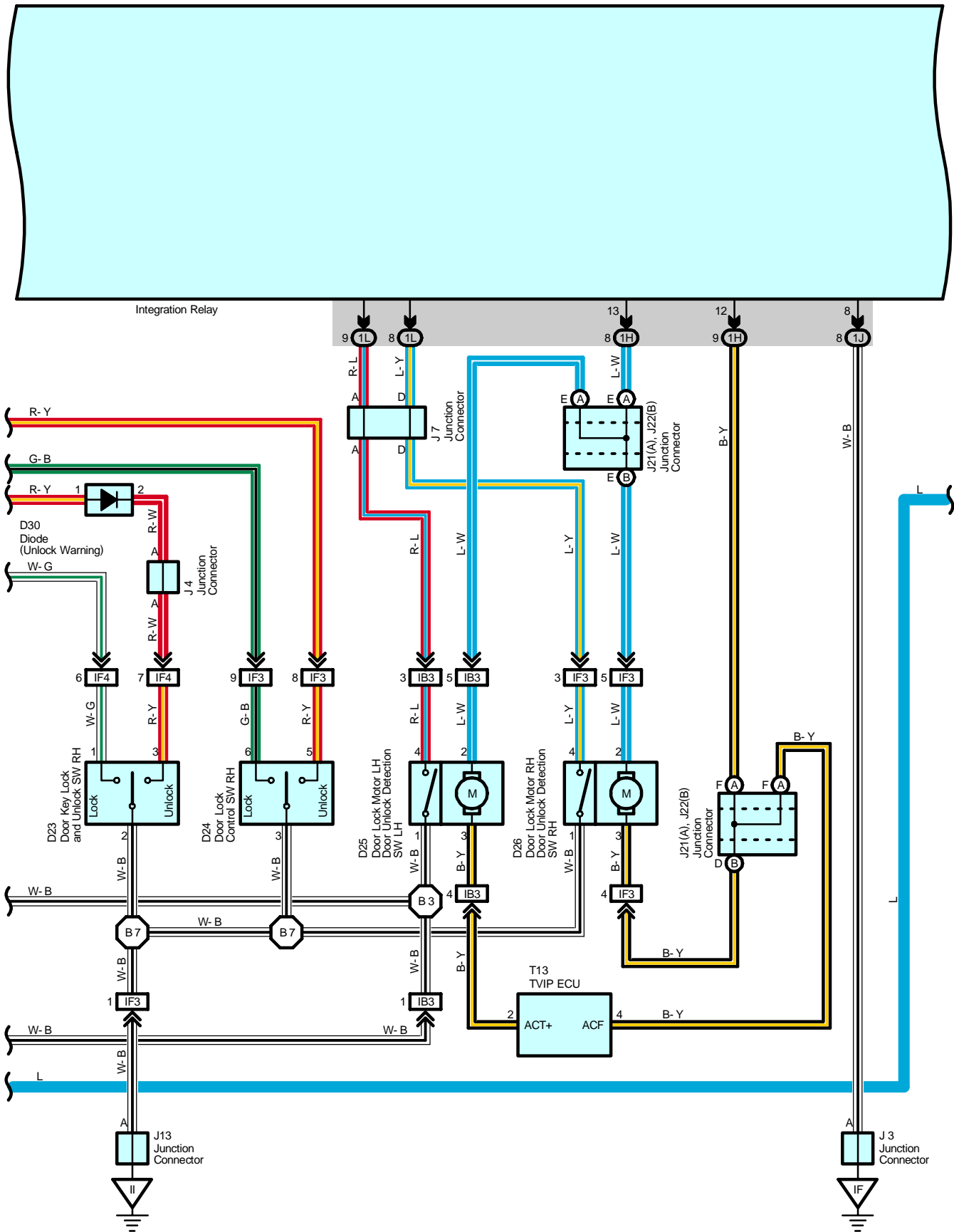
 : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B3	82 (*3)	Front Door LH Wire	B7	84 (*4)	Front Door RH Wire
	84 (*4)		B8	82 (*3)	Rear Door No.1 Wire LH
B7	82 (*3)	Front Door RH Wire	B9	82 (*3)	Rear Door No.1 Wire RH

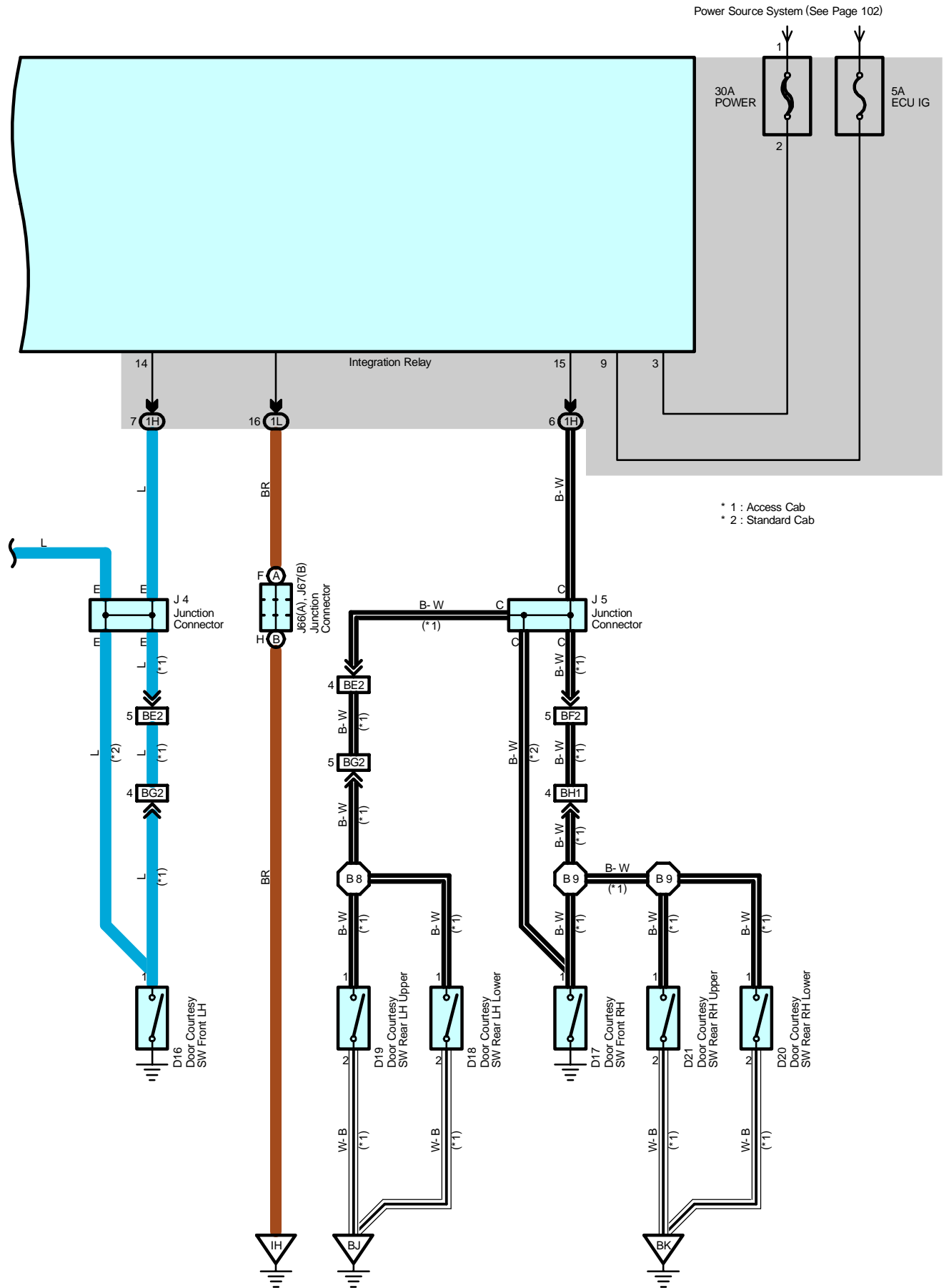
\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Door Lock Control without DRL (Access/Standard Cab)





# Door Lock Control without DRL (Access/Standard Cab)



## System Outline

Current always flows to TERMINAL 3 of the integration relay through the POWER fuse.

### 1. Manual Lock Operation

(Driver's door)

To push the door lock control SW or door key lock and unlock SW to LOCK position, a lock signal is input to the integration relay and causes the relay to function. Current flows from TERMINAL 3 of the relay to TERMINAL 13 to TERMINAL 2 of the door lock motor to TERMINAL 3 to TERMINAL 2 of the TVIP ECU to TERMINAL 4 to TERMINAL 12 of the integration relay to TERMINAL 8 to GROUND and the door lock motor causes the door to lock.

(Passenger's door)

To push the door lock control SW or door key lock and unlock SW to LOCK position, a lock signal is input to the integration relay and causes the relay to function. Current flows from TERMINAL 3 of the relay to TERMINAL 13 to TERMINAL 2 of the door lock motor to TERMINAL 3 to TERMINAL 12 of the relay to TERMINAL 8 to GROUND and the door lock motor causes the door to lock.

### 2. Manual Unlock Operation

(Driver's door)

To push the door lock control SW or door key lock and unlock SW to UNLOCK position, an unlock signal is input to the integration relay and causes the relay to function. Current flows from TERMINAL 3 of the relay to TERMINAL 12 to TERMINAL 4 of the TVIP ECU to TERMINAL 2 to TERMINAL 3 of the door lock motor to TERMINAL 2 to TERMINAL 13 of the integration relay to TERMINAL 8 to GROUND and the door lock motor causes the door to unlock.

(Passenger's door)

To push the door lock control SW or door key lock and unlock SW to UNLOCK position, an unlock signal is input to the integration relay and causes the relay to function. Current flows from TERMINAL 3 of the relay to TERMINAL 12 to TERMINAL 3 of the door lock motor to TERMINAL 2 to TERMINAL 13 of the relay to TERMINAL 8 to GROUND and the door lock motor causes the door to unlock.

### 3. Double Operation Unlock Operation

When the door key lock and unlock SW LH is turned to unlock position, only the front LH door is mechanically unlocked. Turning the door key lock and unlock SW LH to the unlock side causes a signal to be input to the relay, and if the signal is input again within 3 seconds by turning the door key lock and unlock SW LH to the unlock side again, current flows from TERMINAL 12 of the integration relay to TERMINAL 4 of the TVIP ECU to TERMINAL 2 to TERMINAL 3 of the door lock motor, TERMINAL 2 to TERMINAL 13 of the integration relay to TERMINAL 8 to GROUND, causing the door lock motors to operate and unlock the doors.

### 4. Key Confine Prevention Function

- \* 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), the door is locked once but each door is unlocked soon by the function of the integration relay. As a result, current flows from TERMINAL 3 of the relay to TERMINAL 12 to TERMINAL 3 of the door lock motors to TERMINAL 2 to TERMINAL 13 of the relay 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 integration relay. According to this input signal, current flows from TERMINAL 3 of the relay to TERMINAL 12 to TERMINAL 3 of the door lock motors to TERMINAL 2 to TERMINAL 13 of the relay to TERMINAL 8 to GROUND and causes all the doors to unlock.

# Door Lock Control without DRL (Access/Standard Cab)

## Service Hints

### INTEGRATION Relay

- 8-Ground : Always continuity
- 3-Ground : Always approx. 12 volts
- 12-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 or RH door open (Ignition key reminder function)
  - \* Door lock knob locked with ignition key in cylinder and LH or RH door open. (Ignition key reminder function)
  - \* Unlocking the LH, RH door cylinder with key
- 13-Ground : Approx. 12 volts for 0.2 seconds with following operations
  - \* Door lock control SW locked
  - \* Locking the LH, RH door cylinder with key
- 14-Ground : Continuity with front LH door open
- 15-Ground : Continuity with front RH door open (Standard cab)
- 15-Ground : Continuity with front RH, rear LH, RH door open (Access cab)

### D16, D17 Door Courtesy SW Front LH, RH

- 1-Ground : Closed with door open

### D22, D23 Door Key Lock and Unlock SW LH, RH

- 1-2 : Closed with door lock cylinder locked with key
- 3-2 : Closed with door lock cylinder unlocked with key

### D25, D26 Door Lock Motor and Door Unlock Detection SW LH, RH

- 4-1 : Closed with door lock knob UNLOCK position

### U1 Unlock Warning SW

- 1-2 : Closed with key in cylinder

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C11	A 56	D23	61 (*4)	J13	58
C12	B 56	D24	60 (*3)	J21	A 58
D16	60 (*3)		61 (*4)	J22	B 58
	61 (*4)	D25	60 (*3)	J23	A 58
D17	60 (*3)		61 (*4)	J24	B 58
	D18	60 (*3)	D26	60 (*3)	J66
61 (*4)		61 (*4)		J67	B 58
D19	60 (*3)	D28	57	P10	60 (*3)
D20	60 (*3)	D30	57		61 (*4)
D21	60 (*3)	J3	58	T13	59
D22	60 (*3)	J4	58	U1	59
	61 (*4)	J5	58		
D23	60 (*3)	J7	58		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1H		
1J		
1L	25 (*2)	

- \* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat
- \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat



 : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB3	78	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IB4		
IF3	80	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IF4		
BE2	82 (*3)	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BF2	82 (*3)	Floor No.1 Wire and Cowl Wire (Center of Right Rocker Panel)
BG2	82 (*3)	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)
BH1	82 (*3)	Floor No.1 Wire and Rear Door No.1 Wire (Under the Right Quarter Panel)

 : Ground Points

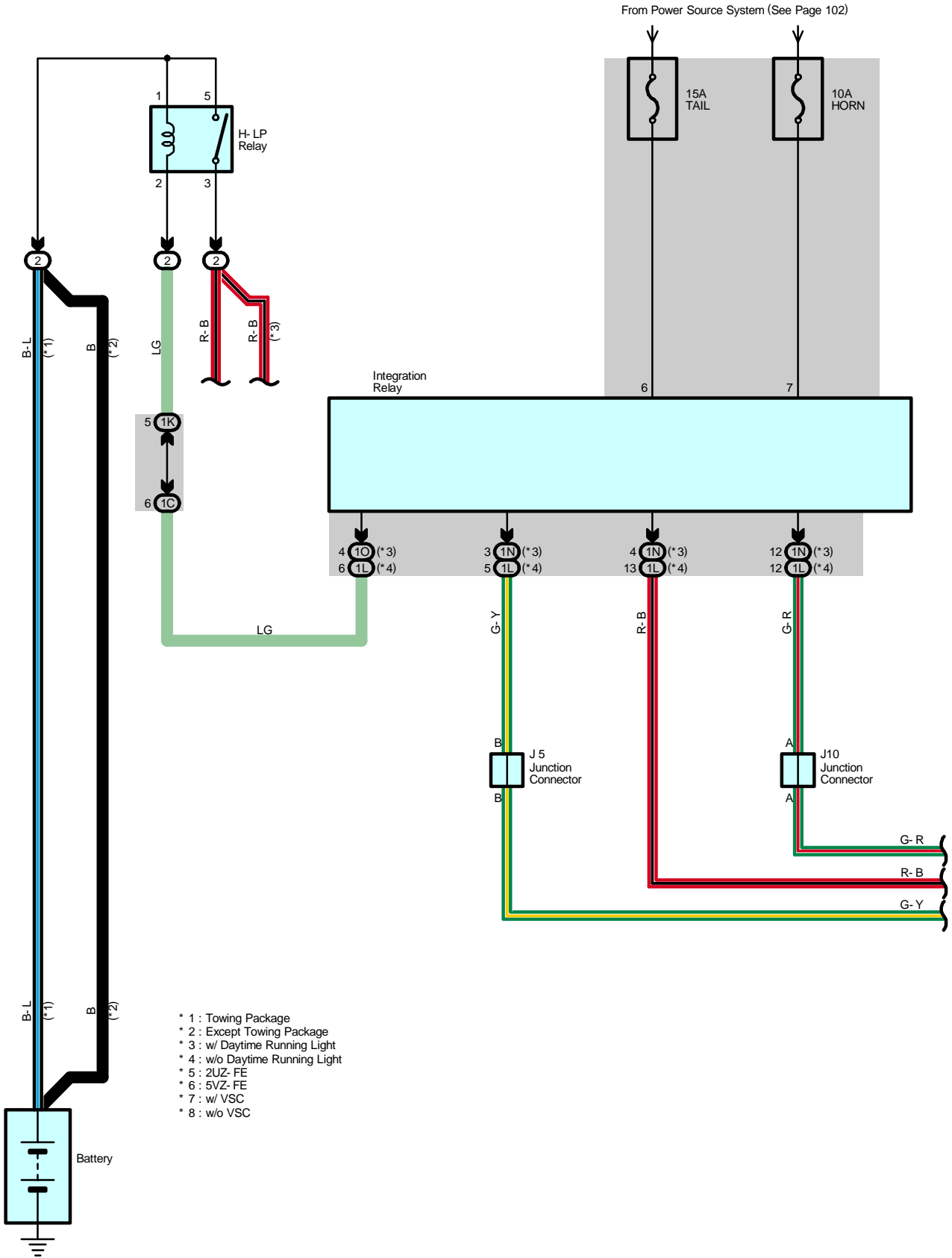
Code	See Page	Ground Points Location
IE	78	Left Kick Panel
IF		
IH	78	Right Kick Panel
II		
BJ	82 (*3)	Inside of Rear Door LH
BK	82 (*3)	Inside of Rear Door RH

 : Splice Points

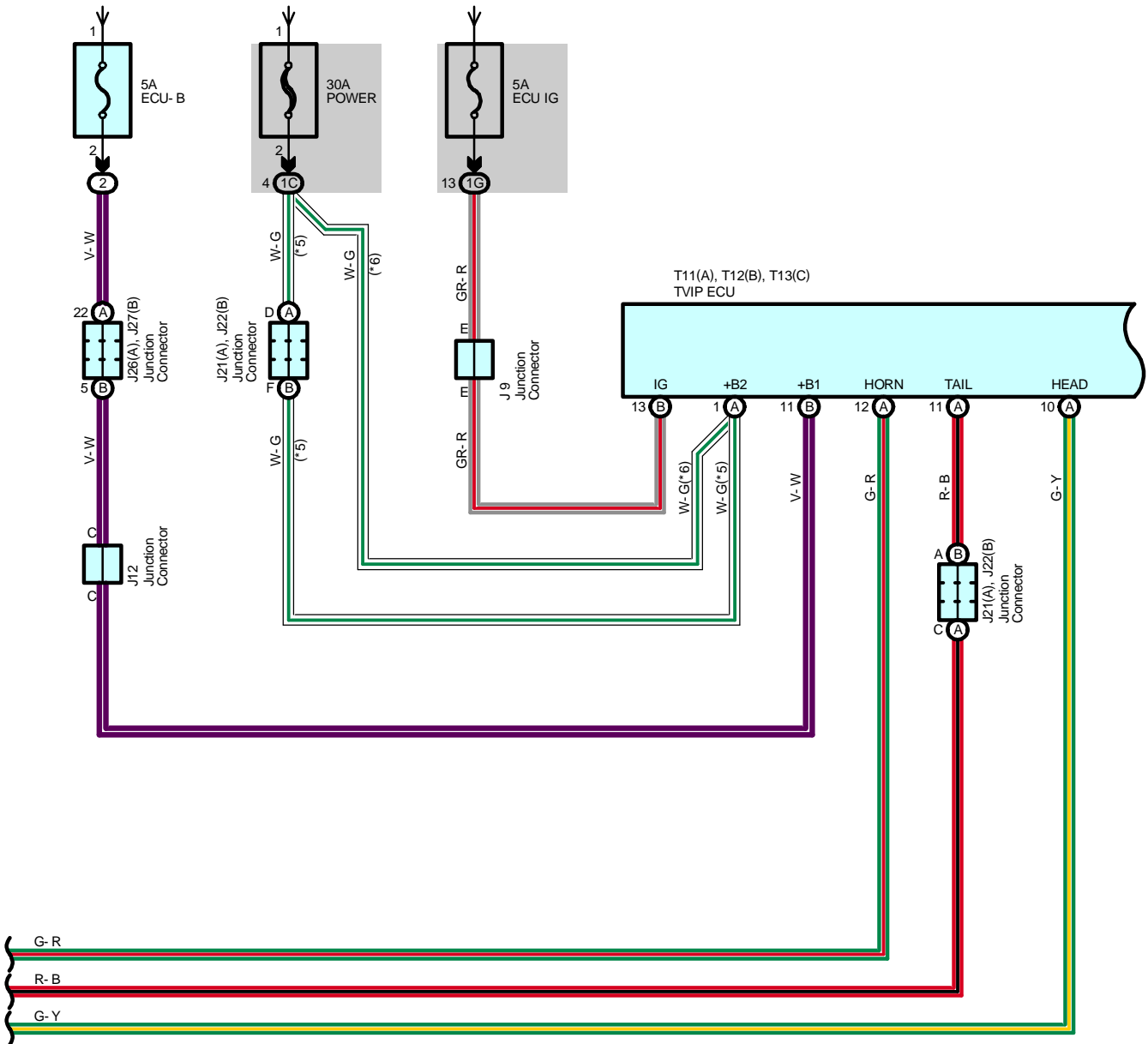
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B3	82 (*3)	Front Door LH Wire	B7	84 (*4)	Front Door RH Wire
	84 (*4)		B8	82 (*3)	Rear Door No.1 Wire LH
B7	82 (*3)	Front Door RH Wire	B9	82 (*3)	Rear Door No.1 Wire RH

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

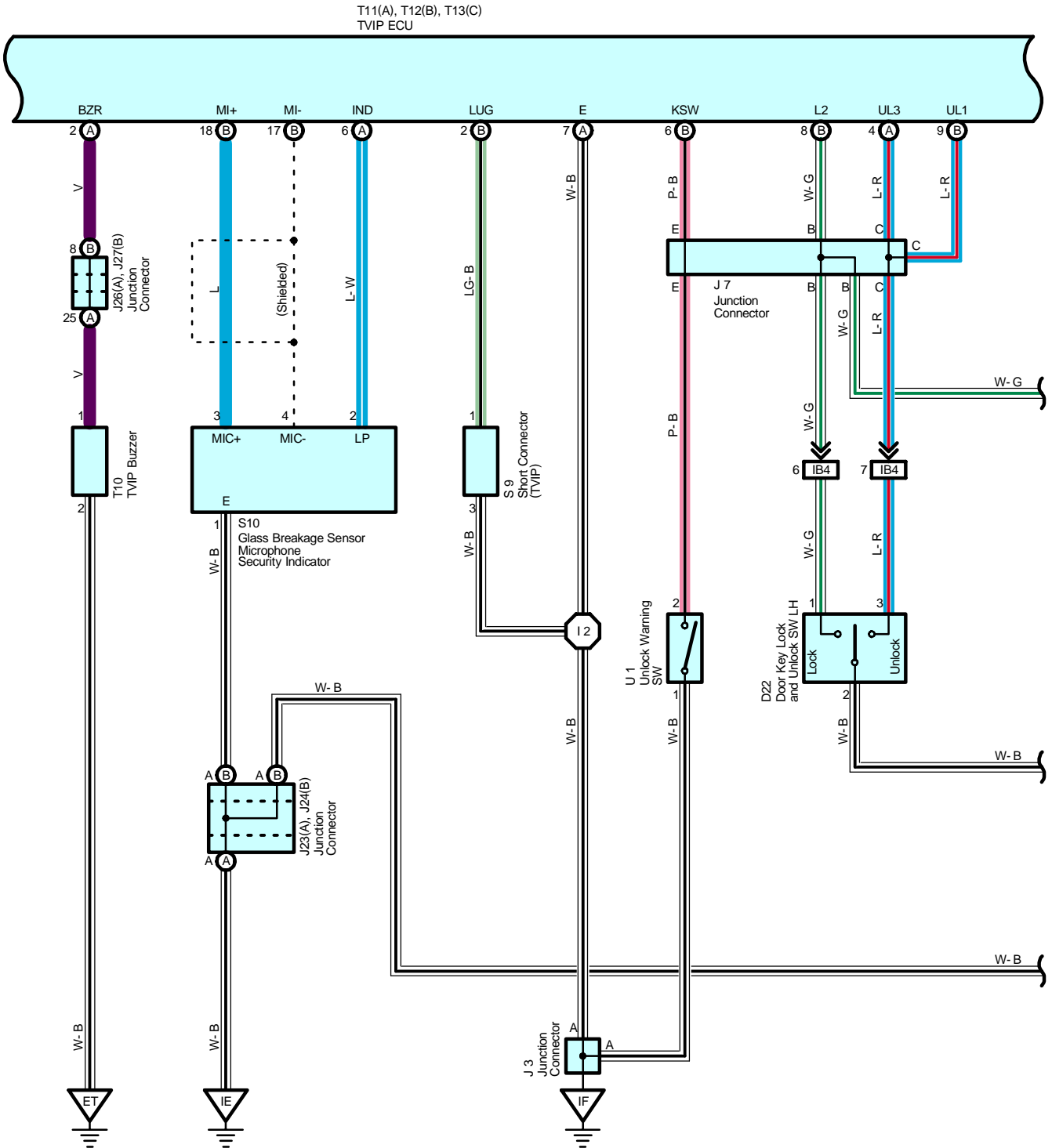
# TVIP and Wireless Door Lock Control (Access/Standard Cab)



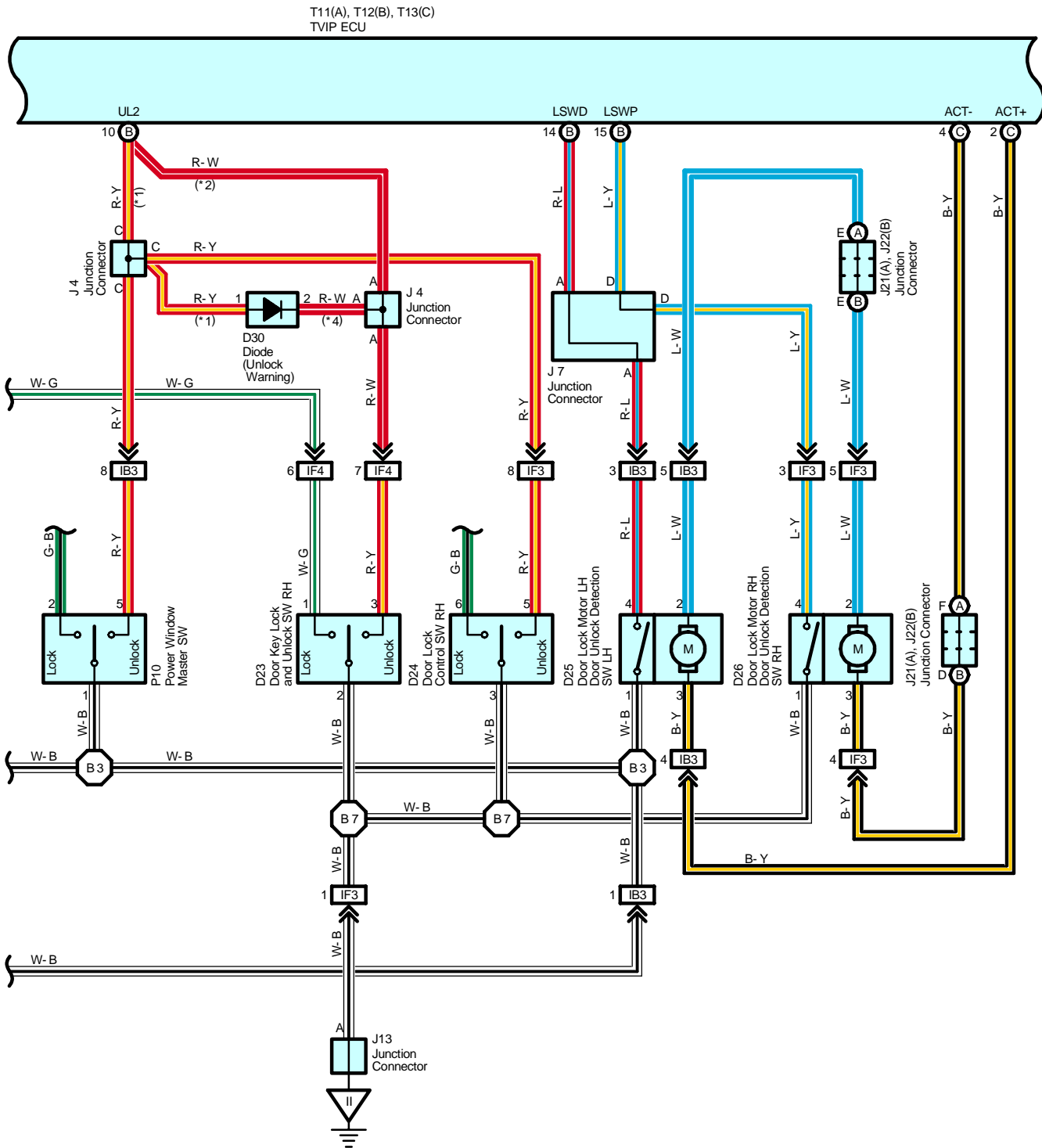
From Power Source System (See Page 102)



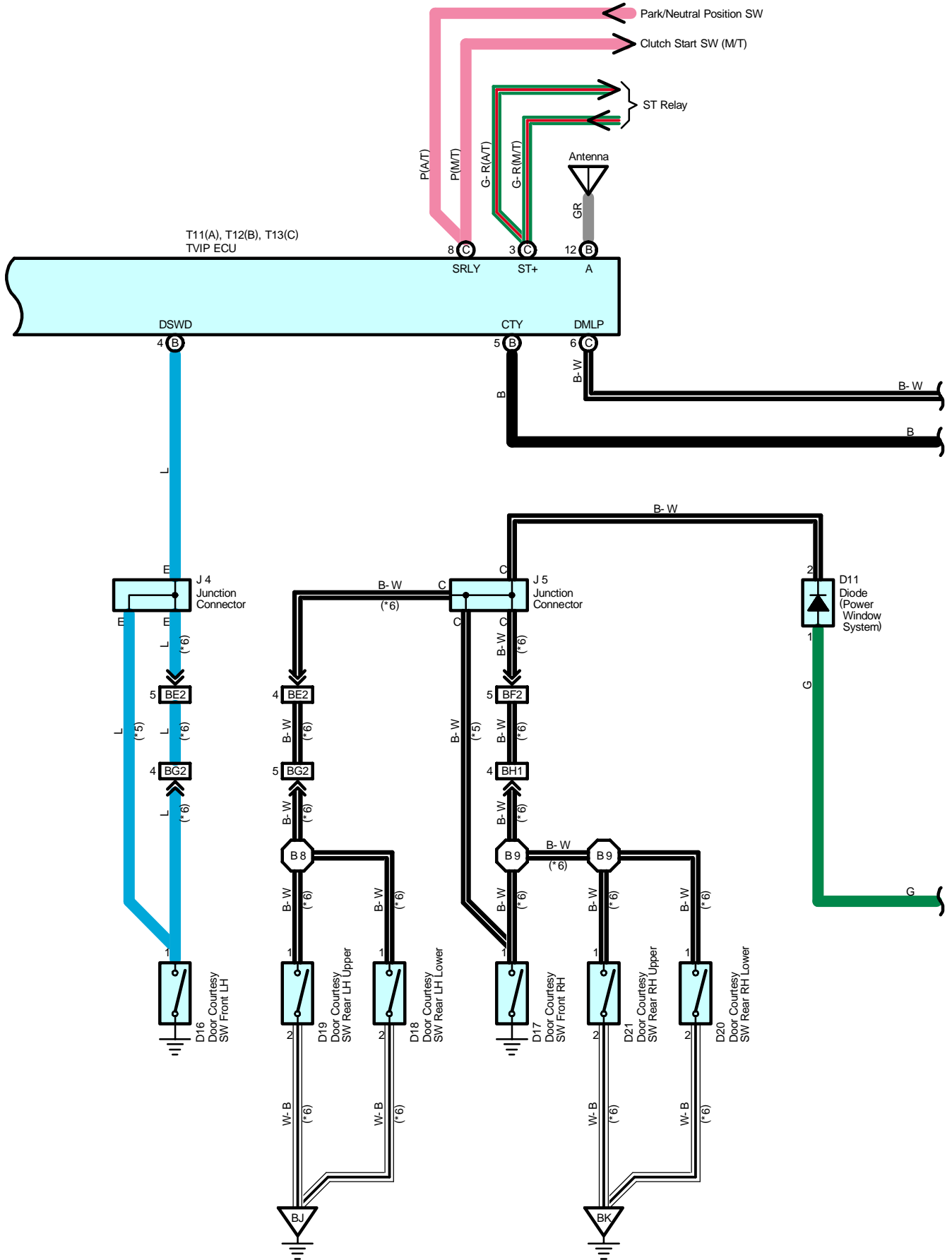
# TVIP and Wireless Door Lock Control (Access/Standard Cab)



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

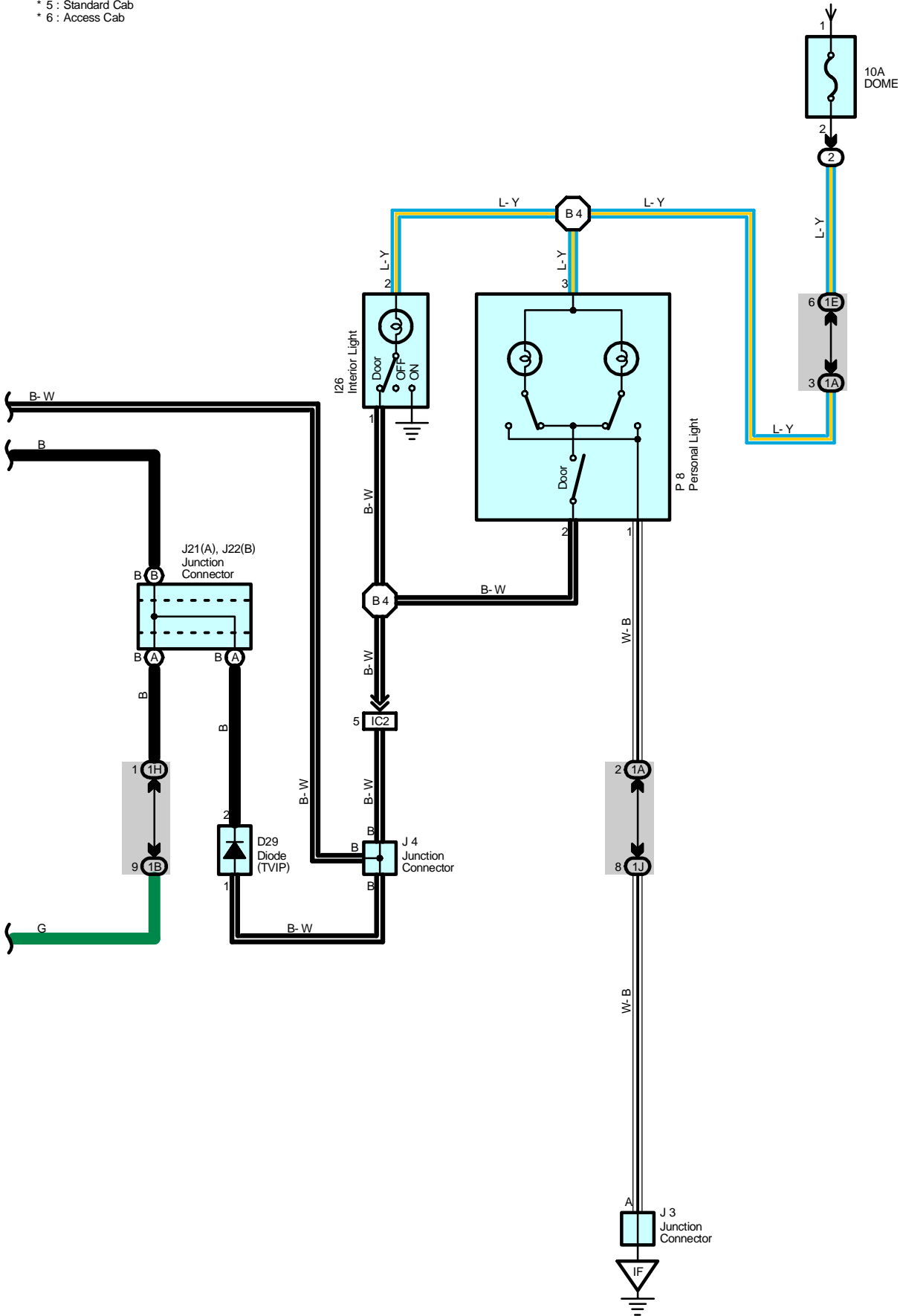


# TVIP and Wireless Door Lock Control (Access/Standard Cab)



- \* 5 : Standard Cab
- \* 6 : Access Cab

From Power Source System (See Page 102)



# TVIP and Wireless Door Lock Control (Access/Standard Cab)

## Service Hints

### T11 (A), T12 (B), T13 (C) TVIP ECU

(B)13-Ground : Approx. 12 volts with the ignition SW at ON position

(A) 1, (B) 11-Ground : Always approx. 12 volts

(A) 7-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
D11	57	D26	60 (*3)	J24	B 58
D16	60 (*3)		61 (*4)	J26	A 58
	61 (*4)	D29	57	J27	B 58
D17	60 (*3)	D30	57	P8	60 (*3)
	61 (*4)		60 (*3)		61 (*4)
D18	60 (*3)	I26	61 (*4)	P10	60 (*3)
D19	60 (*3)	J3	58		61 (*4)
D20	60 (*3)	J4	58	S9	59
D21	60 (*3)	J5	58	S10	59
D22	60 (*3)	J7	58	T10	53 (2UZ-FE)
	61 (*4)	J9	58		55 (1GR-FE)
D23	60 (*3)	J10	58	T11	A 59
	61 (*4)	J12	58	T12	B 59
D24	60 (*3)	J13	58	T13	C 59
	61 (*4)		J21	A 58	U1
D25	60 (*3)	J22	B 58		
	61 (*4)	J23	A 58		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24 (*2)	Roof Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1B	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1C	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1E	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1G	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1H	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1J	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1K	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1L	25 (*2)	
1N	29 (*1)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1O		

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat

\* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat



 : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB3	78	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IB4		
IC2	78	Cowl Wire and Roof Wire (Left Side of Instrument Panel)
IF3	80	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IF4		
BE2	82 (*3)	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BF2	82 (*3)	Floor No.1 Wire and Cowl Wire (Center of Right Rocker Panel)
BG2	82 (*3)	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)
BH1	82 (*3)	Floor No.1 Wire and Rear Door No.1 Wire (Under the Right Quarter Panel)

 : Ground Points

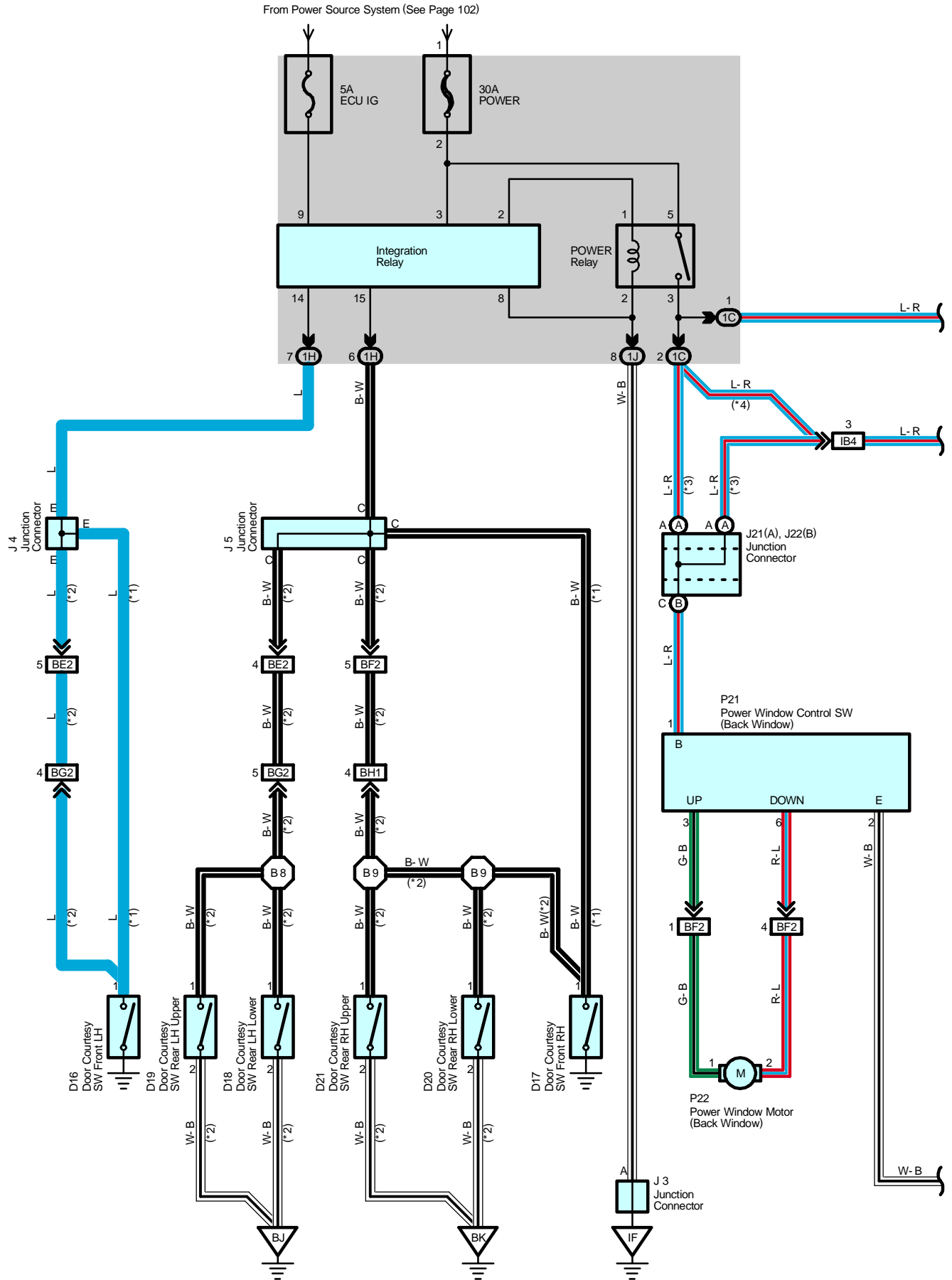
Code	See Page	Ground Points Location
ET	74 (2UZ-FE)	Front Right Fender
	76 (1GR-FE)	
IE	78	Left Kick Panel
IF		
II	78	Right Kick Panel
BJ	82 (*3)	Inside of Rear Door LH
BK	82 (*3)	Inside of Rear Door RH

 : Splice Points

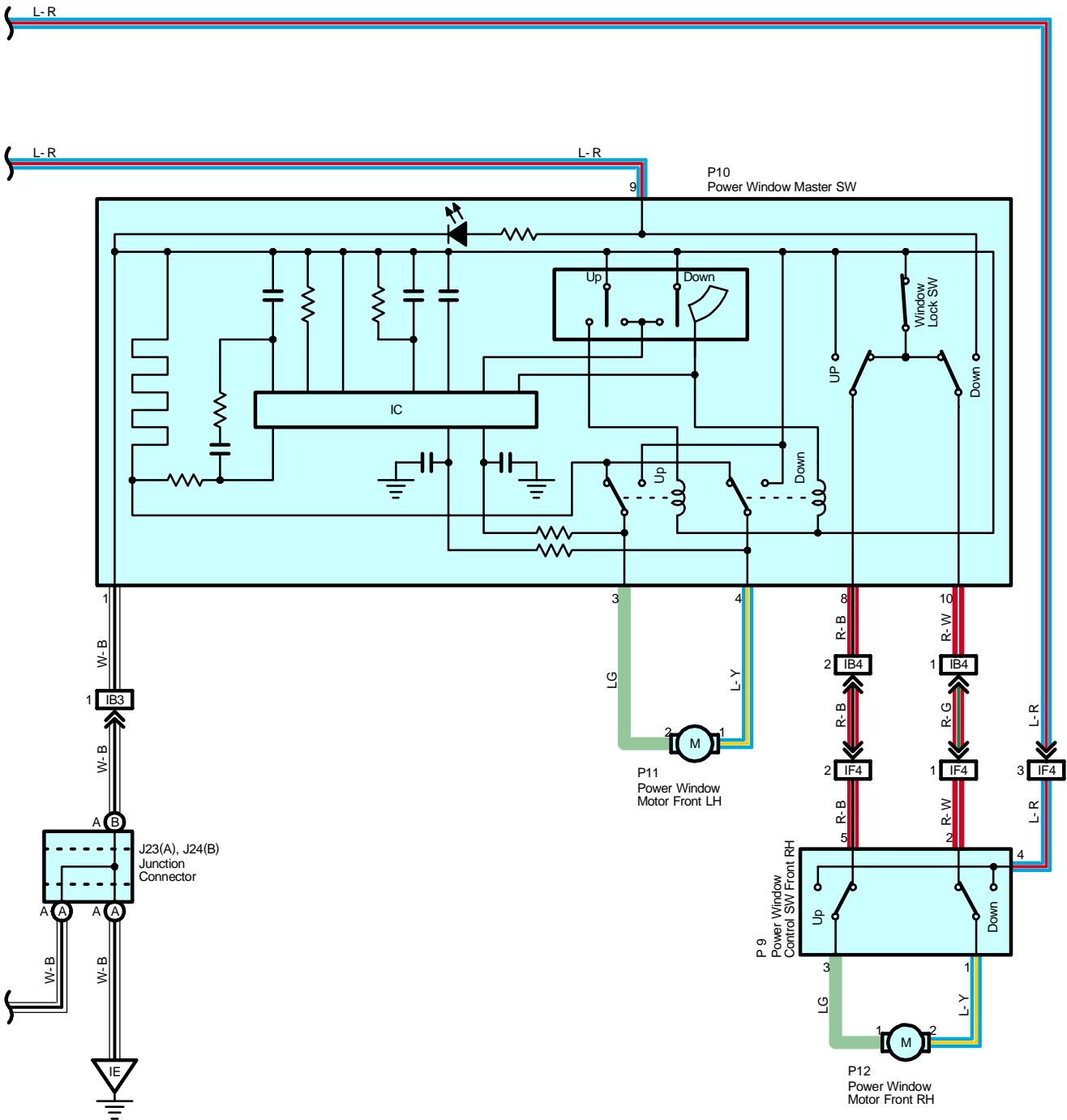
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I2	80	Cowl Wire	B7	82 (*3)	Front Door RH Wire
B3	82 (*3)	Front Door LH Wire		84 (*4)	
	B4		84 (*4)	B8	82 (*3)
B4		82 (*3)	Roof Wire	B9	82 (*3)
	84 (*4)				

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Power Window (Access/Standard Cab)



- \* 1 : Standard Cab
- \* 2 : Access Cab
- \* 3 : w/ Power Window (Back Window)
- \* 4 : w/o Power Window (Back Window)



# Power Window (Access/Standard Cab)

## System Outline

With the ignition SW turned on, current flows through the ECU IG fuse to TERMINAL 9 of the integration relay to TERMINAL 2 to TERMINAL 1 of the power relay to TERMINAL 2 to GROUND, activating the power relay, and the current flowing from TERMINAL 5 of the power relay flows to TERMINAL 3 to TERMINAL 9 of the power window master SW, TERMINAL 4 of the power window control SW RH and TERMINAL 1 of power window SW (Back window).

### 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 9 of the power window master SW flows to TERMINAL 3 to TERMINAL 2 of the power window motor LH to TERMINAL 1 to TERMINAL 4 of the master SW to TERMINAL 1 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 9 of the power window master SW to TERMINAL 4 flows to TERMINAL 1 of the motor LH to TERMINAL 2 to TERMINAL 3 of the master SW to TERMINAL 1 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 9 of the master SW flows to TERMINAL 4 of the master SW to TERMINAL 1 of the power window motor LH to TERMINAL 2 to TERMINAL 3 of the master SW to TERMINAL 1 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 3 of the master SW and TERMINAL 1 increases. As a result, the solenoid stops operating, the auto SW turns off and the flowing from TERMINAL 9 of the master SW to TERMINAL 4 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 3 of the master SW to TERMINAL 1, 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 (Passenger's Window)

With the power window control SW RH is pushed to the up side, the current flowing from TERMINAL 4 of the power window control SW RH flows to TERMINAL 3 of the power window control SW RH to TERMINAL 1 of the power window motor RH to TERMINAL 2 to TERMINAL 1 of the power window control SW RH to TERMINAL 2 to TERMINAL 10 of the master SW to TERMINAL 1 to GROUND. This causes the power window motor 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 reverse.

When the window lock SW is pushed to the lock side, the ground circuit to the passenger's window becomes open. As a result, even if Open/Close operation of the passenger's window is tried, the current from TERMINAL 9 of the power window master SW is not grounded and the motor does not rotate, so the passenger's window can not be operated and window lock occurs.

### 5. Key Off Power Window Operation

With the ignition SW turned from on to off, the integration relay operates for about 43 seconds and current flows from TERMINAL 1 of the power relay to TERMINAL 2 to GROUND. For this period, current also flows TERMINAL 5 to TERMINAL 3. This current flows to TERMINAL 9 of the power window master SW and to TERMINAL 4 of the power window control SW RH. As a result, for about 43 seconds after the ignition SW is turned off, it is possible to raise and lower the power window by the functioning of the integration relay. Also, by opening the door (Door courtesy SW on) within about 43 seconds after turning the ignition SW to off, a signal is input to TERMINAL 3, 14 or 15 of the integration relay. As a result, the integration relay turns off, and up and down movement of the window stops.

## Service Hints

### D16, D17 Door Courtesy SW LH, RH

1-Ground : Continuity with door open

### INTEGRATION Relay

9-Ground : Approx. 12 volts with ignition SW at ON position

3-Ground : Always approx. 12 volts

14-Ground : Continuity with front LH door open

15-Ground : Continuity with front RH door open (Standard cab)

15-Ground : Continuity with front RH, rear LH, RH door open (Access cab)

### P9 Power Window Control SW Front RH

4-Ground : Approx. 12 volts with ignition SW on and stays at 12 volts for 41.5 -44.5 seconds after the ignition SW is turned off, but if a door is open in the approx. 43 seconds period, voltage will drop to 0 volts

### P10 Power Window Master SW

1-Ground : Always continuity

9-Ground : Approx. 12 volts with ignition SW on and stays at 12 volts for 41.5 -44.5 seconds after the ignition SW is turned off, but if a door is opened in this approx. 43 seconds period, voltage will drop to 0 volts

3-Ground : Approx. 12 volts with ignition SW at ON position and master SW at UP position

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
D16	60 (*3)	J4	58	P10	61 (*4)
	61 (*4)	J5	58	P11	60 (*3)
D17	60 (*3)	J21	A 58		P12
	61 (*4)	J22	B 58	60 (*3)	
D18	60 (*3)	J23	A 58	P21	61 (*4)
D19	60 (*3)	J24	B 58		58
D20	60 (*3)	P9	60 (*3)	P22	60 (*3)
D21	60 (*3)		61 (*4)		
J3	58	P10	60 (*3)		

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1H	24 (*2)	
	28 (*1)	
1J	24 (*2)	
	28 (*1)	

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB3	78	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IB4		
IF4	80	Front Door RH Wire and Cowl Wire (Right Kick Panel)
BE2	82 (*3)	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BF2	82 (*3)	Floor No.1 Wire and Cowl Wire (Center of Right Rocker Panel)
BG2	82 (*3)	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)
BH1	82 (*3)	Floor No.1 Wire and Rear Door No.1 Wire (Under the Right Quarter Panel)

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat

\* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

## Power Window (Access/Standard Cab)



### : Ground Points

Code	See Page	Ground Points Location
IE	78	Left Kick Panel
IF		
BJ	82 (*3)	Inside of Rear Door LH
BK	82 (*3)	Inside of Rear Door RH



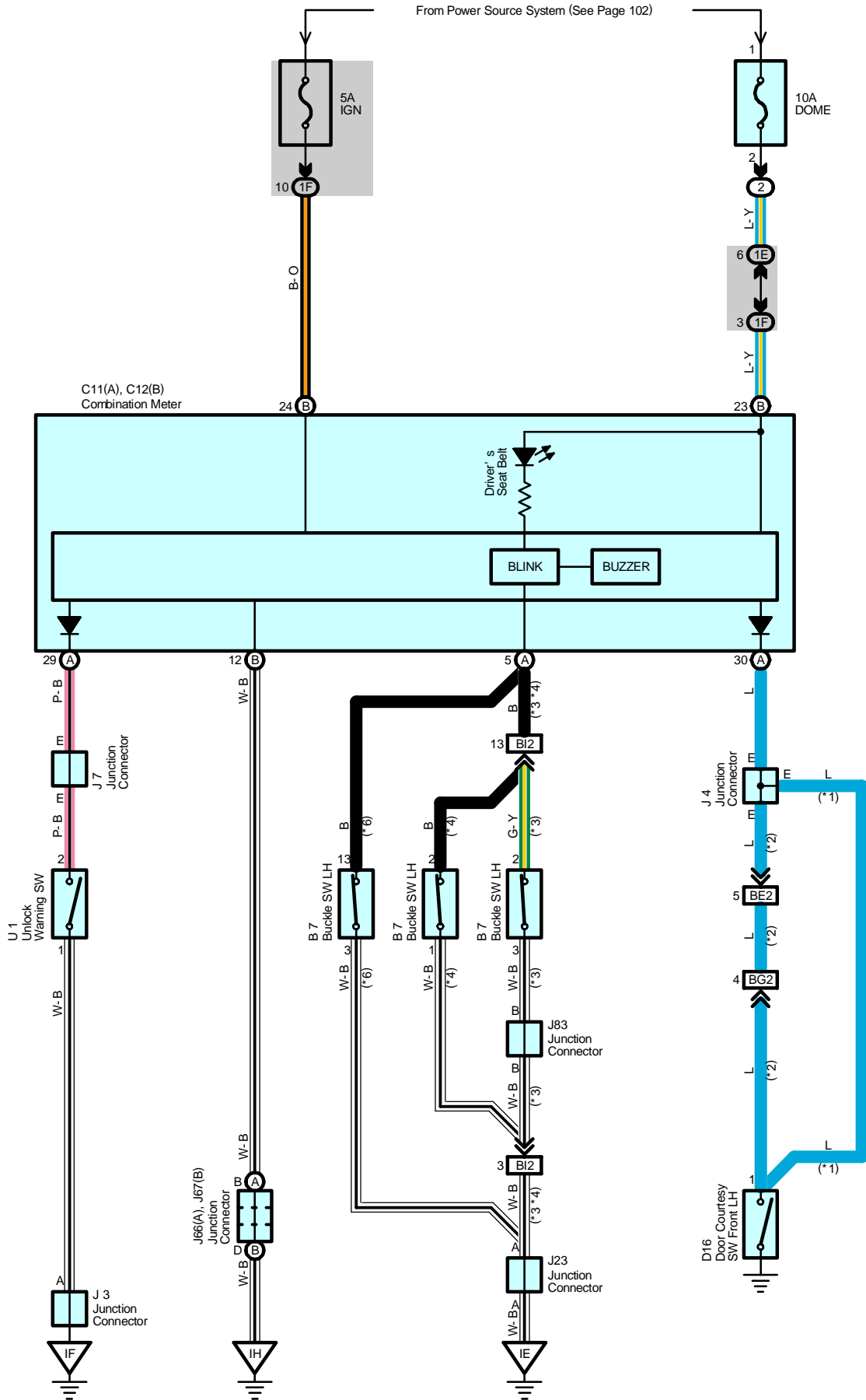
### : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B8	82 (*3)	Rear Door No.1 Wire LH	B9	82 (*3)	Rear Door No.1 Wire RH

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat



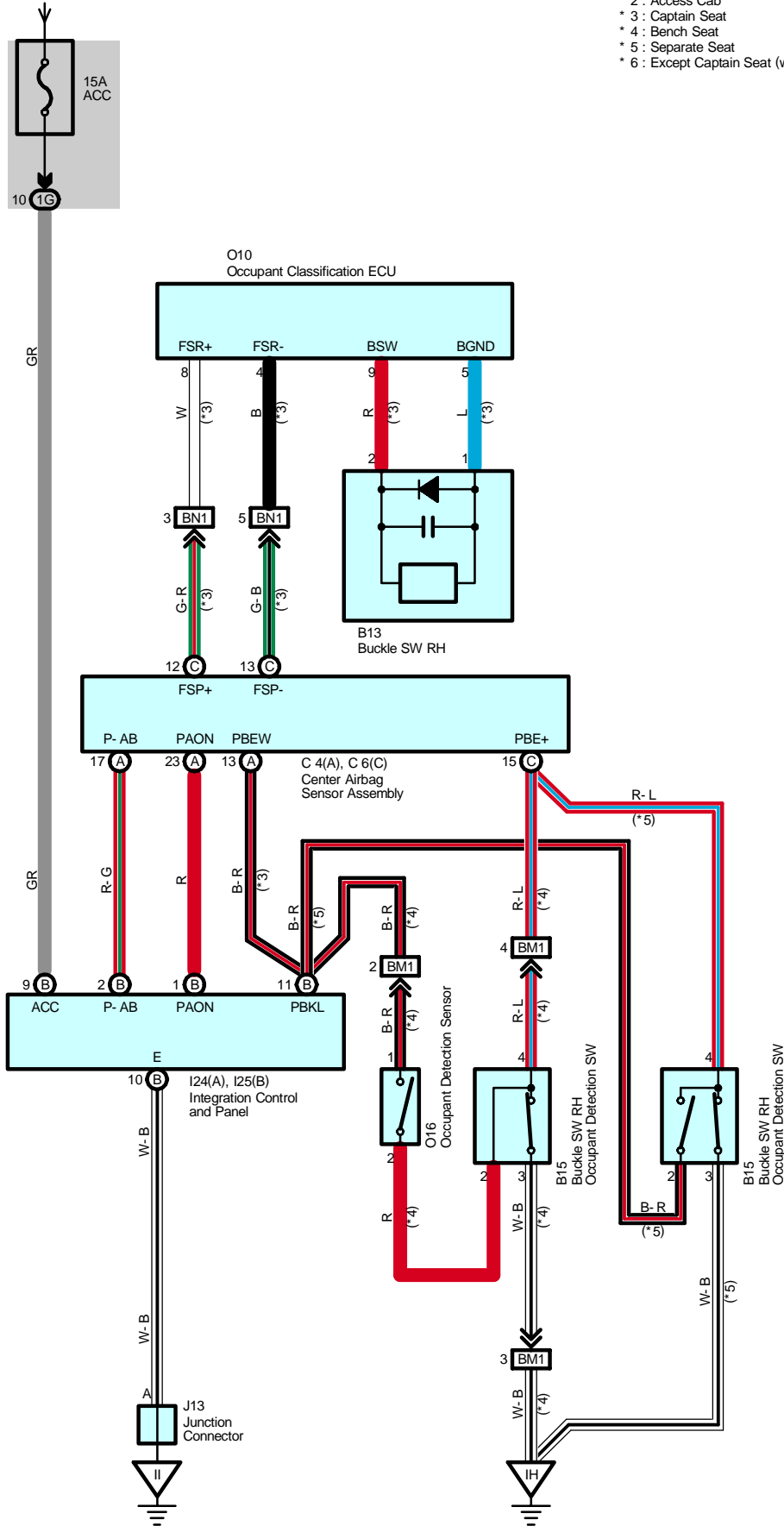
# Key Reminder and Seat Belt Warning (Access/Standard Cab)





From Power Source System (See Page 102)

- \* 1 : Standard Cab
- \* 2 : Access Cab
- \* 3 : Captain Seat
- \* 4 : Bench Seat
- \* 5 : Separate Seat
- \* 6 : Except Captain Seat (w/ Power Seat)



# Key Reminder and Seat Belt Warning (Access/Standard Cab)

## System Outline

Current always flows to TERMINAL (B) 23 of the combination meter through the DOME fuse.

### 1. Seat Belt Warning System

When the ignition SW is turned on, current flows from the IGN fuse to TERMINAL (B) 24 of the combination meter. This current activates the combination meter and the current flowing through the seat belt warning light flows from TERMINAL (B) 12 to GROUND, causing the warning light to light up. A buckle SW off signal is input to TERMINAL (A) 5 of the combination meter to TERMINAL (B) 12 to GROUND, causing the warning light to light up. A buckle SW on signal is input to TERMINAL (A) 5 of the combination meter, the current flowing to TERMINAL (B) 23 of the combination meter flows from TERMINAL (B) 12 to GROUND and the seat belt warning buzzer sounds. However, if the seat belt is put on during this period (While the buzzer is sounding), signal input to TERMINAL (A) 5 of the combination meter stops and the current flow from TERMINAL (B) 23 of the combination meter to TERMINAL (B) 12 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 driver's door open (Door courtesy SW on), when a signal is input to TERMINAL (A) 30 of the combination meter, the combination meter operates, current flows from TERMINAL (B) 23 of the combination meter to TERMINAL (B) 12 to GROUND and key reminder buzzer sounds.

## Service Hints

### B7 Buckle SW LH (Captain Seat)

2-3 : Closed with the driver's seat belt in use

### B7 Buckle SW LH (Separate Seat)

13-3 : Closed with the driver's seat belt in use

### B7 Buckle SW LH (Bench Seat)

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

### D16 Door Courtesy SW Front LH

1-Ground : Closed with the front LH door open

### U1 Unlock Warning SW

1-2 : Closed with the ignition key in cylinder

### C11 (A), C12 (B) Combination Meter

(B)12-Ground : Always continuity

(A)30-Ground : Continuity with the front LH door open

(A)29-Ground : Continuity with the ignition key in cylinder

(A) 5-Ground : Continuity with the driver's seat belt in use

(B)23-Ground : Always approx. 12 volts

(B)24-Ground : Approx. 12 volts with the ignition SW at ON or ST position

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B7	60 (*9)	C11	A 56	J13	58
	62 (*7)	C12	B 56	J23	58
	63 (*8)	D16	60 (*3)	J66	A 58
B13	62 (*7)		61 (*4)	J67	B 58
B15	60 (*3)	I24	A 57	J83	62 (*7)
	61 (*4)	I25	B 57	O10	62 (*7)
	63 (*8)	J3	58	O16	63 (*8)
C4	A 56	J4	58	U1	59
C6	C 56	J7	58		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat

\* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

 : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1G	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

 : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
BE2	82 (*3)	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BG2	82 (*3)	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)
BI2	86 (*6)	Cowl Wire and Seat No.2 Wire (Under the Driver's Seat)
	88 (*5)	
BM1	88 (*5)	Cowl Wire and Seat No.1 Wire (Under the Passenger's Seat)
BN1	86 (*6)	Seat No.1 Wire and Cowl Wire (Under the Passenger's Seat)

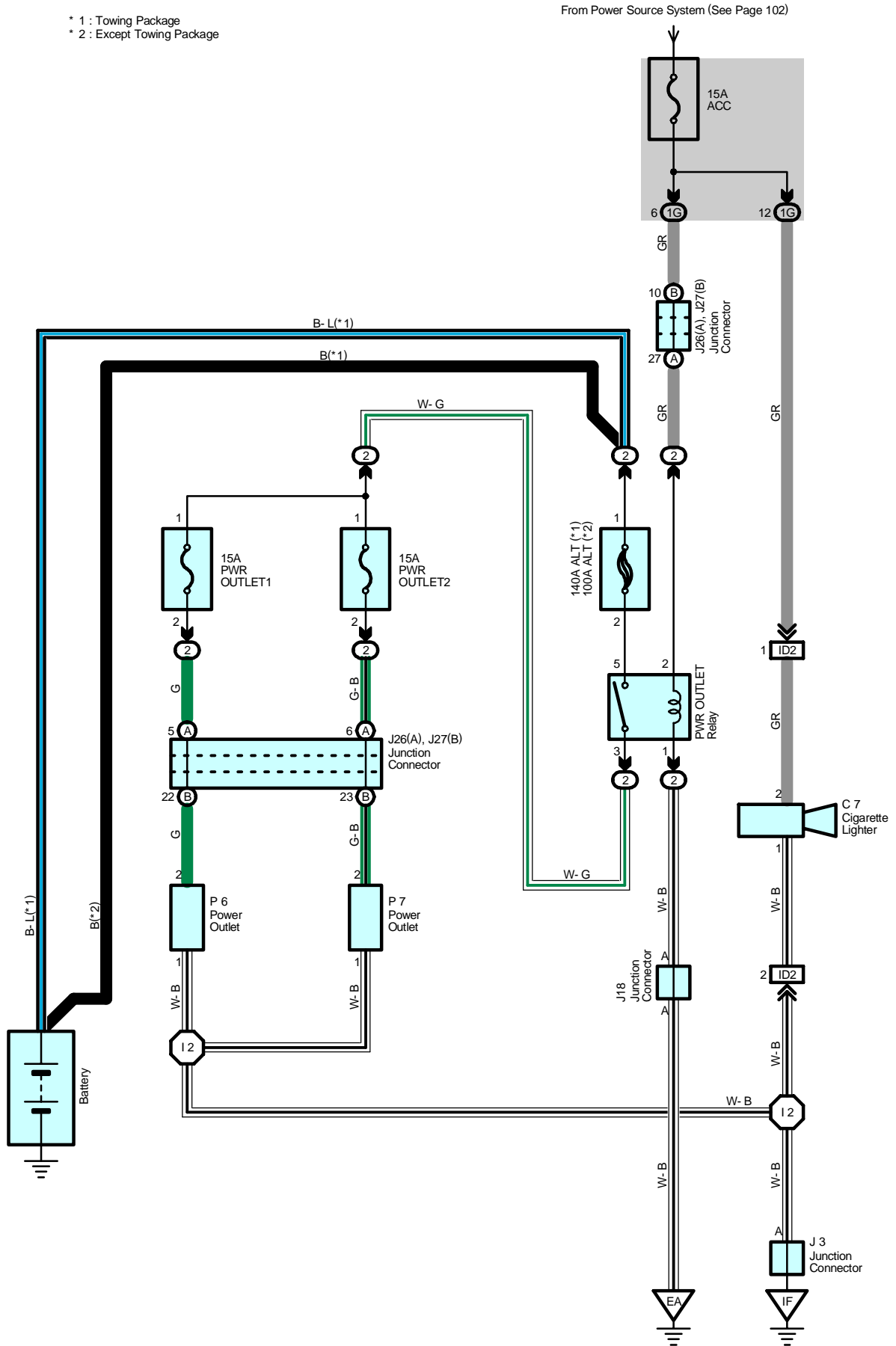
 : Ground Points

Code	See Page	Ground Points Location
IE	78	Left Kick Panel
IF		
IH	78	Right Kick Panel
II		

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Cigarette Lighter and Power Outlet (Access/Standard Cab)

- \* 1 : Towing Package
- \* 2 : Except Towing Package



## Service Hints

### C7 Cigarette Lighter

2-Ground : Approx. 12 volts with ignition SW at ON or ACC position

1-Ground : Always continuity

### P6, P7 Power Outlet

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

1-Ground : Always continuity

### ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C7	<a href="#">56</a>	J18	<a href="#">55 (1GR-FE)</a>	P6	<a href="#">58</a>
J3	<a href="#">58</a>	J26	A	<a href="#">58</a>	P7
J18	<a href="#">53 (2UZ-FE)</a>	J27	B	<a href="#">58</a>	

### ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	<a href="#">23</a>	Engine Room R/B (Engine Compartment Left)

### ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	<a href="#">24 (*2)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	

### □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
ID2	<a href="#">78</a>	Cigarette Lighter Wire and Cowl Wire (Instrument Panel Brace LH)

### ▽ : Ground Points

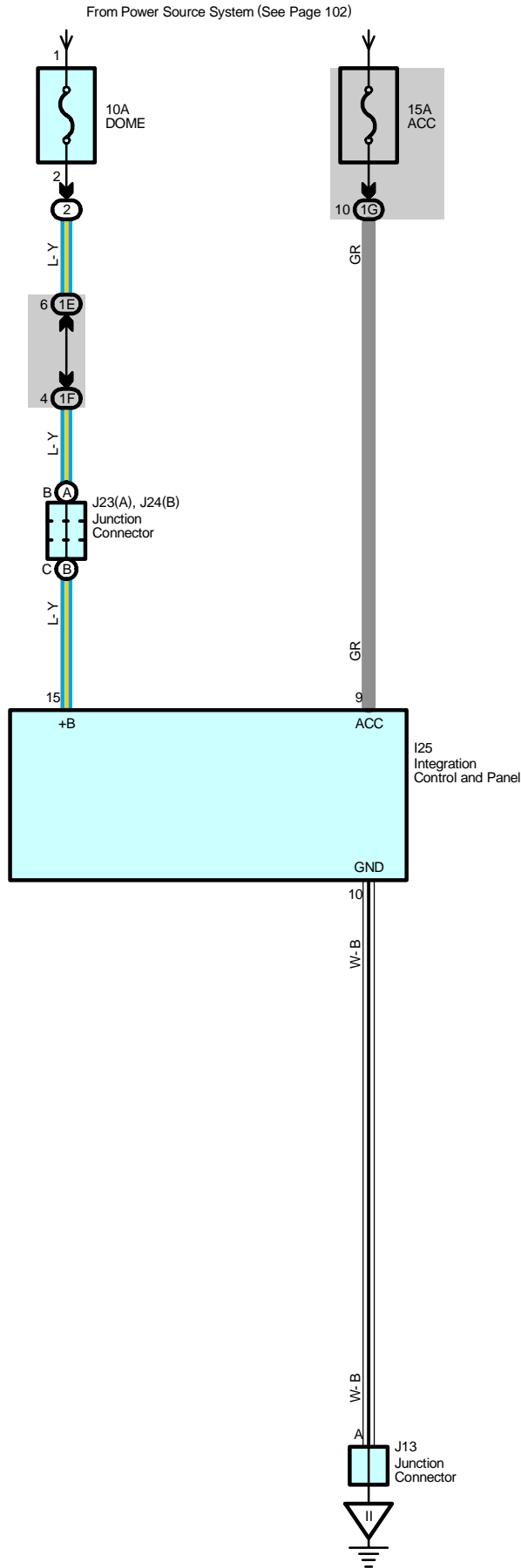
Code	See Page	Ground Points Location
EA	<a href="#">74 (2UZ-FE)</a>	Front Left Fender
	<a href="#">76 (1GR-FE)</a>	
IF	<a href="#">78</a>	Left Kick Panel

### ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I2	<a href="#">80</a>	Cowl Wire			

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Clock (Access/Standard Cab)



**Service Hints**

**I25 (B) Integration Control and Panel**

- (A)10-Ground : Always continuity
- (B) 9-Ground : Approx. 12 volts with ignition SW at ON or ACC position
- (B)15-Ground : Always approx. 12 volts

**○ : Parts Location**

Code	See Page	Code	See Page	Code	See Page
I25	57	J23	A 58		
J13	58	J24	B 58		

**○ : Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

**○ : Junction Block and Wire Harness Connector**

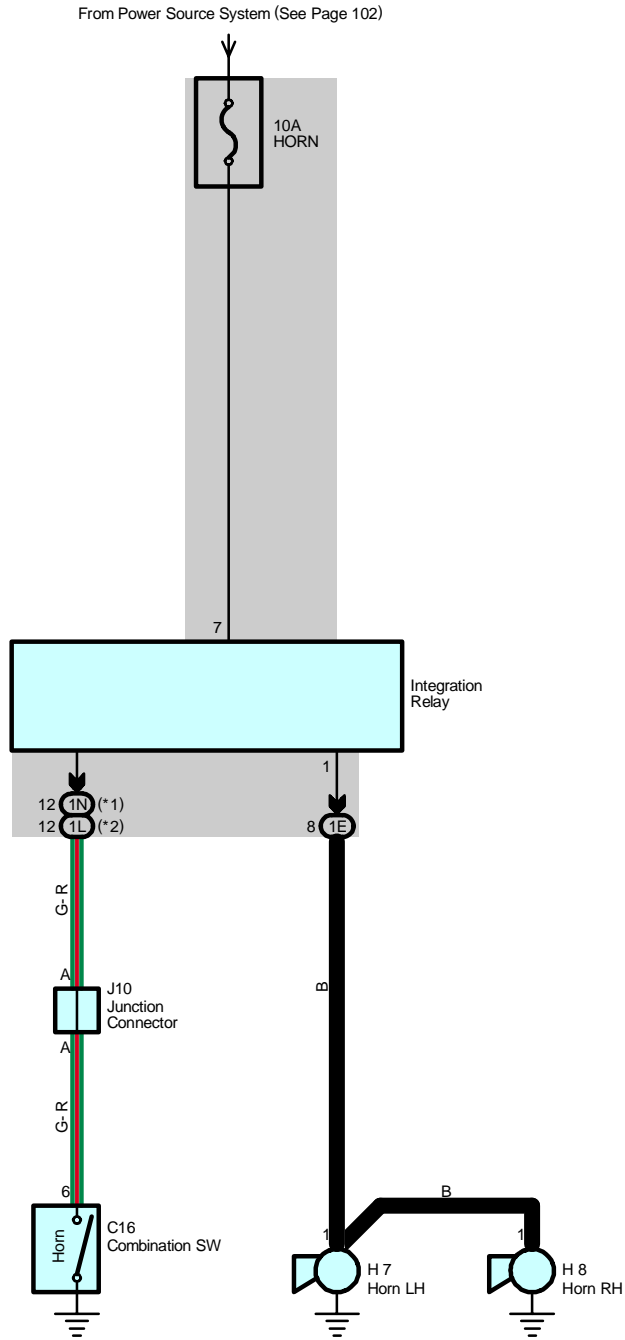
Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1G	24 (*2)	
	28 (*1)	

**▽ : Ground Points**

Code	See Page	Ground Points Location
II	78	Right Kick Panel

- \* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat
- \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Horn (Access/Standard Cab)



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



**Service Hints**

**C16 Combination SW**

6-Ground : Continuity with horn SW on

**○ : Parts Location**

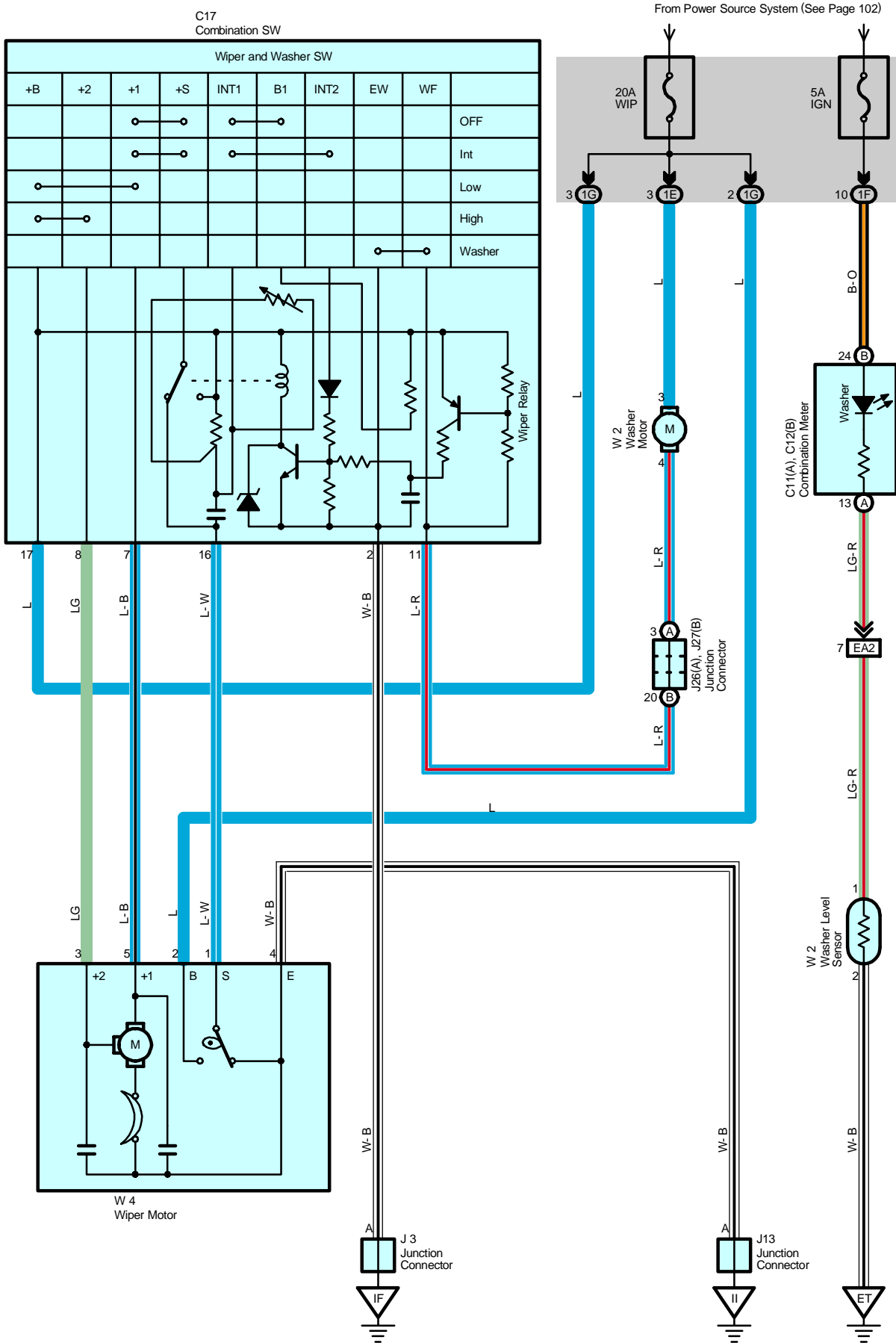
Code	See Page	Code	See Page	Code	See Page
C16	<a href="#">56</a>	H7	<a href="#">54 (1GR-FE)</a>	H8	<a href="#">54 (1GR-FE)</a>
H7	<a href="#">52 (2UZ-FE)</a>	H8	<a href="#">52 (2UZ-FE)</a>	J10	<a href="#">58</a>

**○ : Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	<a href="#">24 (*2)</a>	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	
1L	<a href="#">25 (*2)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1N	<a href="#">29 (*1)</a>	

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Wiper and Washer with INT TIME Switch (Access/Standard Cab)



## System Outline

With the ignition SW turned on, current flows to TERMINAL 17 of the wiper and washer SW, TERMINAL 3 of the washer motor and TERMINAL 2 of the wiper motor through the WIP 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 Interlocking Operation

With the washer SW turned to on, current flows from TERMINAL 3 of the washer motor to TERMINAL 4 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

### C17 Combination 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 approx. 1.6 to 10.7 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

### W4 Wiper Motor

1-2 : Closed unless wiper motor at STOP position

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page	
C11	A	56	J13	58	W2	55 (1GR-FE)
C12	B	56	J26	A	58	W4
C17		56	J27	B	58	
J3		58	W2		53 (2UZ-FE)	

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1G	24 (*2)	
	28 (*1)	

\* 1 : w/ Daytime Running Light   \* 2 : w/o Daytime Running Light   \* 3 : Access Cab   \* 4 : Standard Cab   \* 5 : Bench Seat  
 \* 6 : Captain Seat   \* 7 : Access Cab Captain Seat   \* 8 : Standard Cab Bench Seat   \* 9 : Access Cab w/o Power Seat

## Wiper and Washer with INT TIME Switch (Access/Standard Cab)

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 : Connector Joining Wire Harness and Wire Harness

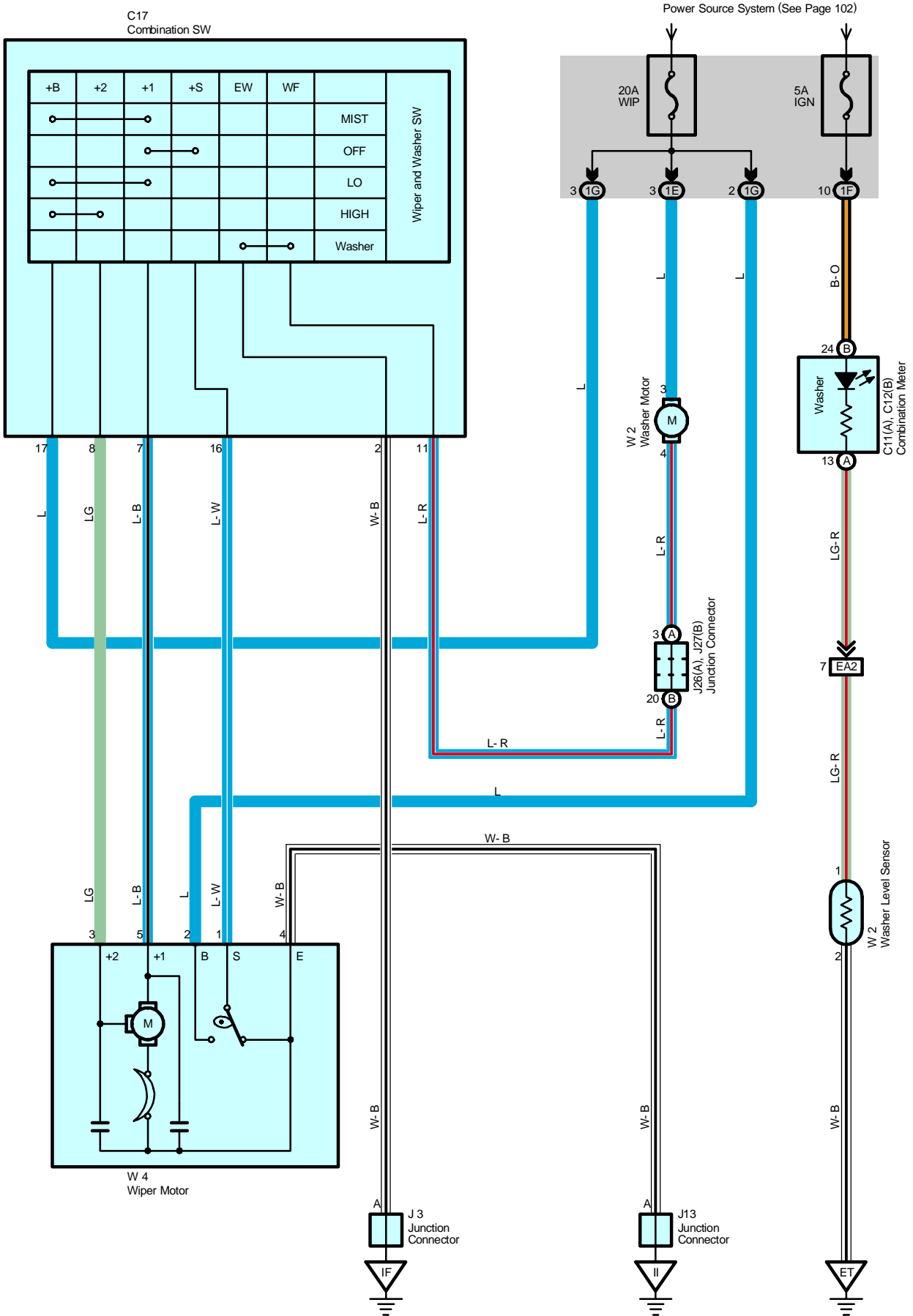
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA2	<a href="#">74 (2UZ-FE)</a>	Cowl Wire and Engine Room Main Wire (Right Fender)
	<a href="#">76 (1GR-FE)</a>	

 : Ground Points

Code	See Page	Ground Points Location
ET	<a href="#">74 (2UZ-FE)</a>	Front Right Fender
	<a href="#">76 (1GR-FE)</a>	
IF	<a href="#">78</a>	Left Kick Panel
II	<a href="#">78</a>	Right Kick Panel



# Wiper and Washer without INT TIME Switch (Access/Standard Cab)



## System Outline

With the ignition SW turned on, current flows to TERMINAL 17 of the wiper and washer SW, TERMINAL 3 of the washer motor and TERMINAL 2 of the wiper motor through the WIP 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 Interlocking Operation

With the washer SW turned to on, current flows from TERMINAL 3 of the washer motor to TERMINAL 4 to TERMINAL 11 of the wiper and washer SW to TERMINAL 2 to GROUND and causes the washer motor to run, and the window washer is jetted.

## Service Hints

### C17 Combination 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-Ground : Continuity with washer SW on

### W4 Wiper Motor

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

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page	
C11	A	56	J13	58	W2	55 (1GR-FE)
C12	B	56	J26	A	58	53 (2UZ-FE)
C17		56	J27	B	58	55 (1GR-FE)
J3		58	W2		53 (2UZ-FE)	

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1G	24 (*2)	
	28 (*1)	

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA2	74 (2UZ-FE)	Cowl Wire and Engine Room Main Wire (Right Fender)
	76 (1GR-FE)	

- \* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

## Wiper and Washer without INT TIME Switch (Access/Standard Cab)

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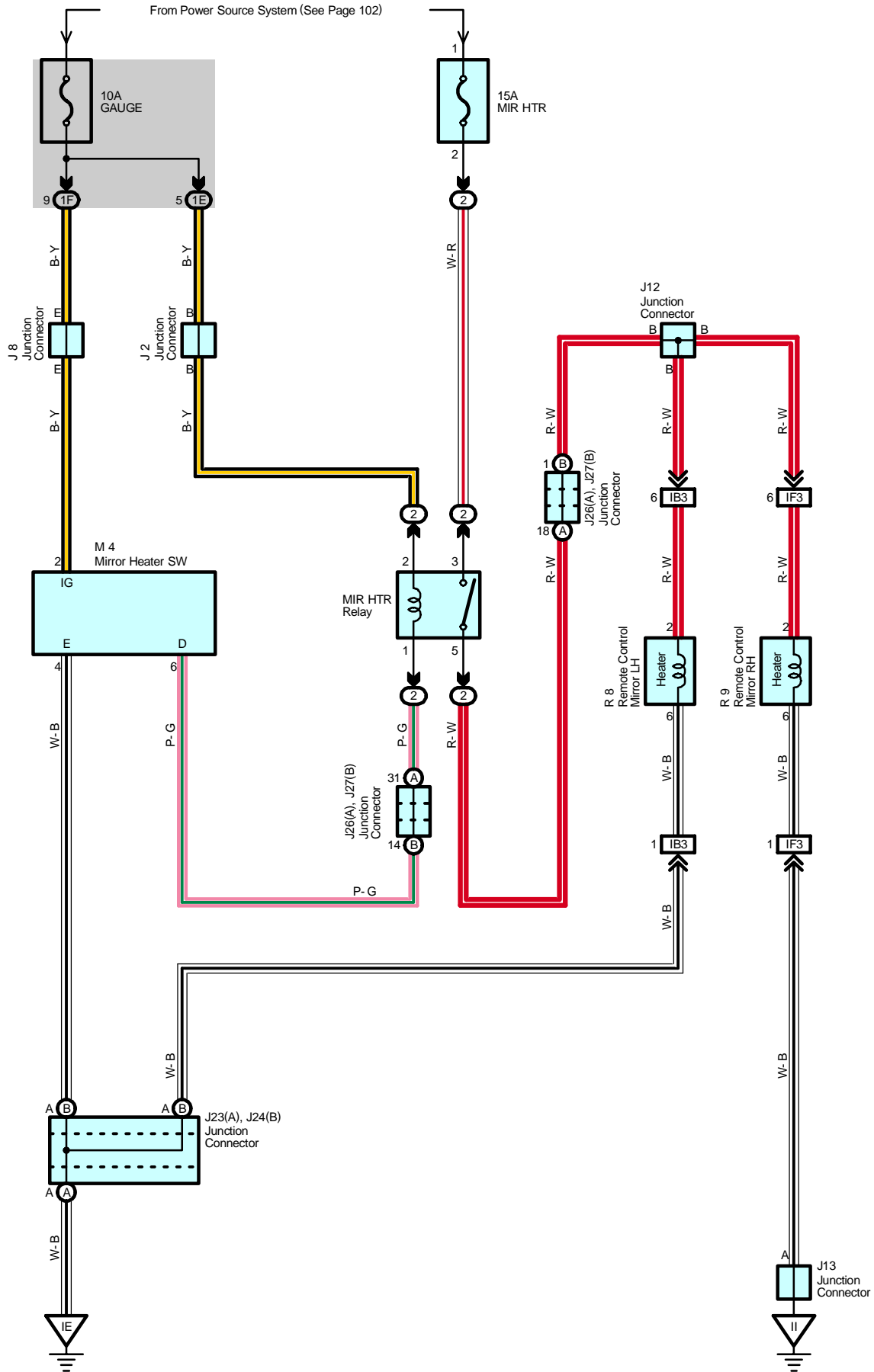
: Ground Points

Code	See Page	Ground Points Location
ET	<a href="#">74 (2UZ-FE)</a>	Front Right Fender
	<a href="#">76 (1GR-FE)</a>	
IF	<a href="#">78</a>	Left Kick Panel
II	<a href="#">78</a>	Right Kick Panel





# Mirror Heater (Access/Standard Cab)



## Service Hints

### MIR HTR Relay

5-3 : Closed with the ignition SW on and the mirror heater SW on

### M4 Mirror Heater SW

2-Ground : Approx. 12 volts with the ignition SW on

4-Ground : Always continuity

### R8, R9 Remote Control Mirror LH, RH

2-Ground : Approx. 12 volts with the ignition SW on and the mirror heater SW on

6-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page	
J2	53 (2UZ-FE)	J23	A	58	R8	60 (*3)
	55 (1GR-FE)	J24	B	58		61 (*4)
J8	58	J26	A	58	R9	60 (*3)
J12	58	J27	B	58		61 (*4)
J13	58	M4		58		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB3	78	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF3	80	Front Door RH Wire and Cowl Wire (Right Kick Panel)

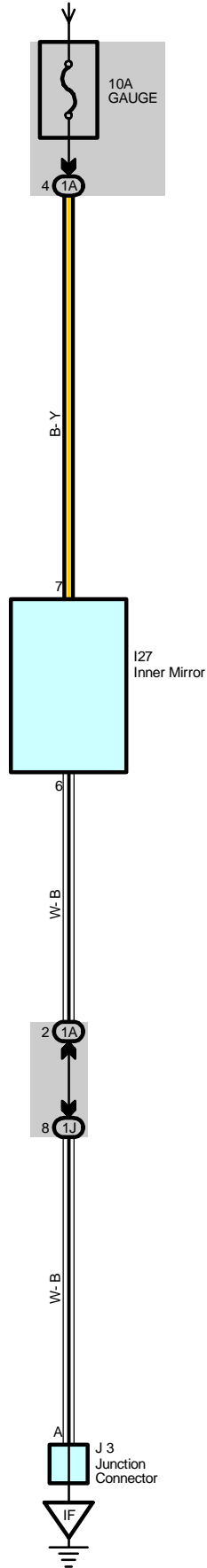
## ▽ : Ground Points

Code	See Page	Ground Points Location
IE	78	Left Kick Panel
II	78	Right Kick Panel

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Automatic Glare-Resistant EC Mirror (Access/Standard Cab)

From Power Source System (See Page 102)



**Service Hints**

**I27 Inner Mirror**

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

 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
I27	60 (*3)	I27	61 (*4)	J3	58

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24 (*2)	Roof Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1J	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

 : **Ground Points**

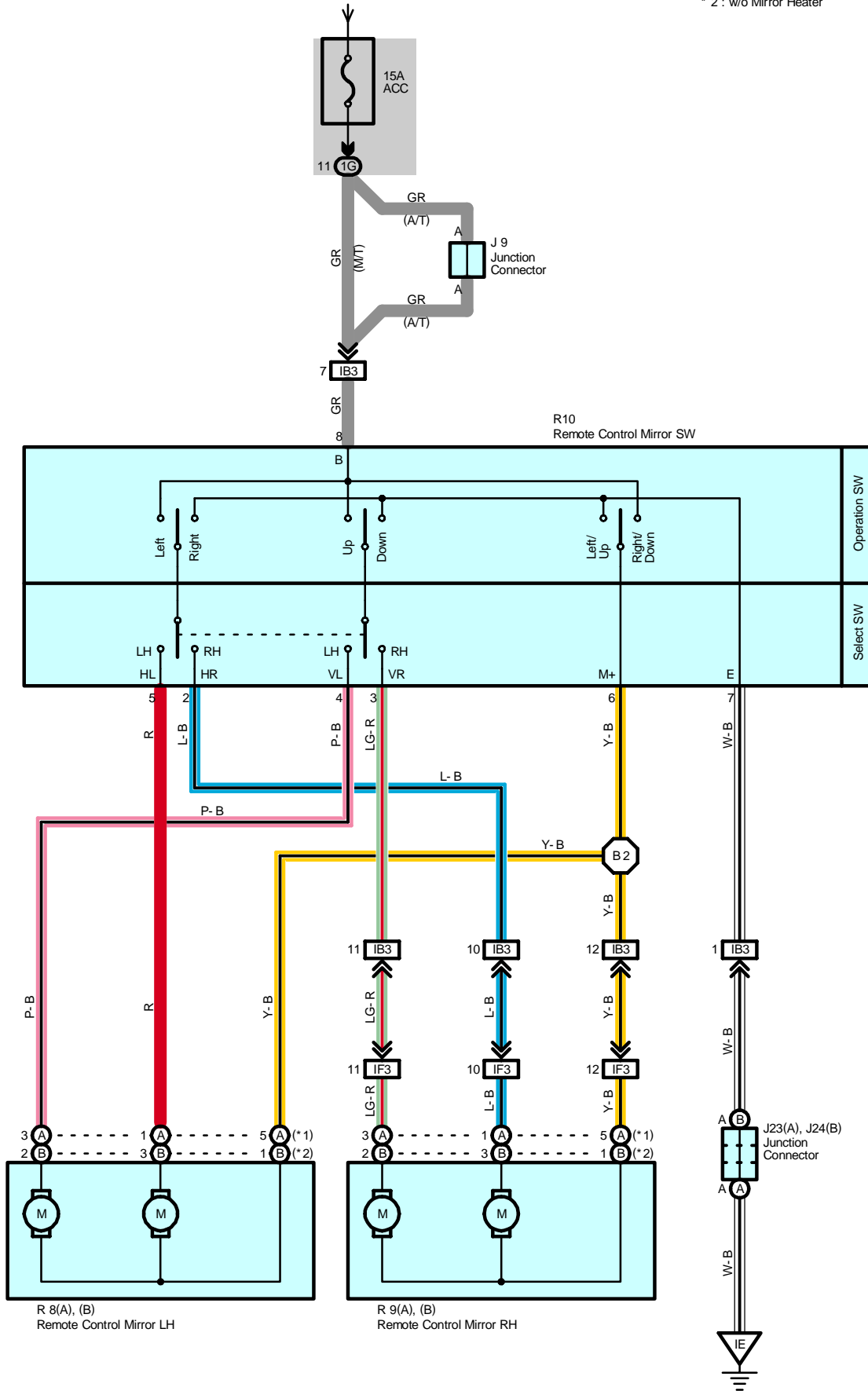
Code	See Page	Ground Points Location
IF	78	Left Kick Panel

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Remote Control Mirror (Access/Standard Cab)

From Power Source System (See Page 102)

\* 1 : w/ Mirror Heater  
 \* 2 : w/o Mirror Heater



## 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
J9		58	R8	B	60 (*3)	R9	B	61 (*4)
J23	A	58			61 (*4)	R10	60 (*3)	
J24	B	58	R9	A	60 (*3)		61 (*4)	
R8	A	60 (*3)			61 (*4)			
		61 (*4)	B	60 (*3)				

### ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

### □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB3	78	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF3	80	Front Door RH Wire and Cowl Wire (Right Kick Panel)

### ▽ : Ground Points

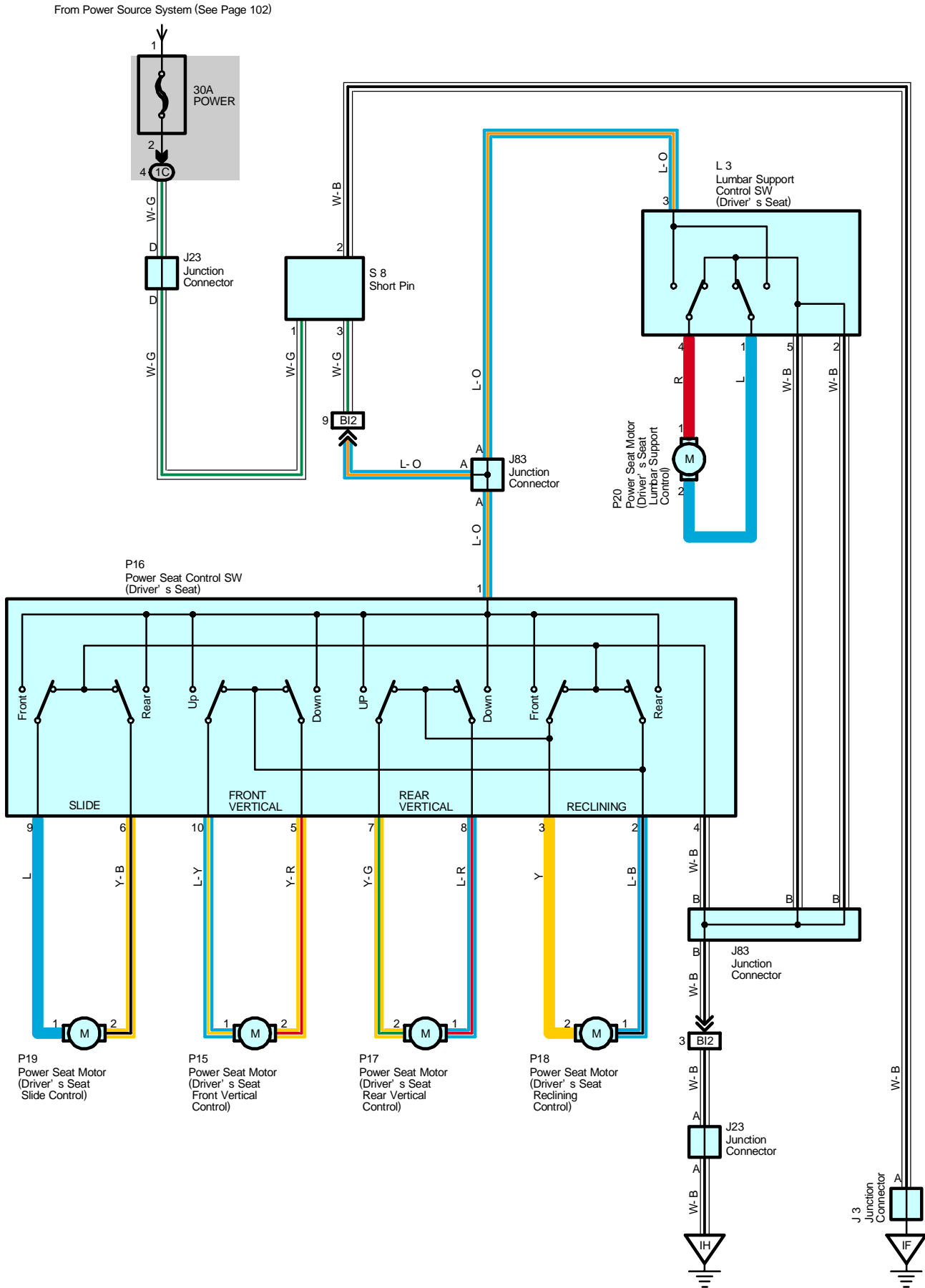
Code	See Page	Ground Points Location
IE	78	Left Kick Panel

### ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B2	82 (*3)	Front Door LH Wire	B2	84 (*4)	Front Door LH Wire

- \* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat
- \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Power Seat (Access/Standard Cab)





**Service Hints**

**P16 Power Seat Control SW (Driver's Seat)**

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

 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
J3	58	P15	62 (*7)	P19	62 (*7)
J23	58	P16	62 (*7)	P20	62 (*7)
J83	62 (*7)	P17	62 (*7)	S8	59
L3	62 (*7)	P18	62 (*7)		

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

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

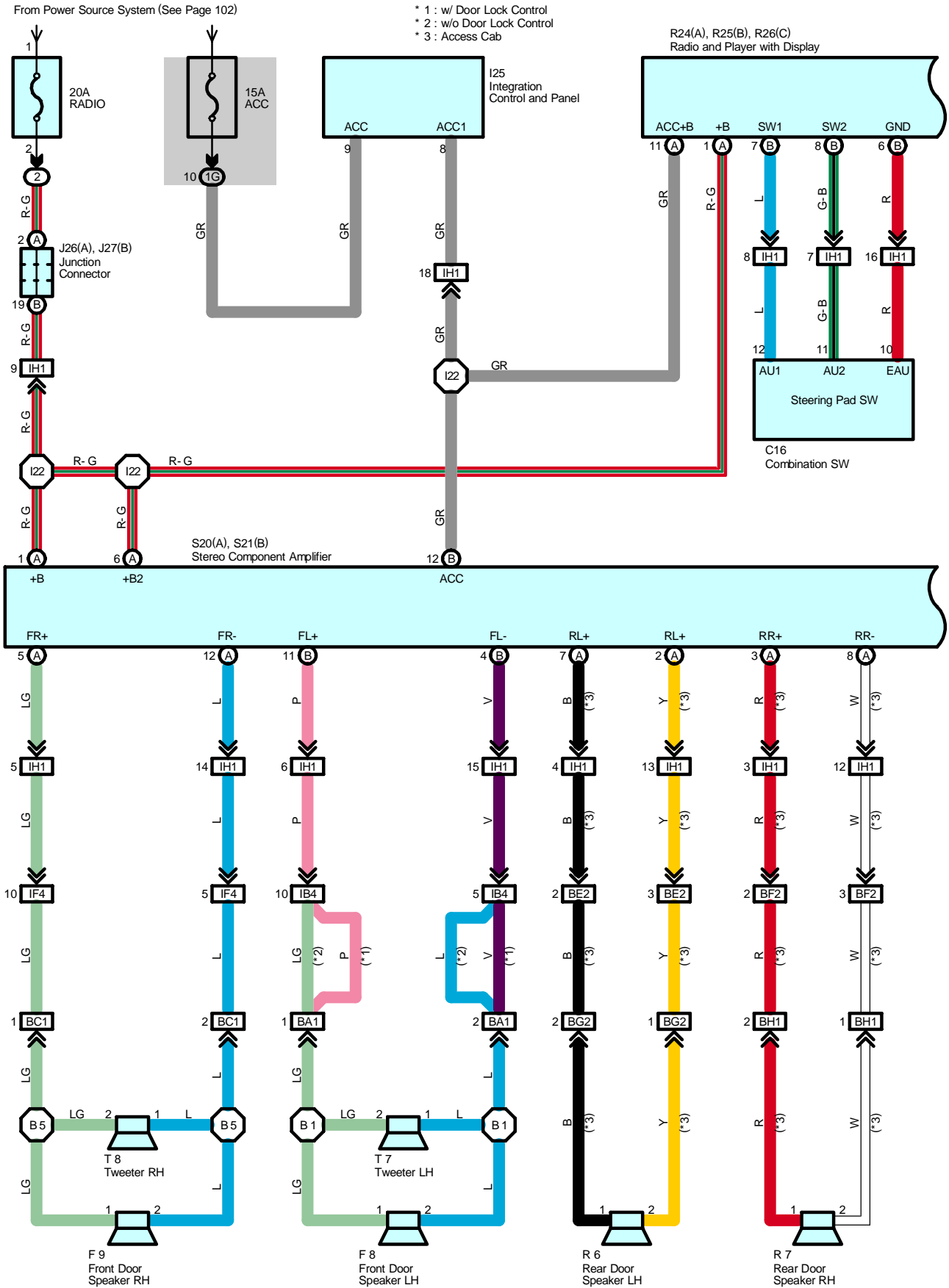
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
BI2	86 (*6)	Cowl Wire and Seat No.2 Wire (Under the Driver's Seat)
	88 (*5)	

 : **Ground Points**

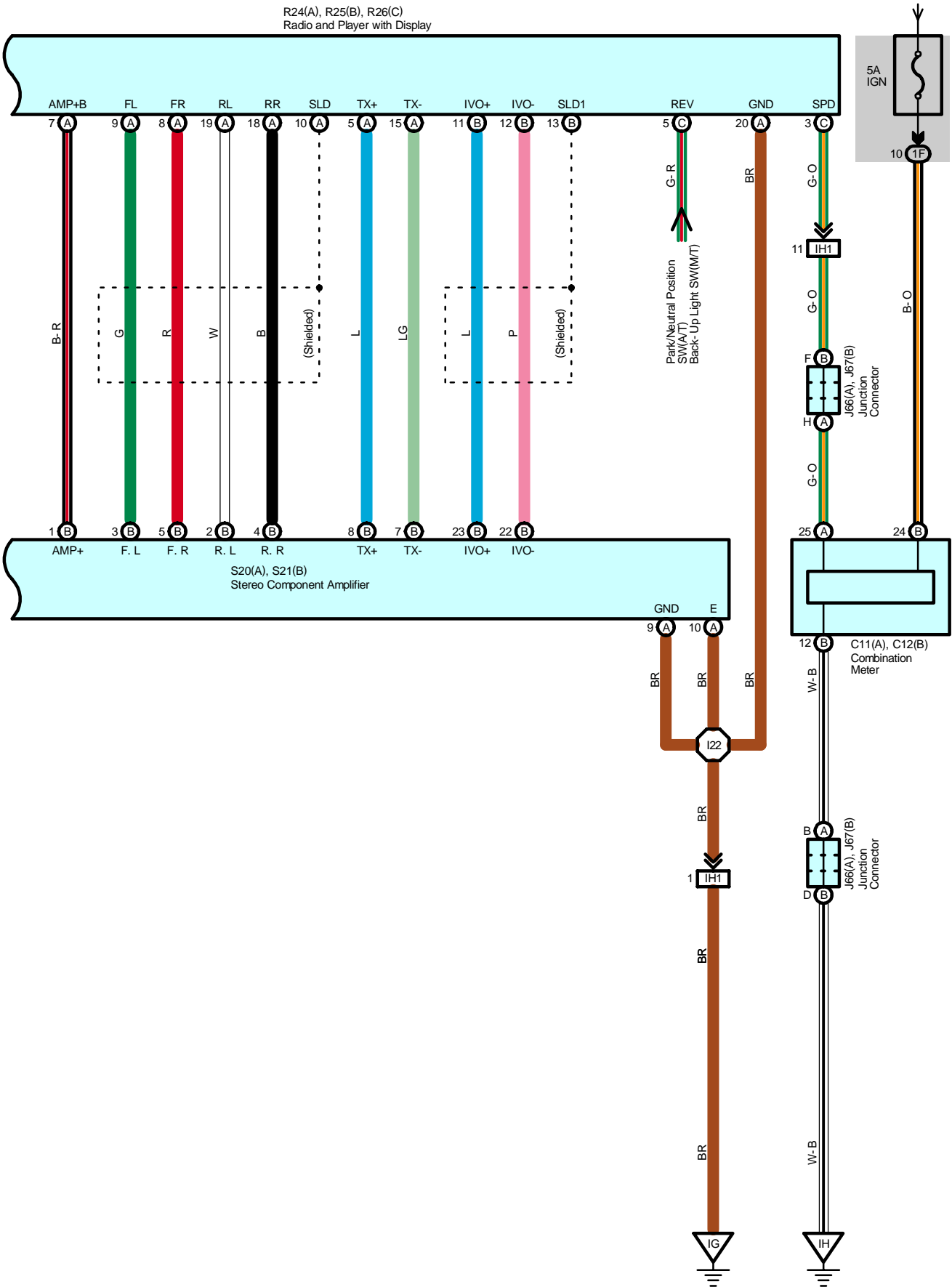
Code	See Page	Ground Points Location
IF	78	Left Kick Panel
IH	78	Right Kick Panel

- \* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat
- \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Navigation and Audio System (Access/Standard Cab)



From Power Source System (See Page 102)



# Navigation and Audio System (Access/Standard Cab)

## Service Hints

### R24 (A) Radio and Player

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

### S21 (B) Stereo Component Amplifier

- (A) 1-Ground : Always approx. 12 volts
- (A) 9, (A) 10-Ground : Always continuity
- (B) 12-Ground : Approx. 12 volts with ignition SW at ON or ACC position

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C11	A 56	J26	A 58	R26	C 59
C12	B 56	J27	B 58	S20	A 60 (*3)
C16	56	J66	A 58	S21	B 60 (*3)
F8	60 (*3)	J67	B 58	T7	60 (*3)
	61 (*4)	R6	60 (*3)		61 (*4)
F9	60 (*3)	R7	60 (*3)	T8	60 (*3)
	61 (*4)	R24	A 59		61 (*4)
I25	57	R25	B 59		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1G	24 (*2)	
	28 (*1)	

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB4	78	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF4	80	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IH1	80	Cowl Wire and Floor No.3 Wire (Instrument Panel Brace RH)
BA1	82 (*3)	Front Door LH Wire and Speaker Tweeter Wire LH (Inside of Front Door LH)
	84 (*4)	
BC1	82 (*3)	Front Door RH Wire and Speaker Tweeter Wire RH (Inside of Front Door RH)
	84 (*4)	
BE2	82 (*3)	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BF2	82 (*3)	Floor No.1 Wire and Cowl Wire (Center of Right Rocker Panel)
BG2	82 (*3)	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)
BH1	82 (*3)	Floor No.1 Wire and Rear Door No.1 Wire (Under the Right Quarter Panel)

## ▽ : Ground Points

Code	See Page	Ground Points Location
IG	78	Instrument Panel Brace RH
IH	78	Right Kick Panel

- \* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

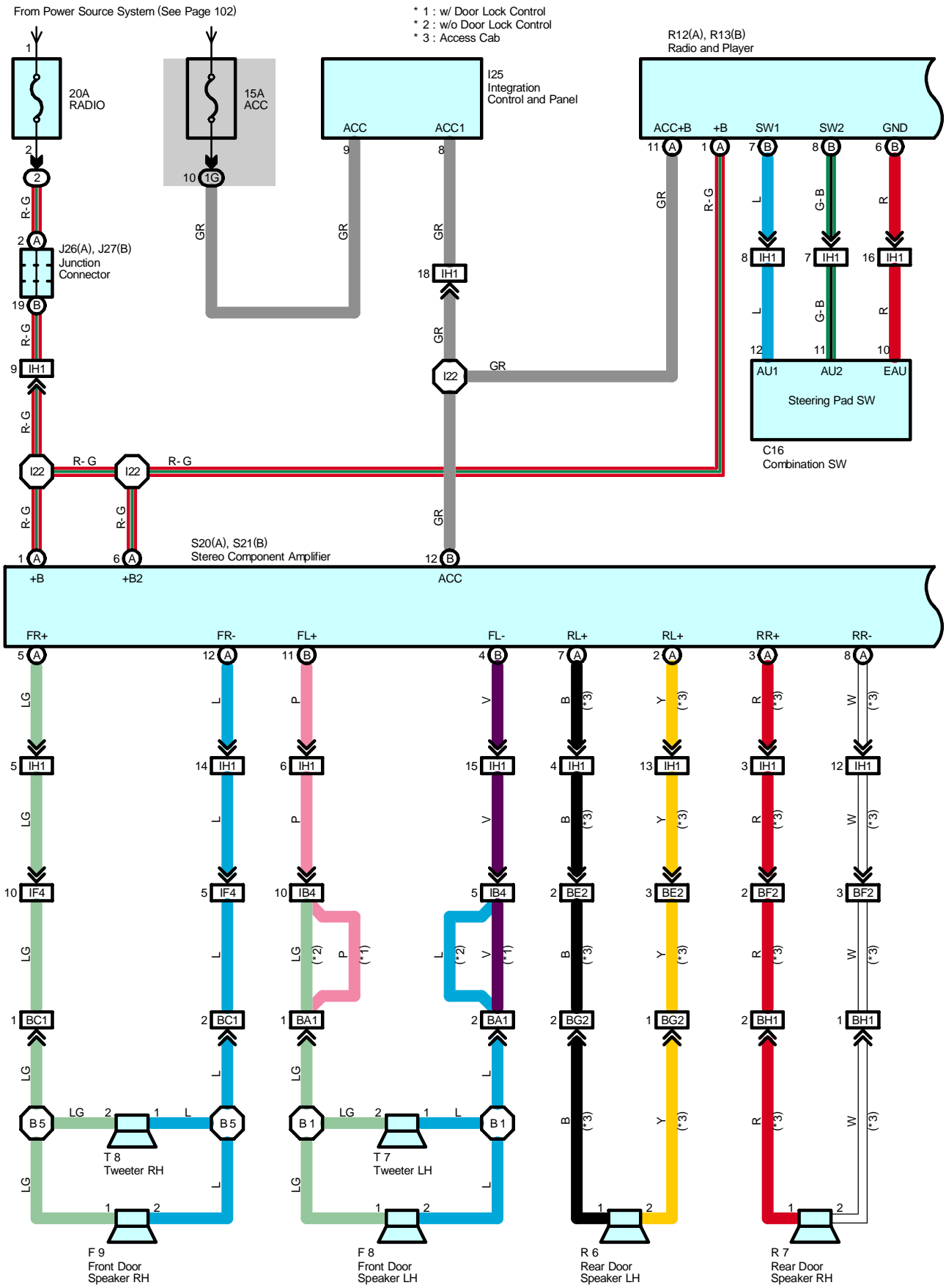


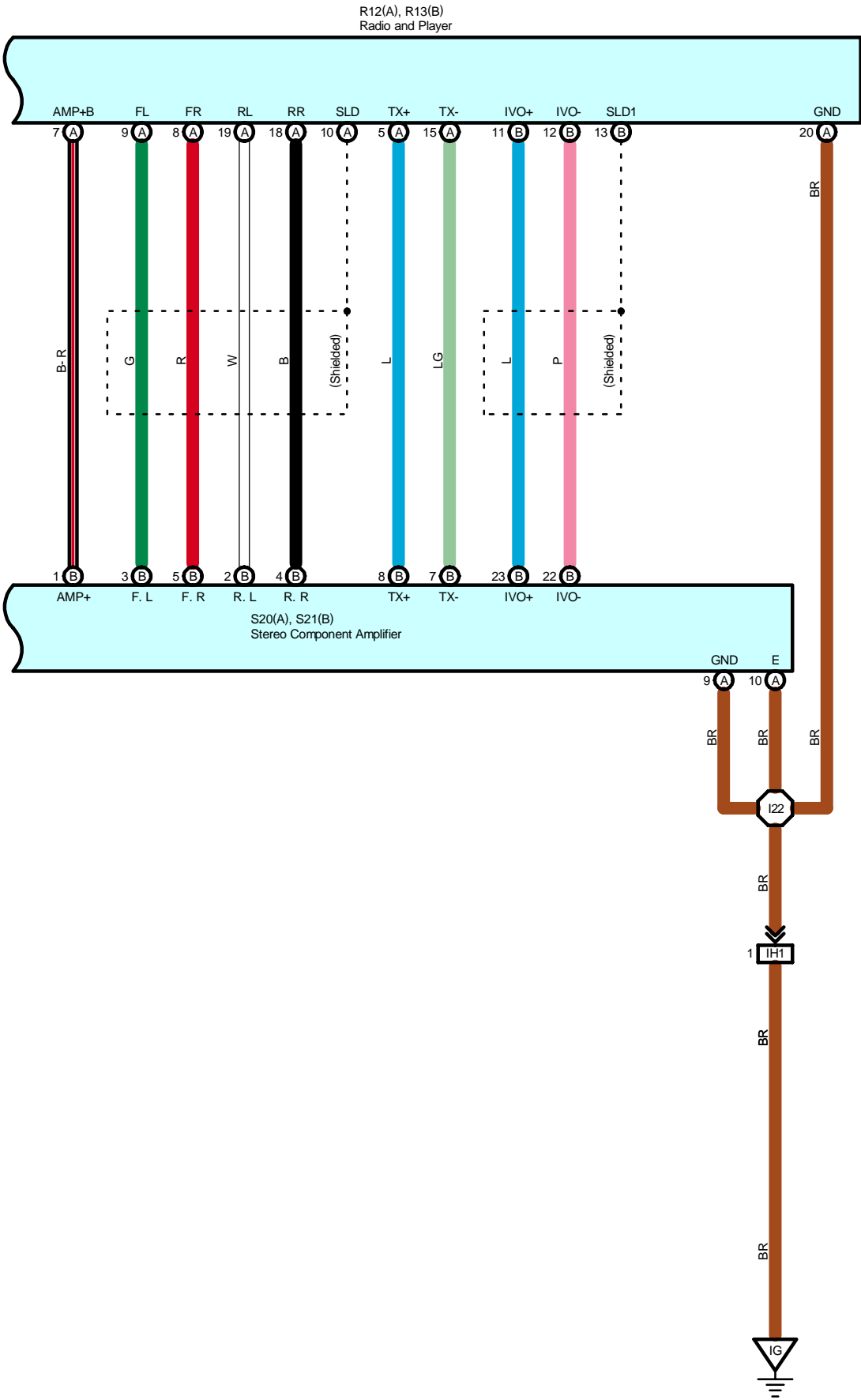
**: Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I22	80	Floor No.3 Wire	B5	82 (*3)	Speaker Tweeter Wire RH
B1	82 (*3)	Speaker Tweeter Wire LH		84 (*4)	
	84 (*4)				

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
\* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Audio System for Separate Amplifier (Access/Standard Cab)





# Audio System for Separate Amplifier (Access/Standard Cab)

## Service Hints

### R12 (A) Radio and Player

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

### S21 (B) Stereo Component Amplifier

- (A) 1-Ground : Always approx. 12 volts
- (A) 9, (A) 10-Ground : Always continuity
- (B) 12-Ground : Approx. 12 volts with ignition SW at ON or ACC position

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C16	56	J26	A 58	S20	A 60 (*3)
F8	60 (*3)	J27	B 58	S21	B 60 (*3)
	61 (*4)	R6	60 (*3)	T7	60 (*3)
F9	60 (*3)	R7	60 (*3)		T8
	61 (*4)	R12	A 59	60 (*3)	
I25	57	R13	B 59		61 (*4)

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB4	78	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF4	80	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IH1	80	Cowl Wire and Floor No.3 Wire (Instrument Panel Brace RH)
BA1	82 (*3)	Front Door LH Wire and Speaker Tweeter Wire LH (Inside of Front Door LH)
	84 (*4)	
BC1	82 (*3)	Front Door RH Wire and Speaker Tweeter Wire RH (Inside of Front Door RH)
	84 (*4)	
BE2	82 (*3)	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BF2	82 (*3)	Floor No.1 Wire and Cowl Wire (Center of Right Rocker Panel)
BG2	82 (*3)	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)
BH1	82 (*3)	Floor No.1 Wire and Rear Door No.1 Wire (Under the Right Quarter Panel)

## ▽ : Ground Points

Code	See Page	Ground Points Location
IG	78	Instrument Panel Brace RH

## ○ : Splice Points

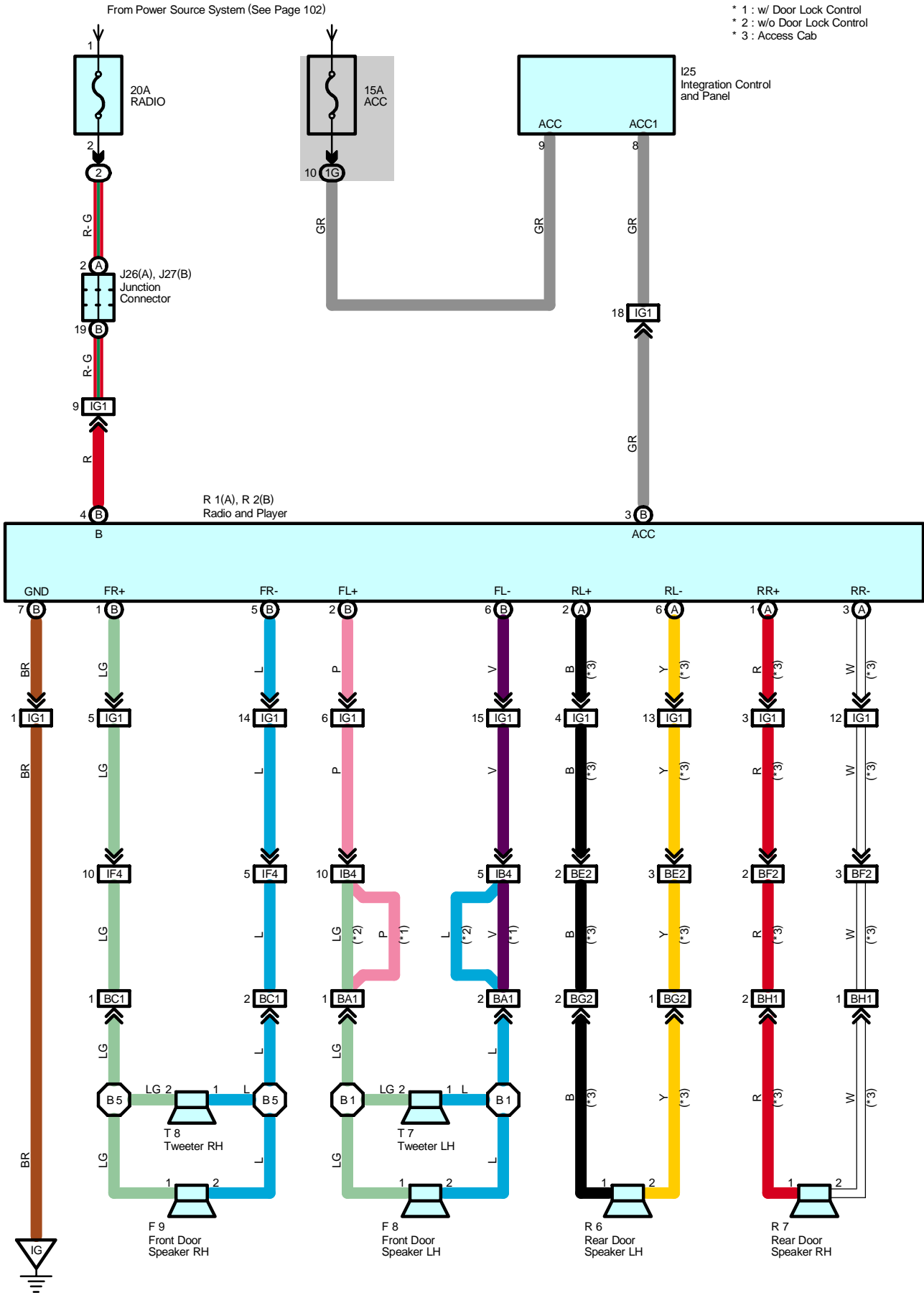
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I22	80	Floor No.3 Wire	B5	82 (*3)	Speaker Tweeter Wire RH
B1	82 (*3)	Speaker Tweeter Wire LH		84 (*4)	
	84 (*4)				

- \* 1 : w/ Daytime Running Light
- \* 2 : w/o Daytime Running Light
- \* 3 : Access Cab
- \* 4 : Standard Cab
- \* 5 : Bench Seat
- \* 6 : Captain Seat
- \* 7 : Access Cab Captain Seat
- \* 8 : Standard Cab Bench Seat
- \* 9 : Access Cab w/o Power Seat





# Audio System for Built-in Amplifier (Access/Standard Cab)



## Service Hints

### R2 (B) Radio and Player

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

### ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page	
F8	60 (*3)	J26	A	58	R7	60 (*3)
	61 (*4)	J27	B	58	T7	60 (*3)
F9	60 (*3)	R1	A	59		61 (*4)
	61 (*4)	R2	B	59	T8	60 (*3)
I25	57	R6		60 (*3)		61 (*4)

### ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

### ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

### □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB4	78	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF4	80	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IG1	80	Cowl Wire and Instrument Panel No.2 Wire (Instrument Panel Brace RH)
BA1	82 (*3)	Front Door LH Wire and Speaker Tweeter Wire LH (Inside of Front Door LH)
	84 (*4)	
BC1	82 (*3)	Front Door RH Wire and Speaker Tweeter Wire RH (Inside of Front Door RH)
	84 (*4)	
BE2	82 (*3)	Floor No.2 Wire and Cowl Wire (Center of Left Rocker Panel)
BF2	82 (*3)	Floor No.1 Wire and Cowl Wire (Center of Right Rocker Panel)
BG2	82 (*3)	Floor No.2 Wire and Rear Door No.2 Wire (Under the Left Quarter Panel)
BH1	82 (*3)	Floor No.1 Wire and Rear Door No.1 Wire (Under the Right Quarter Panel)

### ▽ : Ground Points

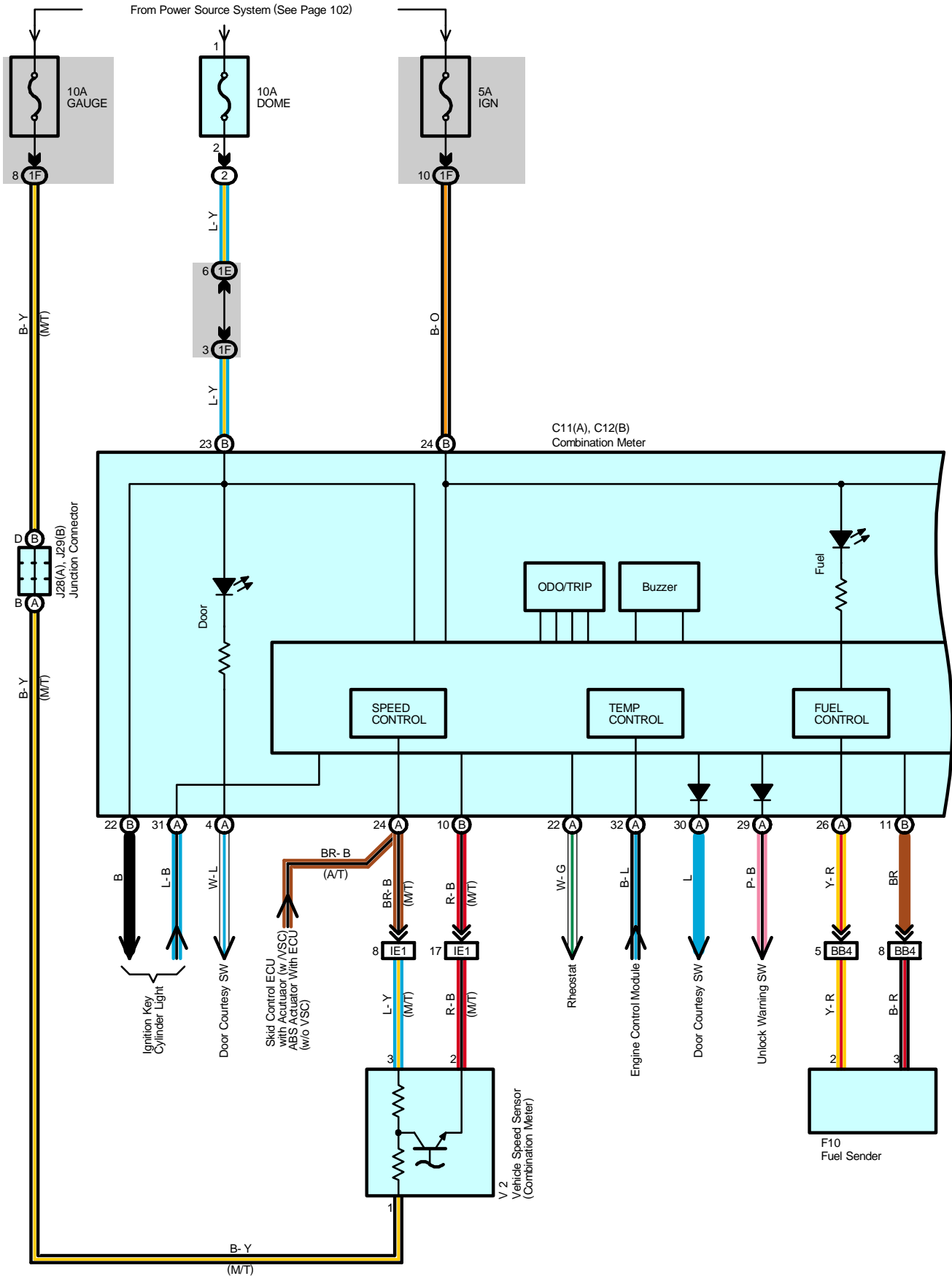
Code	See Page	Ground Points Location
IG	78	Instrument Panel Brace RH

### ○ : Splice Points

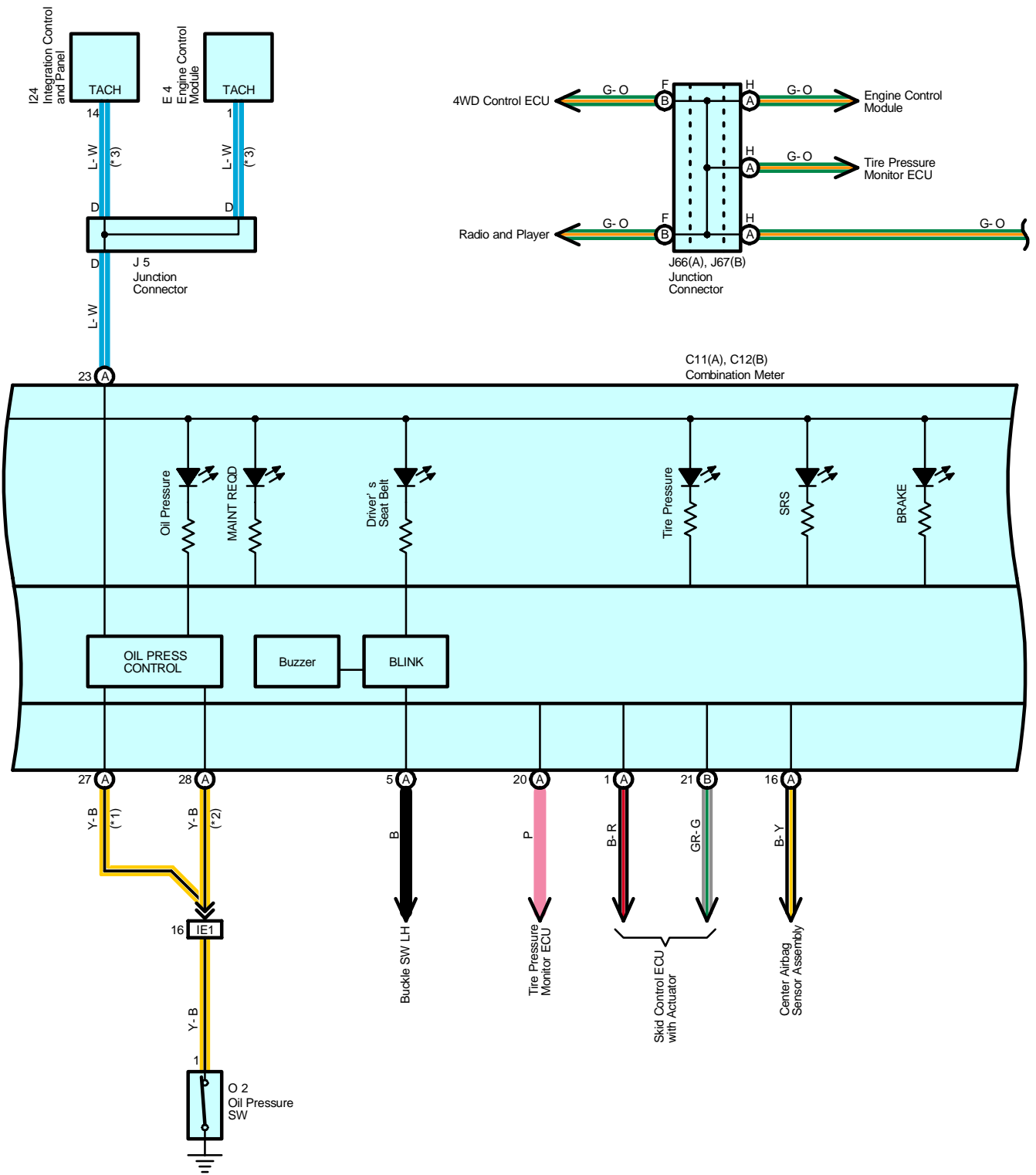
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B1	82 (*3)	Speaker Tweeter Wire LH	B5	82 (*3)	Speaker Tweeter Wire RH
	84 (*4)			84 (*4)	

- \* 1 : w/ Daytime Running Light
- \* 2 : w/o Daytime Running Light
- \* 3 : Access Cab
- \* 4 : Standard Cab
- \* 5 : Bench Seat
- \* 6 : Captain Seat
- \* 7 : Access Cab Captain Seat
- \* 8 : Standard Cab Bench Seat
- \* 9 : Access Cab w/o Power Seat

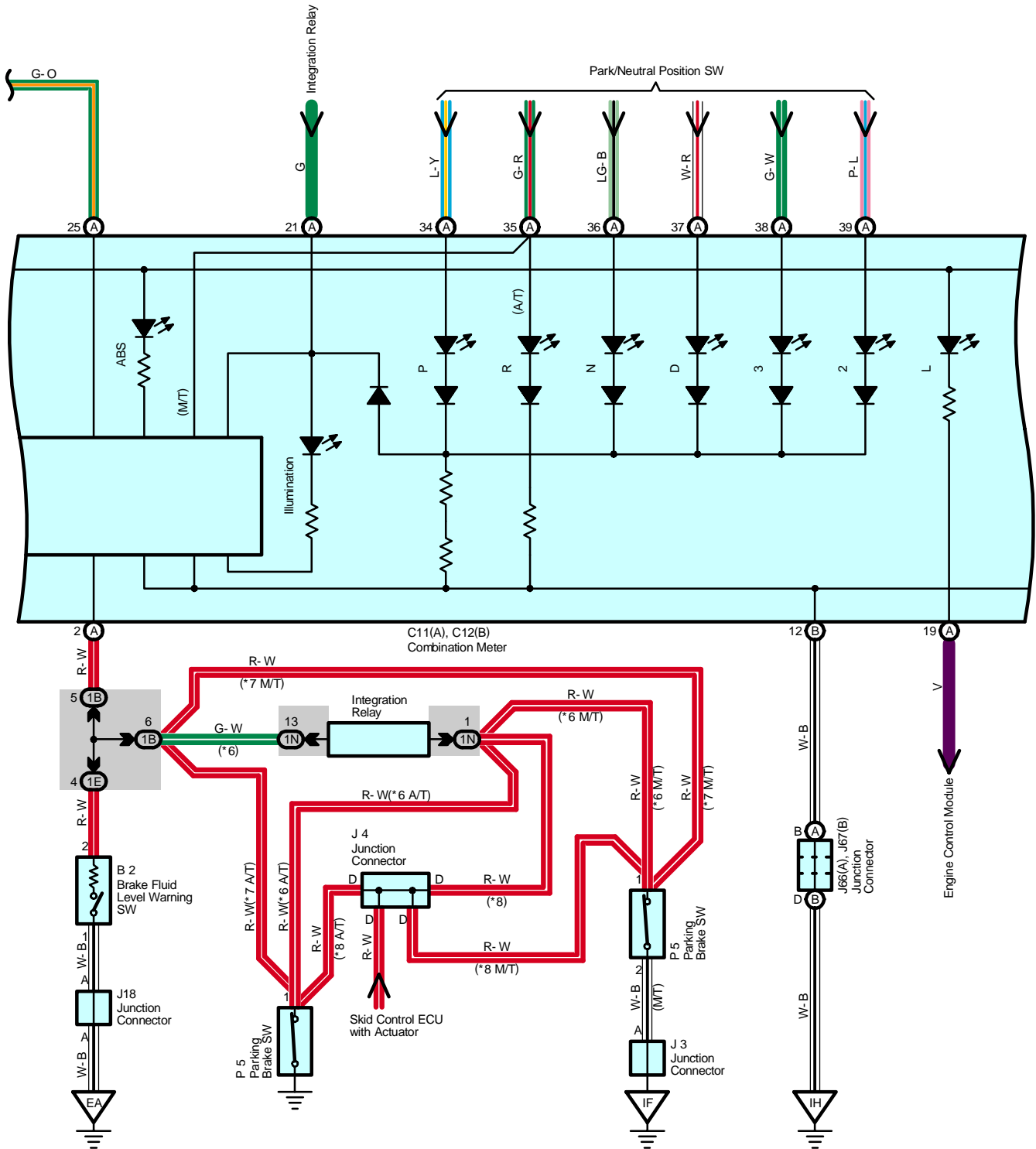
# Combination Meter (Access/Standard Cab)



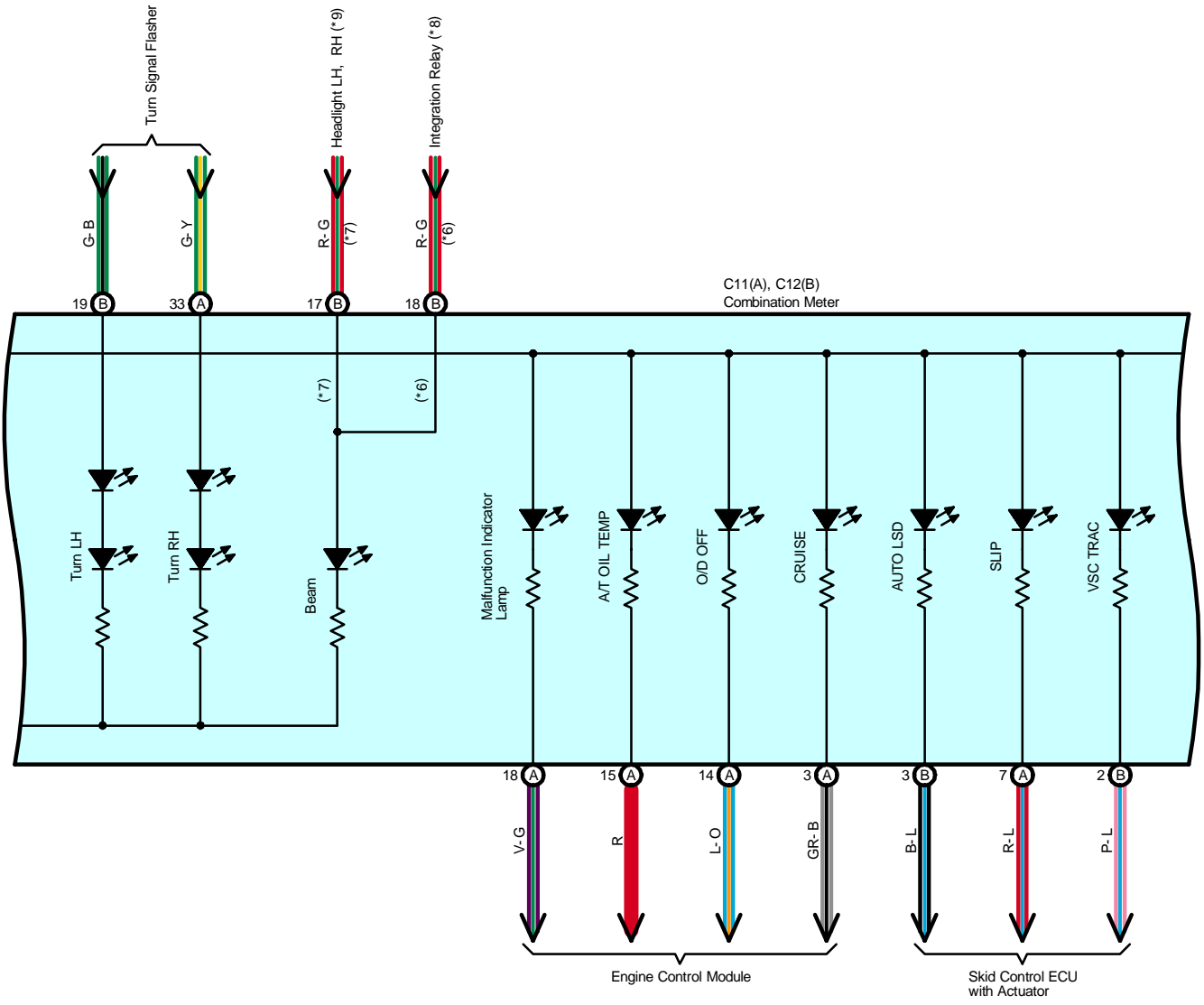
- \* 1 : 2UZ- FE
- \* 2 : 1GR- FE
- \* 3 : w/ Steering SW



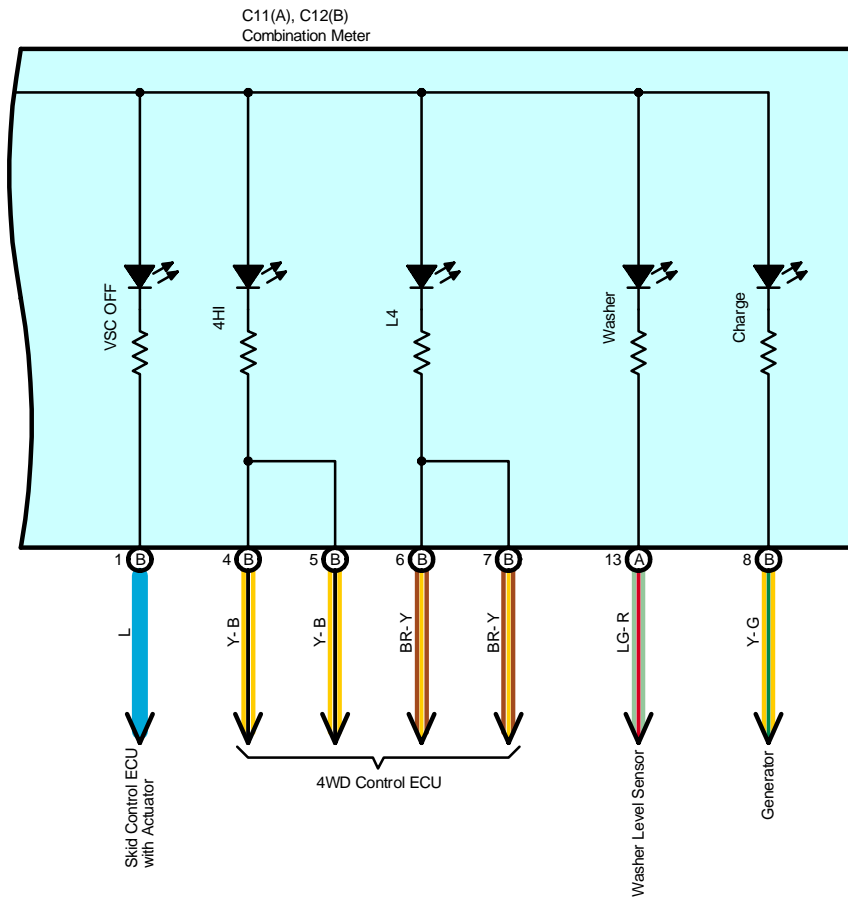
# Combination Meter (Access/Standard Cab)



- \* 4 : w/ VSC
- \* 5 : w/o VSC
- \* 6 : w/ Daytime Running Light
- \* 7 : w/o Daytime Running Light
- \* 8 : w/ Daytime Running Light w/ VSC



# Combination Meter (Access/Standard Cab)





**Service Hints**

**B2 Brake Fluid Level Warning SW**

1-2 : Closed with float down

**P5 Parking Brake SW**

1-Ground : Closed with parking brake lever pulled up

**C11 (A), C12 (B) Combination Meter**

(B)23-Ground : Always approx. 12 volts

(B)24-Ground : Approx. 12 volts with ignition SW at ON or ST position

(B)12-Ground : Always continuity

 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
B2	<a href="#">52 (2UZ-FE)</a>	I24	<a href="#">57</a>	J29	B <a href="#">58</a>
	<a href="#">54 (1GR-FE)</a>	J3	<a href="#">58</a>	J66	A <a href="#">58</a>
C11	A <a href="#">56</a>	J4	<a href="#">58</a>	J67	B <a href="#">58</a>
C12	B <a href="#">56</a>	J5	<a href="#">58</a>	O2	<a href="#">53 (2UZ-FE)</a>
E4	<a href="#">57</a>	J18	<a href="#">53 (2UZ-FE)</a>		<a href="#">55 (1GR-FE)</a>
F10	<a href="#">60 (*3)</a>		J28	A <a href="#">58</a>	P5
	<a href="#">61 (*4)</a>	V2			<a href="#">55 (1GR-FE)</a>

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	<a href="#">23</a>	Engine Room R/B (Engine Compartment Left)

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	<a href="#">24 (*2)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	
1E	<a href="#">24 (*2)</a>	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	
1F	<a href="#">24 (*2)</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	<a href="#">28 (*1)</a>	
1N	<a href="#">29 (*1)</a>	

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

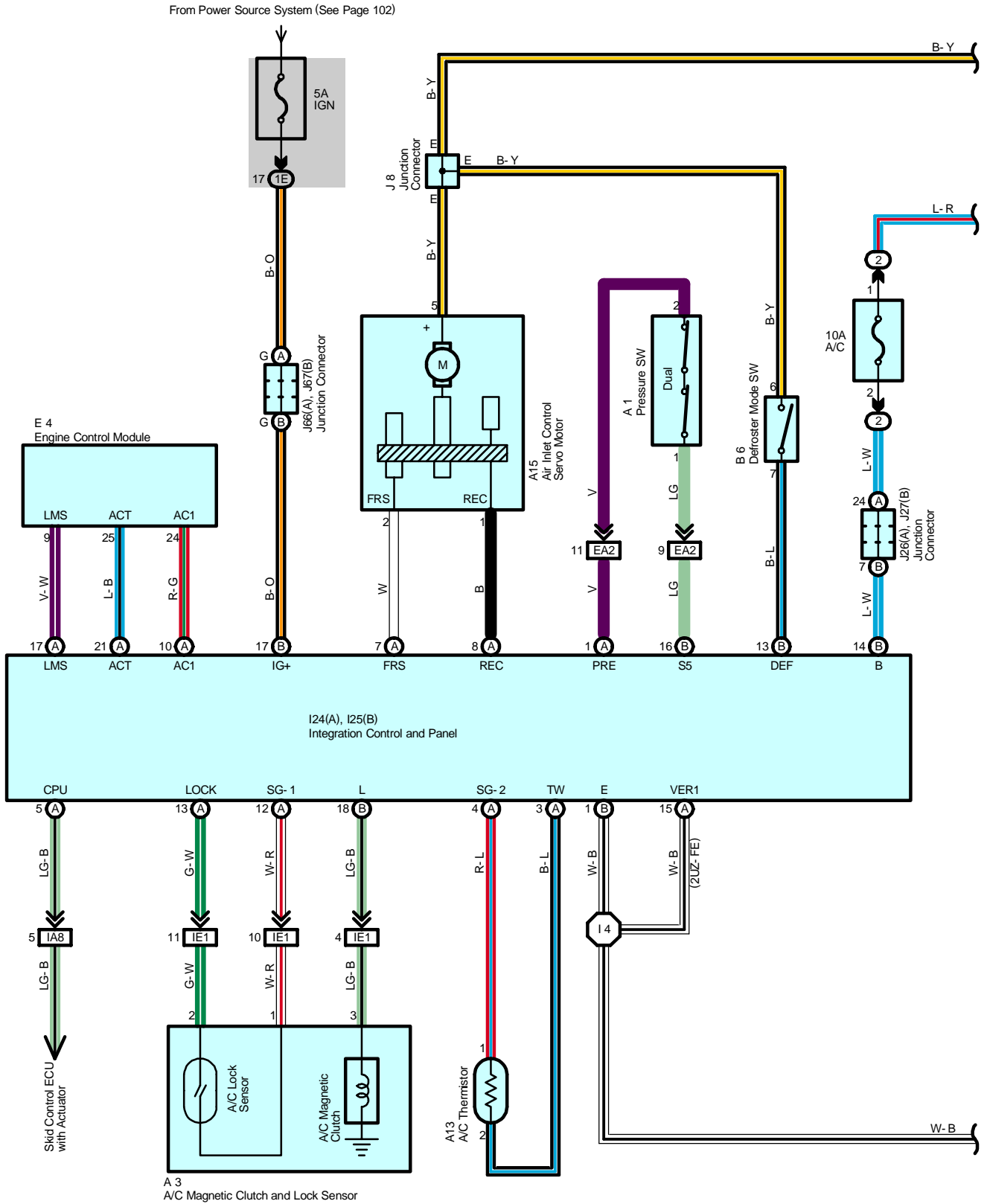
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	<a href="#">80</a>	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
BB4	<a href="#">82 (*3)</a>	Frame Wire and Cowl Wire (Under the Driver's Seat)
	<a href="#">84 (*4)</a>	

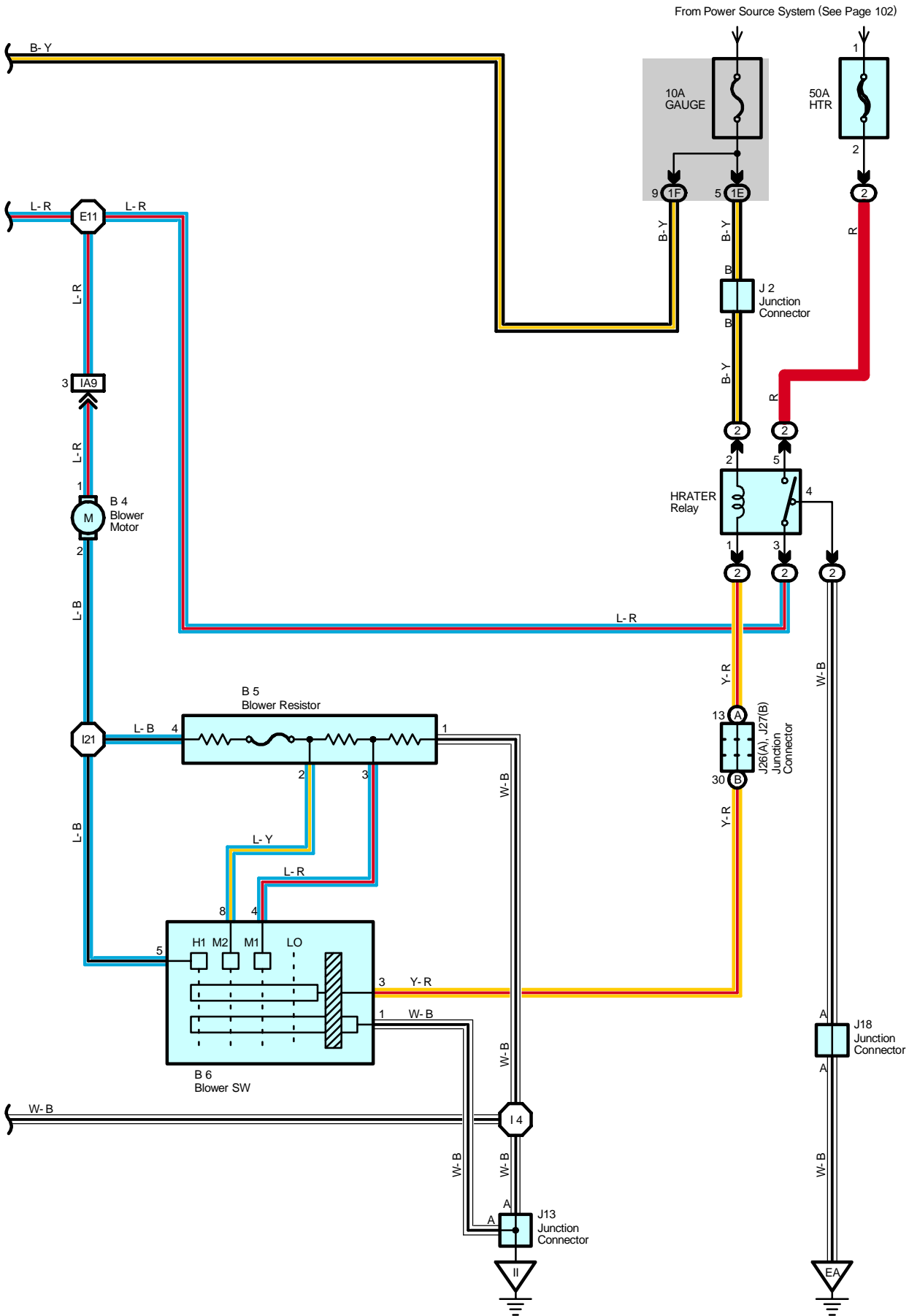
 : **Ground Points**

Code	See Page	Ground Points Location
EA	<a href="#">74 (2UZ-FE)</a>	Front Left Fender
	<a href="#">76 (1GR-FE)</a>	
IF	<a href="#">78</a>	Left Kick Panel
IH	<a href="#">78</a>	Right Kick Panel

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Air Conditioning (Access/Standard Cab)





# Air Conditioning (Access/Standard Cab)

## System Outline

### 1. Heater Blower Motor Operation

Current is applied at all times through the HTR fuse to TERMINAL 5 of the HTR relay.

When the ignition SW is turned on, current flows through the GAUGE fuse to TERMINAL 2 of the HTR relay to the coil side to TERMINAL 1 to TERMINAL 3 of the blower SW.

#### \* Low speed operation

When the blower SW is moved to LO position, current flows to TERMINAL 3 of the blower SW to TERMINAL 1 to GROUND, causing the HTR relay to switch on. This causes the current to flow from the HTR fuse to TERMINAL 5 of the HTR relay to TERMINAL 3 to TERMINAL 1 of the blower motor to TERMINAL 2 to TERMINAL 4 of the blower resistor to TERMINAL 1 to GROUND, causing the blower motor to rotate at low speed.

#### \* Medium speed operation (Operation at M1, M2)

When the blower SW is moved to M1 position, current flows to TERMINAL 3 of the blower SW to TERMINAL 1 to GROUND, turning the HTR relay to switch on. This causes the current to flow from the HTR fuse to TERMINAL 5 of the HTR relay to TERMINAL 3 to TERMINAL 1 of the blower motor to TERMINAL 2 to TERMINAL 4 of the blower resistor to TERMINAL 3 to TERMINAL 4 of the blower SW to TERMINAL 1 to GROUND. At this time, the blower resistance of the blower resistor is less than at low speed, so the blower motor rotates at medium low speed.

When the blower SW is moved to M2 position, current flows through the motor flows from TERMINAL 4 of the blower resistor to TERMINAL 2 to TERMINAL 8 of the blower SW to TERMINAL 1 to GROUND. At this time, resistance of the blower resistor is less than at M1 position, so the blower motor rotates at medium high speed.

#### \* High speed operation

When the blower SW is moved to HIGH position, current flows to TERMINAL 3 of the blower SW to TERMINAL 1 to GROUND, turning the HTR relay to switch on.

This causes the current to flow from the HTR fuse to TERMINAL 5 of the HTR relay to TERMINAL 3 to TERMINAL 1 of the blower motor to TERMINAL 2 to TERMINAL 5 of the blower SW to TERMINAL 1 to GROUND, causing the blower motor to rotate at high speed.

### 2. Operation of Air Inlet Control Servo Motor

#### \* Switching from FRESH to RECIRC

With the ignition SW turned on, current flows from the GAUGE fuse to TERMINAL 5 of the air inlet control servo motor. When the RECIRC/FRESH SW is switched to the RECIRC side, current flows from TERMINAL 5 of the air inlet control servo motor to TERMINAL 1 to TERMINAL (A) 8 of the integration control and panel to TERMINAL (B) 1 to GROUND. The motor rotates and the damper moves to the RECIRC side. When it is in the RECIRC position, current is cut inside the servo motor and 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, current flows from TERMINAL 5 of the air inlet control servo motor to TERMINAL 2 to TERMINAL (A) 7 of the integration control and panel to TERMINAL (B) 1 to GROUND, the motor rotates and the damper moves to the FRESH side. when it is in the FRESH position, current is cut inside the servo motor and the damper stops at that position. When the ignition SW turned on, and mode SW (Integration control and panel) is at DEF or F/DEF position, it causes the damper to move to the FRESH side. Whether the RECIRC/FRESH SW (Integration control and panel) is on or not.

### 3. Air Conditioning Operation

When the blower SW is on, current flows from the GAUGE fuse to the HTR relay (Coil side) to TERMINAL 3 of the blower SW to TERMINAL 1 to GROUND, activating the HTR relay. This causes current to flow from the HTR fuse to the HTR relay (Point side) to A/C fuse to TERMINAL (B) 12 of the A/C SW (Integration control and panel). When the A/C SW (Integration Control and panel) is turned on. Current flows from the A/C fuse to TERMINAL (B) 14 of the integration control and panel to TERMINAL (B) 18 to A/C magnetic clutch. Causing The compressor to operate.

When blower SW is on and mode SW (Integration control and panel) is at DEF or F/DEF position, it causes A/C to run whether A/C SW (Integration control and panel) is on or not.

**Service Hints**

**HEATER Relay**

5-3 : Closed with ignition SW on and heater blower SW on


**A1 A/C Dual Pressure SW**

1-2 : Open with refrigerant pressure at less than approx. 2.0 kgf/cm<sup>2</sup> (196.1 kpa, 28.4 psi) or more than approx. 32.0 kgf/cm<sup>2</sup> (3138.1 kpa, 455 psi)

**I25 (B) Integration Control and Panel**

(B)14-Ground : Approx. 12 volts with ignition SW on and blower SW on

(B) 1-Ground : Always continuity

 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page	
A1	52 (2UZ-FE)	B6	56	J18	53 (2UZ-FE)	
	54 (1GR-FE)	E4	57		55 (1GR-FE)	
A3	52 (2UZ-FE)	I24	A	J26	A	58
	54 (1GR-FE)	I25	B	J27	B	58
A13	56	J2		J66	A	58
A15	56			J67	B	58
B4	56	J8	58			
B5	56	J13	58			

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Engine Room R/B (Engine Compartment Left)

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	24 (*2)	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	
1F	24 (*2)	Cowl Wire and Driver Side J/B (Lower Finish Panel)
	28 (*1)	

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA2	74 (2UZ-FE)	Cowl Wire and Engine Room Main Wire (Right Fender)
	76 (1GR-FE)	
IA8	78	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA9		
IE1	80	Engine Wire and Cowl Wire (Right Side of Instrument Panel)

 : **Ground Points**

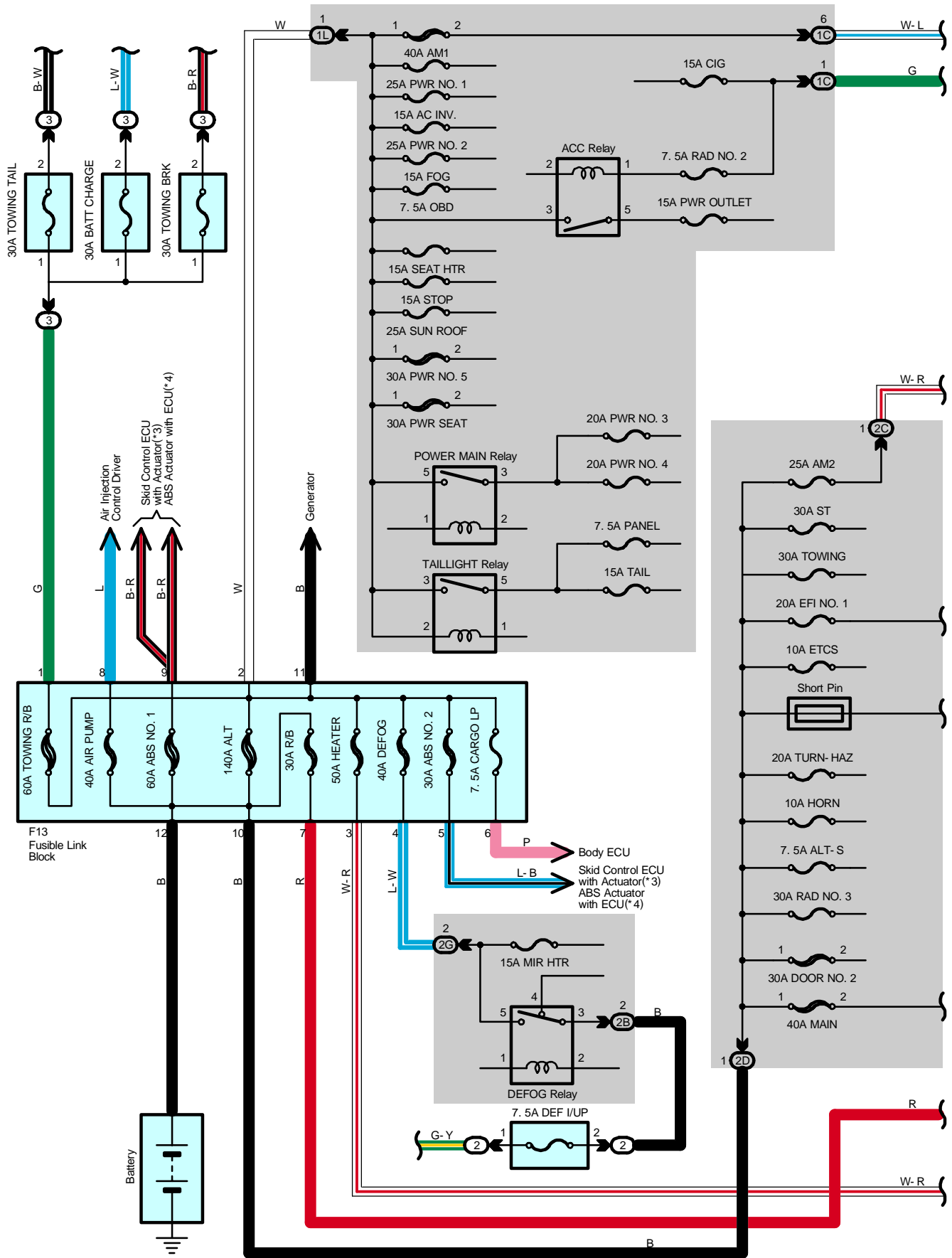
Code	See Page	Ground Points Location
EA	74 (2UZ-FE)	Front Left Fender
	76 (1GR-FE)	
II	78	Right Kick Panel

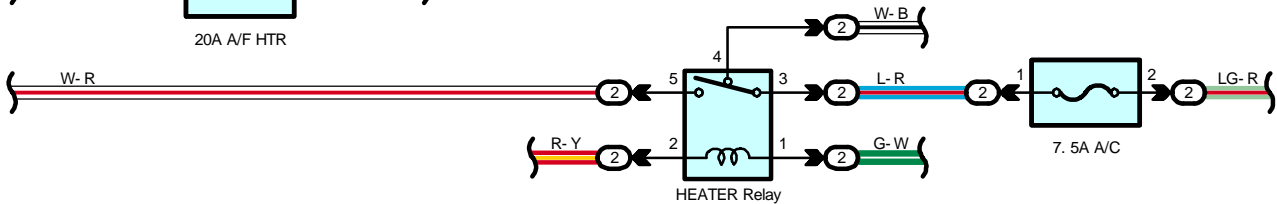
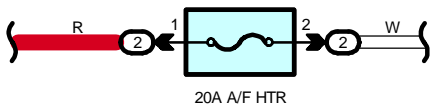
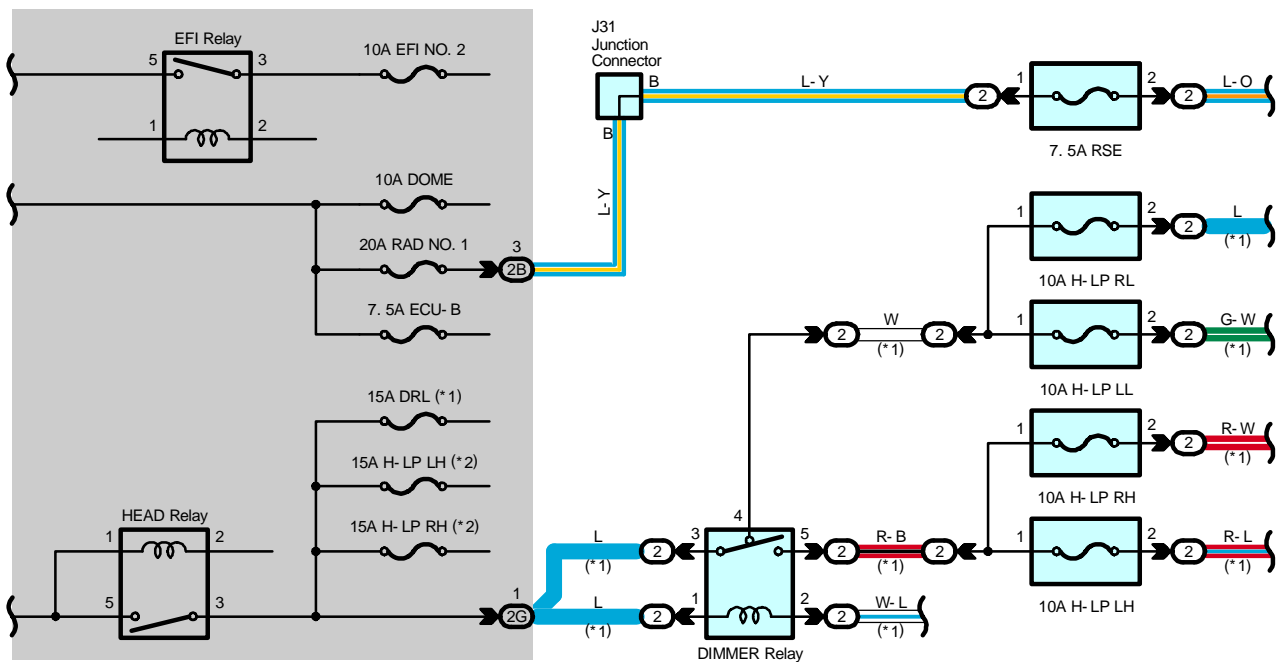
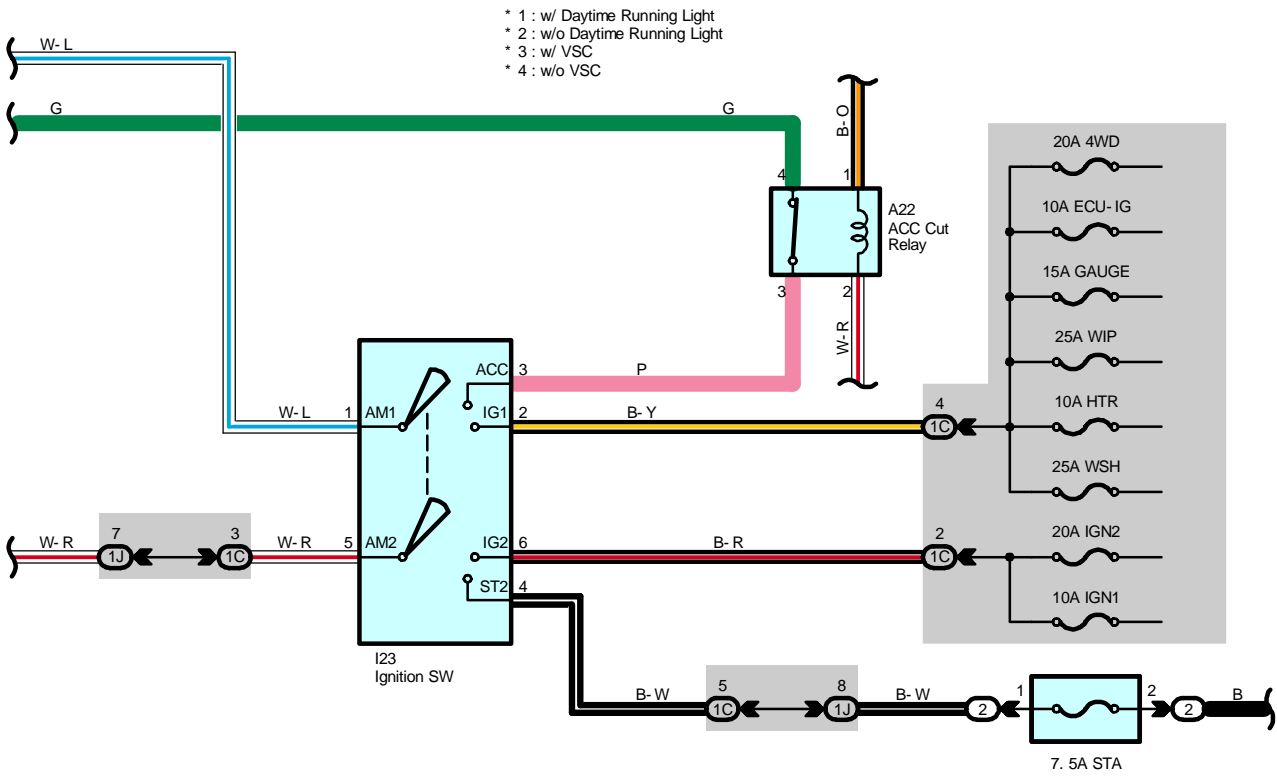
 : **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E11	74 (2UZ-FE)	Engine Room Main Wire	I4	80	Cowl Wire
	76 (1GR-FE)		I21		

\* 1 : w/ Daytime Running Light    \* 2 : w/o Daytime Running Light    \* 3 : Access Cab    \* 4 : Standard Cab    \* 5 : Bench Seat  
 \* 6 : Captain Seat    \* 7 : Access Cab Captain Seat    \* 8 : Standard Cab Bench Seat    \* 9 : Access Cab w/o Power Seat

# Power Source (Double Cab)





# Power Source (Double Cab)

## Service Hints

### HEAD Relay

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

### I23 Ignition SW

- 1-3 : Closed with the ignition key at ACC or ON position
- 1-2 : Closed with the ignition key at ON or ST position
- 5-6 : Closed with the ignition key at ON or ST position
- 5-4 : Closed with the ignition key at ST position

### DIMMER Relay (w/ Daytime Running Light)

- 3-5 : Closed with the HEAD relay on and dimmer SW at HIGH or FLASH position

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A22	<a href="#">66</a>	I23	<a href="#">67</a>		
F13	<a href="#">34, 64</a>	J31	<a href="#">65</a>		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	<a href="#">38</a>	Engine Room R/B No.2 (Engine Compartment Left)
3	<a href="#">39</a>	Engine Room R/B No.3 (Engine Compartment Left)

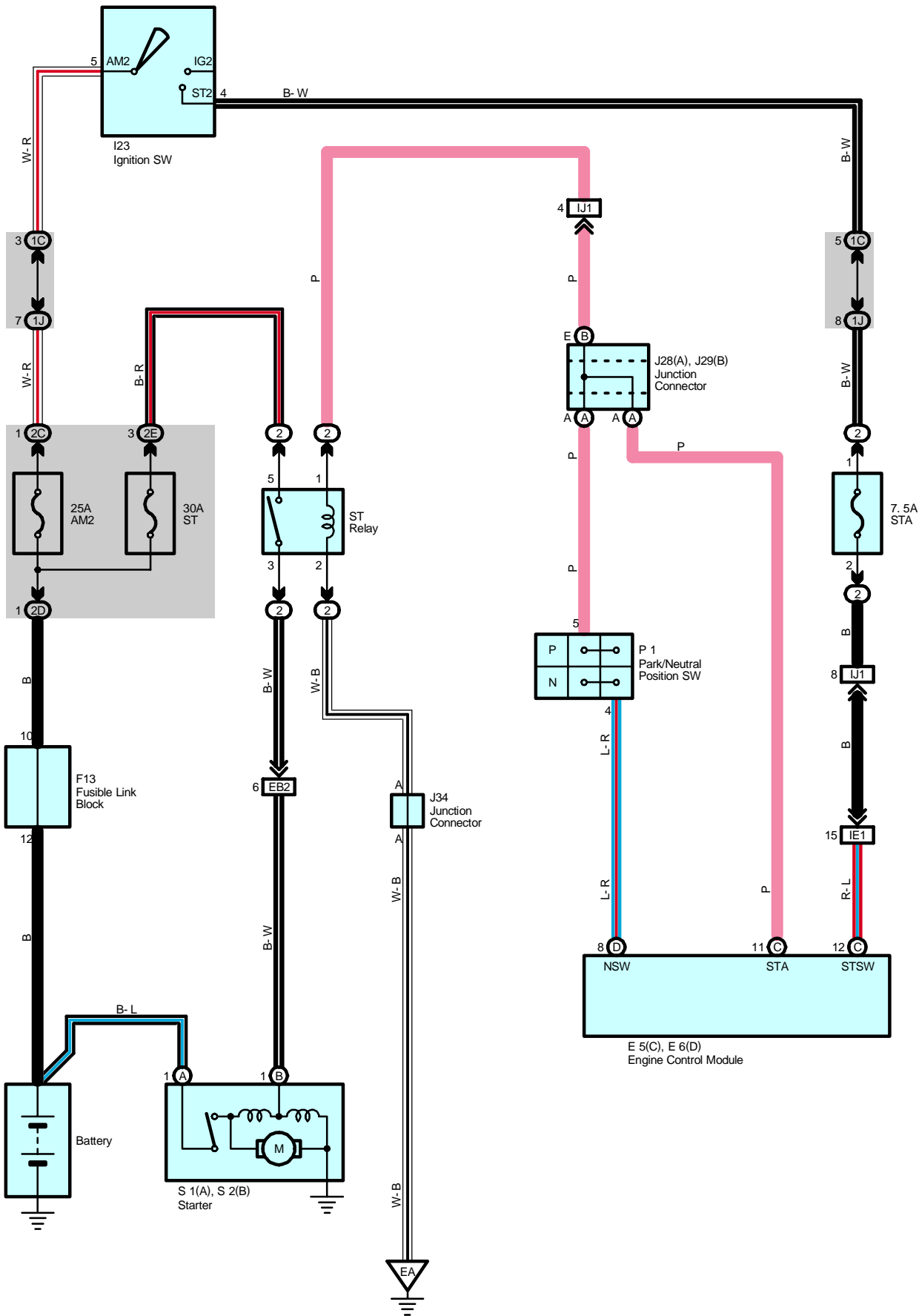
## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	<a href="#">45</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1J	<a href="#">45</a>	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1L		
2B	<a href="#">41</a>	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2C		
2D		
2G		





# Starting (Double Cab)



### Service Hints

#### S1 (A), S2 (B) Starter

Points closed with the Park/Neutral position SW at P or N position and ignition SW at ST position

#### I23 Ignition SW

5-4 : Closed with the ignition SW at ST position

#### P1 Park/Neutral Position SW

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

#### ST Relay

5-3 : Closed with the Park/Neutral position SW at P or N position and ignition SW at ST position

### : Parts Location

Code		See Page	Code		See Page	Code		See Page
E5	C	<a href="#">67</a>	J28	A	<a href="#">68</a>	S1	A	<a href="#">65</a>
E6	D	<a href="#">67</a>	J29	B	<a href="#">68</a>	S2	B	<a href="#">65</a>
F13		<a href="#">34, 64</a>	J34		<a href="#">65</a>			
I23		<a href="#">67</a>	P1		<a href="#">65</a>			

### : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	<a href="#">38</a>	Engine Room R/B No.2 (Engine Compartment Left)

### : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	<a href="#">45</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1J	<a href="#">45</a>	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
2C	<a href="#">41</a>	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2D		
2E		

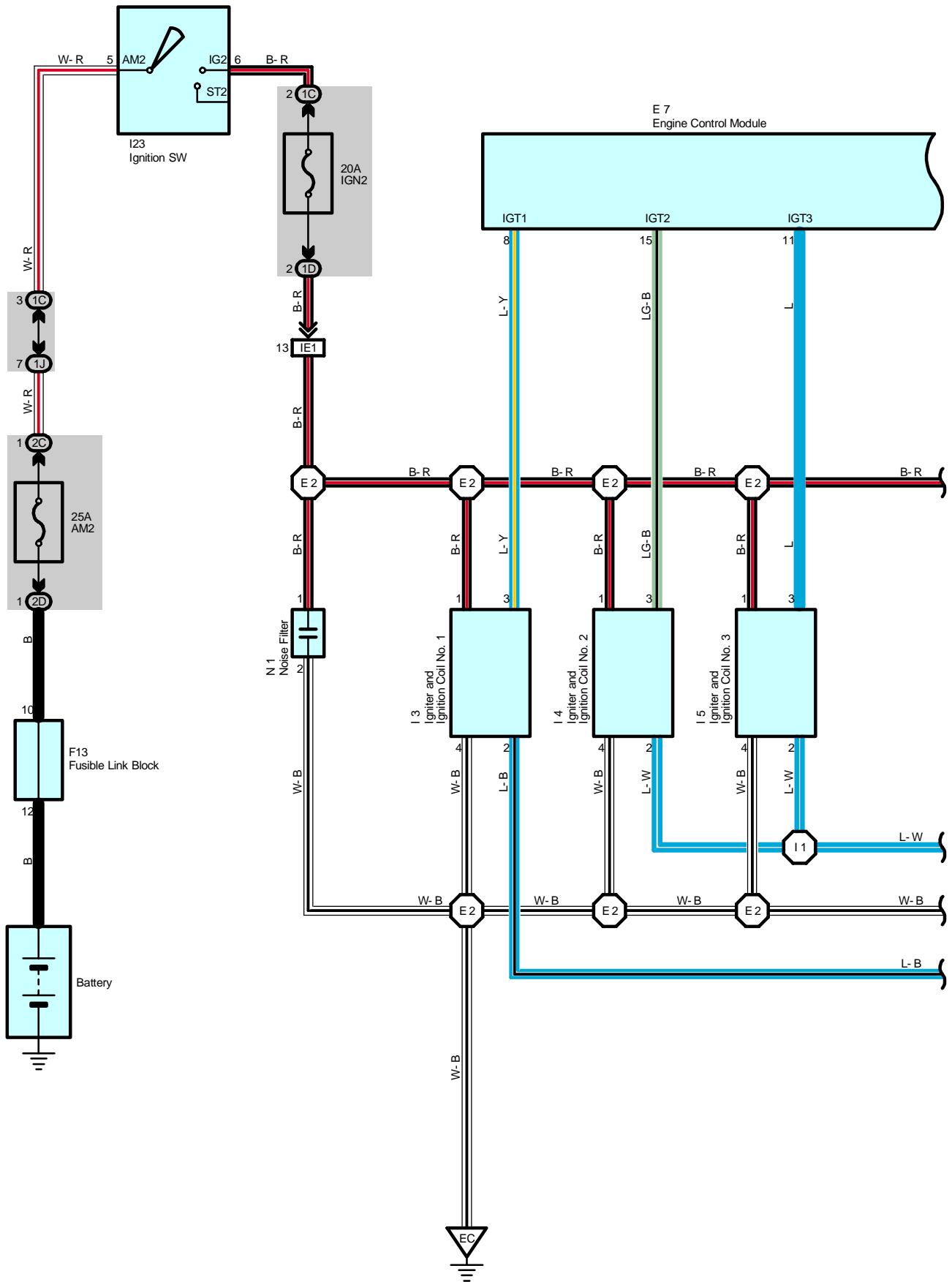
### : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB2	<a href="#">90</a>	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
IE1	<a href="#">94</a>	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ1	<a href="#">94</a>	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)

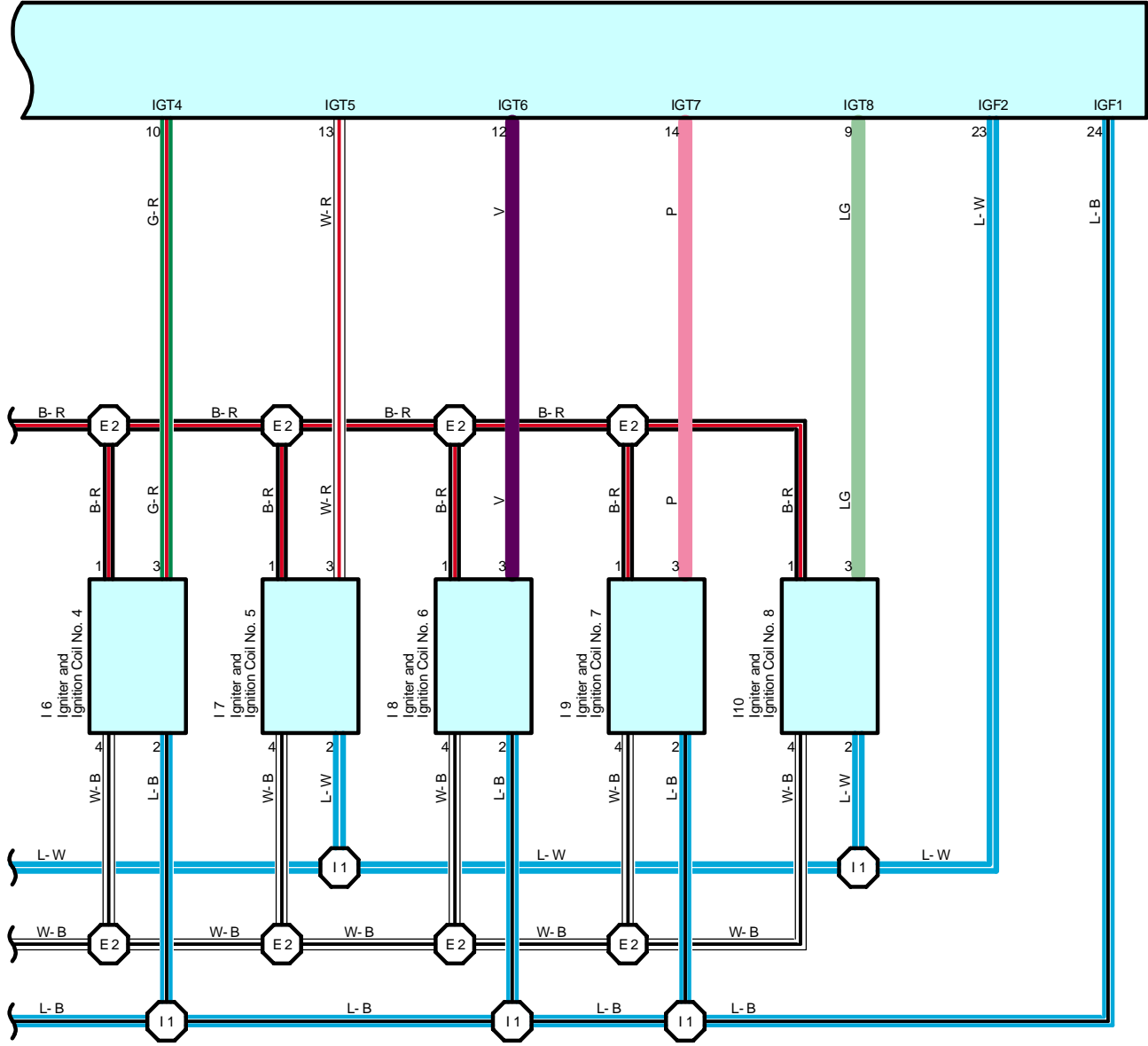
### : Ground Points

Code	See Page	Ground Points Location
EA	<a href="#">90</a>	Front Left Fender Apron

# Ignition (Double Cab)



E 7  
Engine Control Module



# Ignition (Double Cab)

## Service Hints

### I23 Ignition SW

5-6 : Closed with the ignition SW at ON position

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
E7	67	I5	65	I9	65
F13	34, 64	I6	65	I10	65
I3	65	I7	65	I23	67
I4	65	I8	65	N1	65

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1D		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2D		

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	94	Engine Wire and Cowl Wire (Right Side of Instrument Panel)

## ▽ : Ground Points

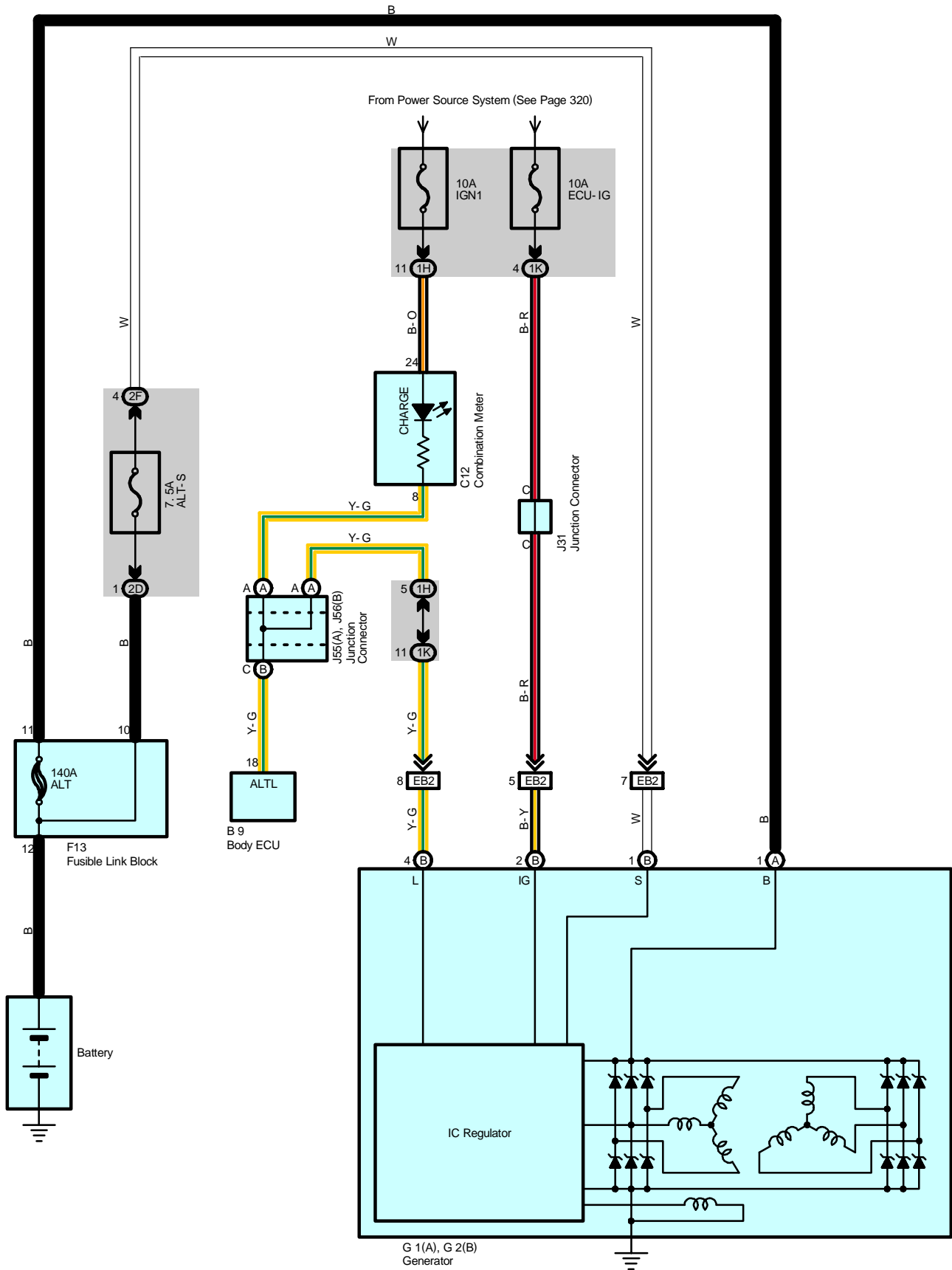
Code	See Page	Ground Points Location
EC	90	Rear Bank of Left Cylinder Head

## ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E2	90	Engine Wire	I1	94	Engine Wire



# Charging (Double Cab)





**Service Hints****G2 (B) Generator**

- (B) 1-Ground : 13.9-15.1 volts with the engine running at 2000 rpm and 25°C (77°F)  
 13.5-14.3 volts with the engine running at 2000 rpm and 115°C (239°F)
- (B) 4-Ground : 0-4 volts with the ignition SW at ON position and engine not running

**○ : Parts Location**

Code	See Page	Code	See Page	Code	See Page
B9	66	G1	A 64	J55	A 68
C12	66	G2	B 64	J56	B 68
F13	34, 64	J31	65		

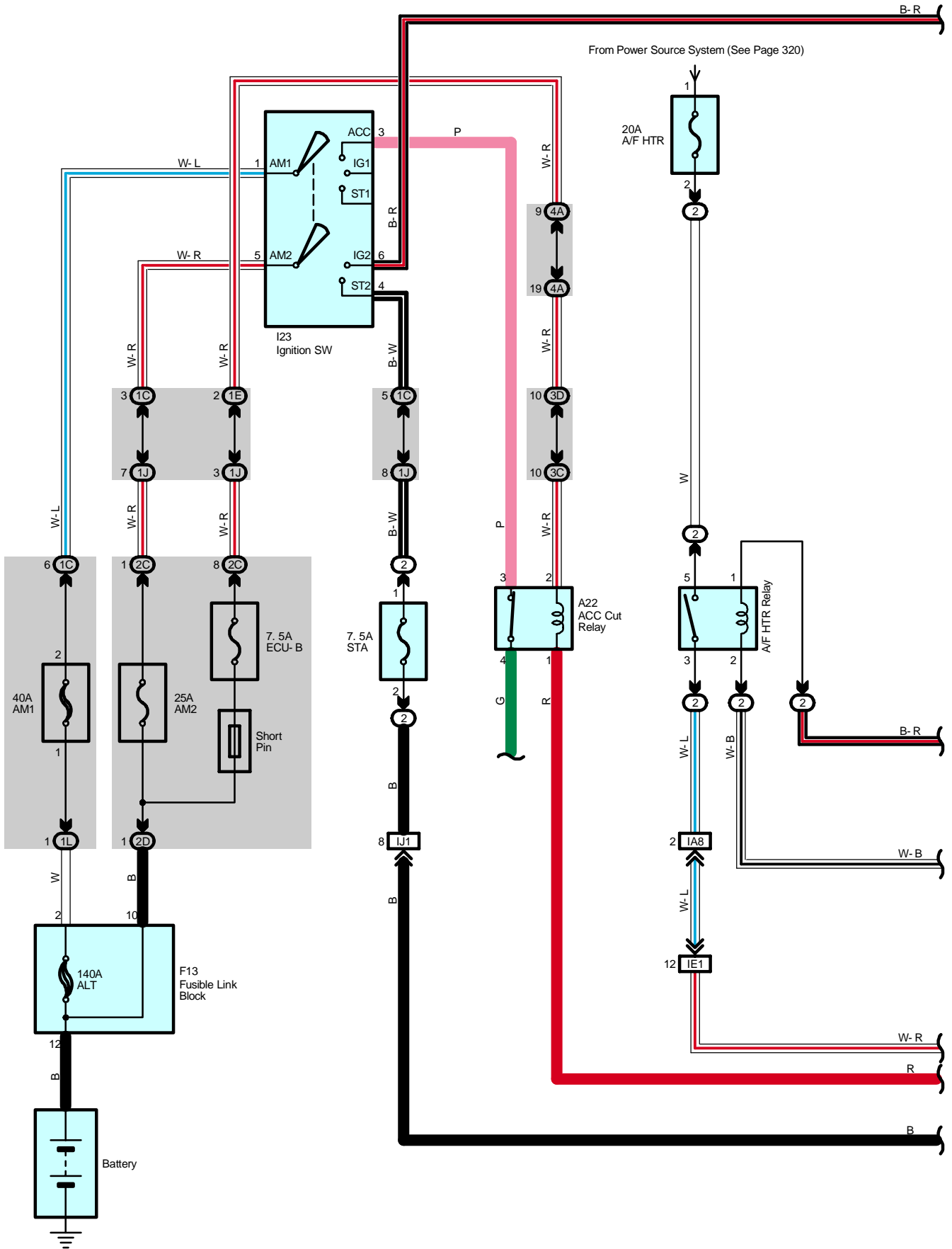
**○ : Junction Block and Wire Harness Connector**

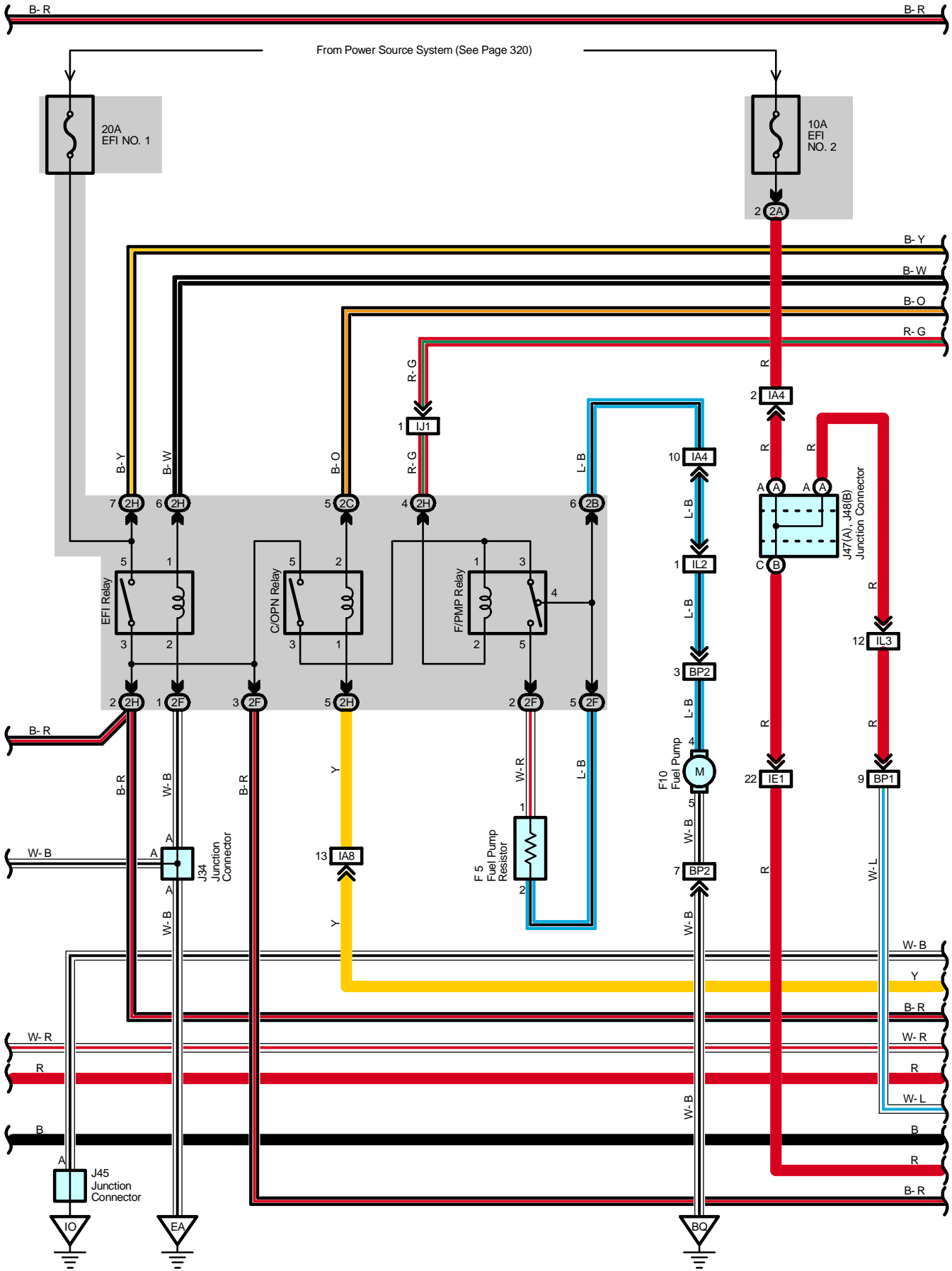
Code	See Page	Junction Block and Wire Harness (Connector Location)
1H	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1K	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
2D	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2F		

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

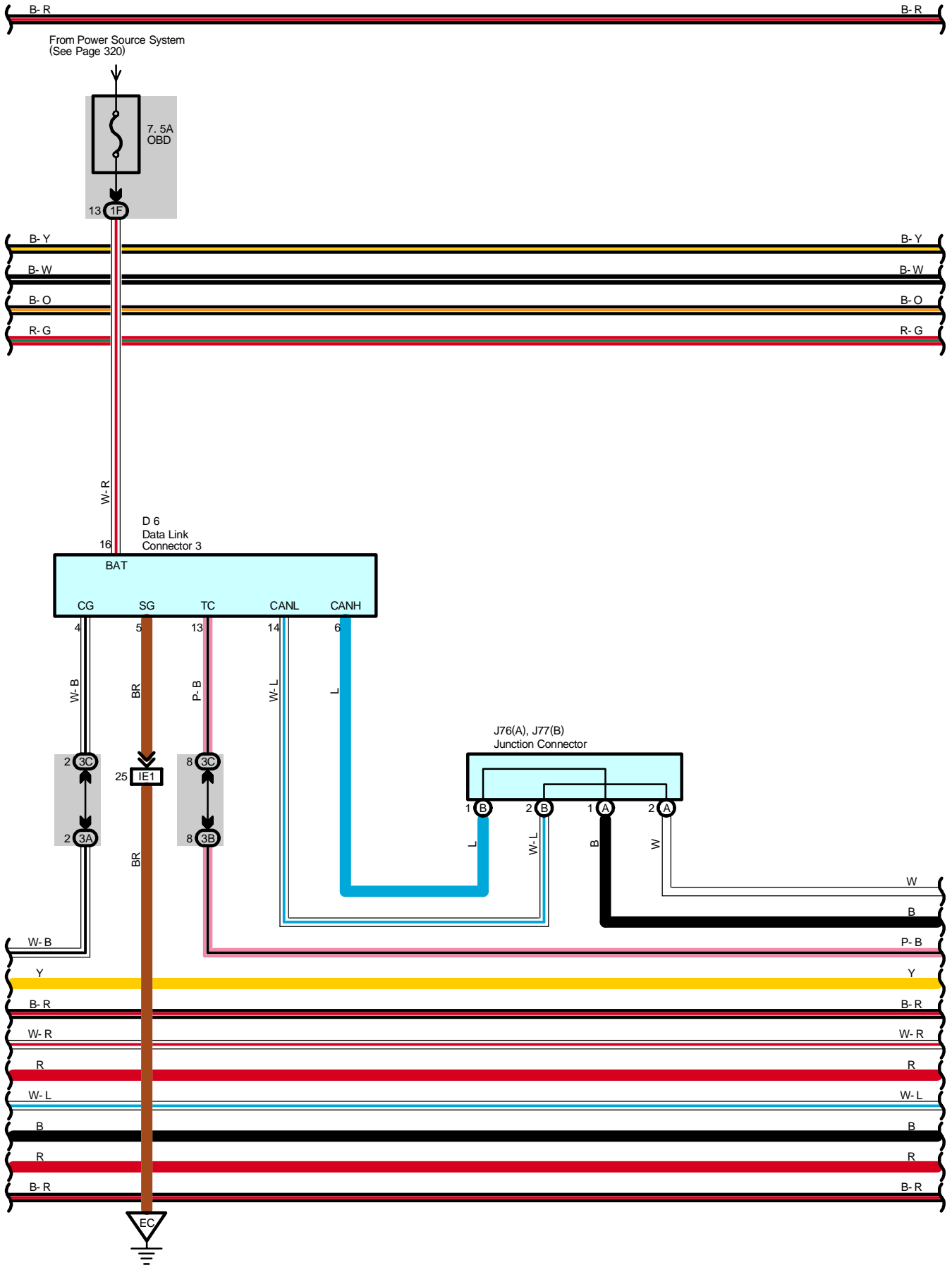
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB2	90	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)

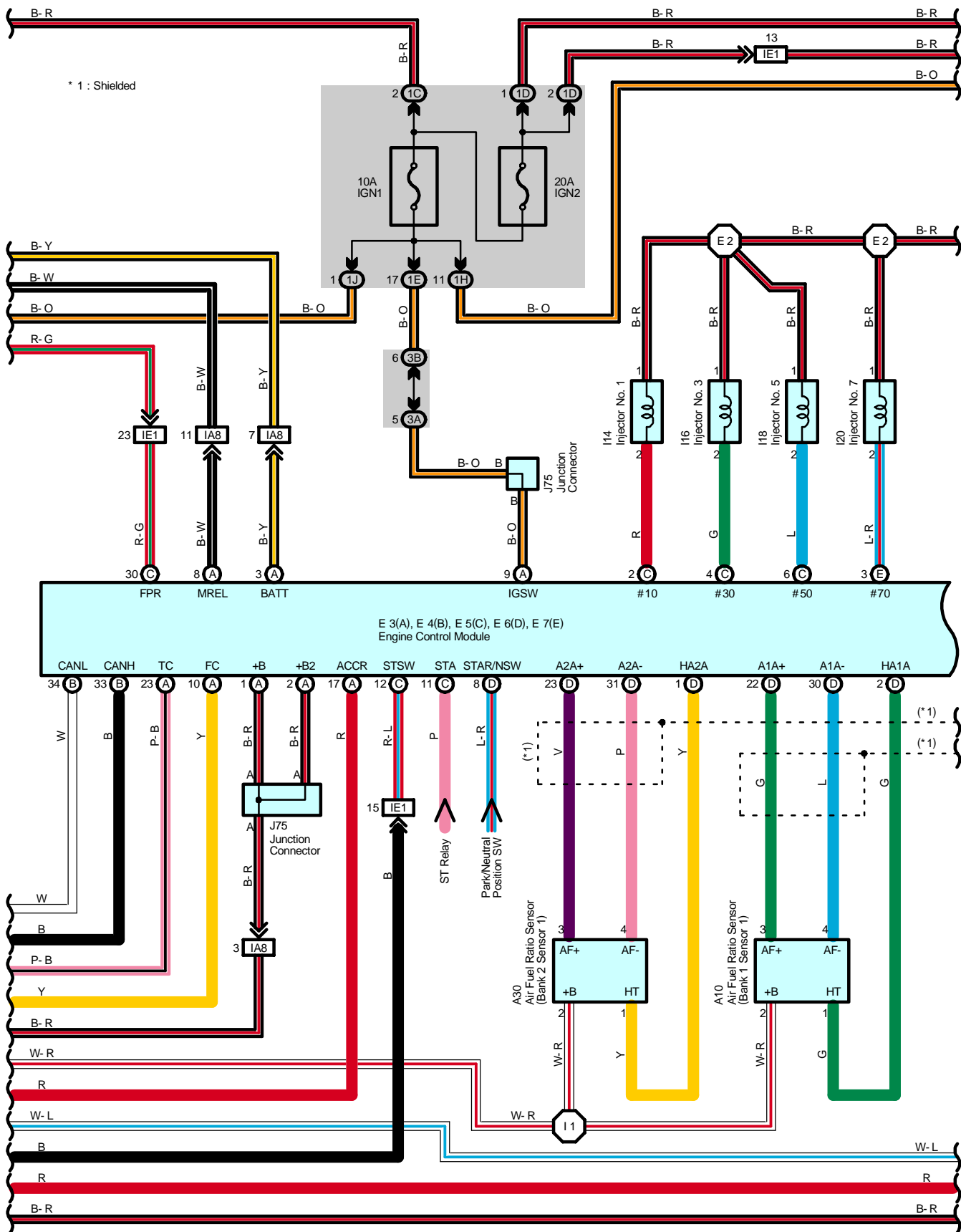
# Engine Control (Double Cab)



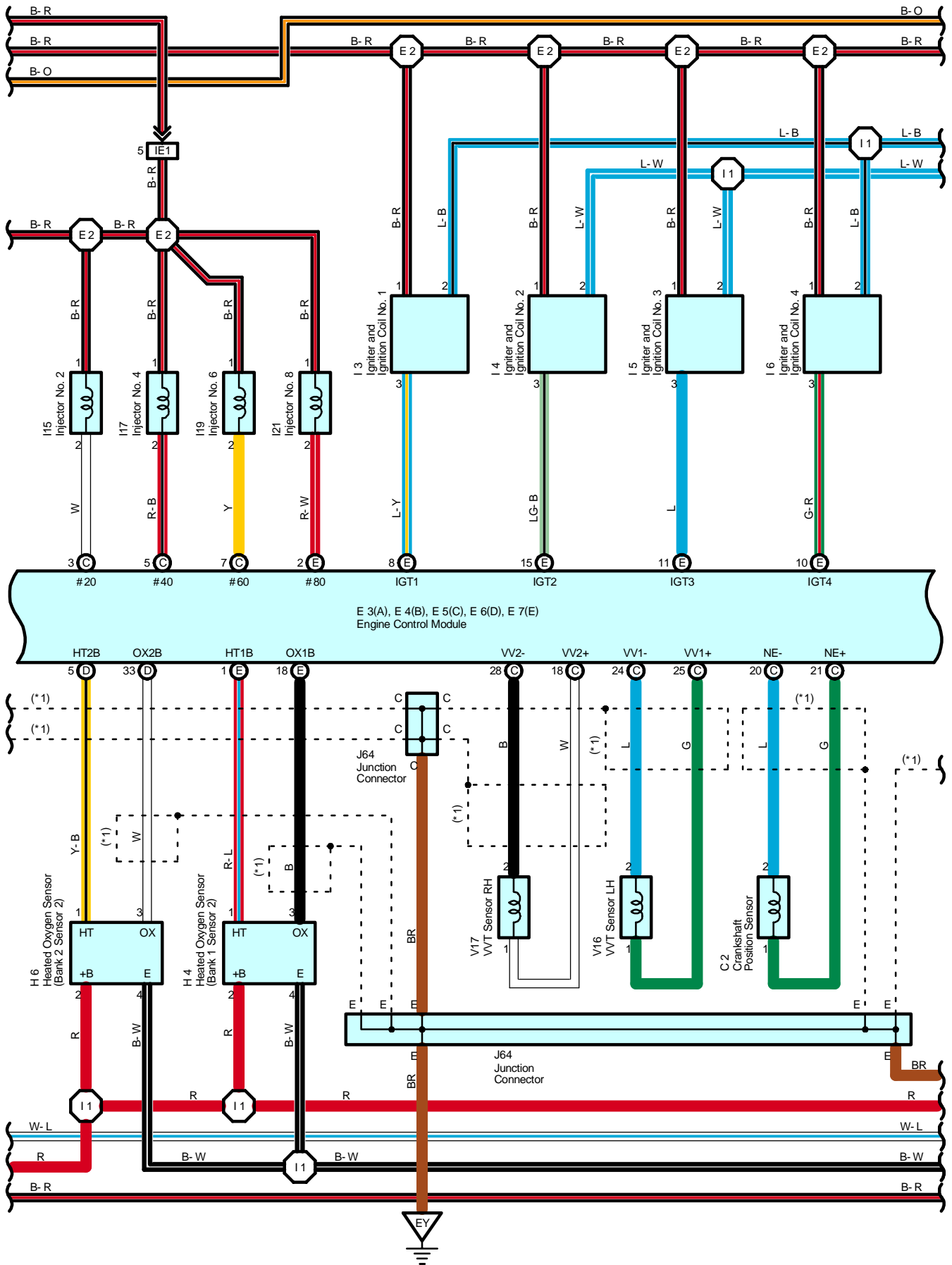


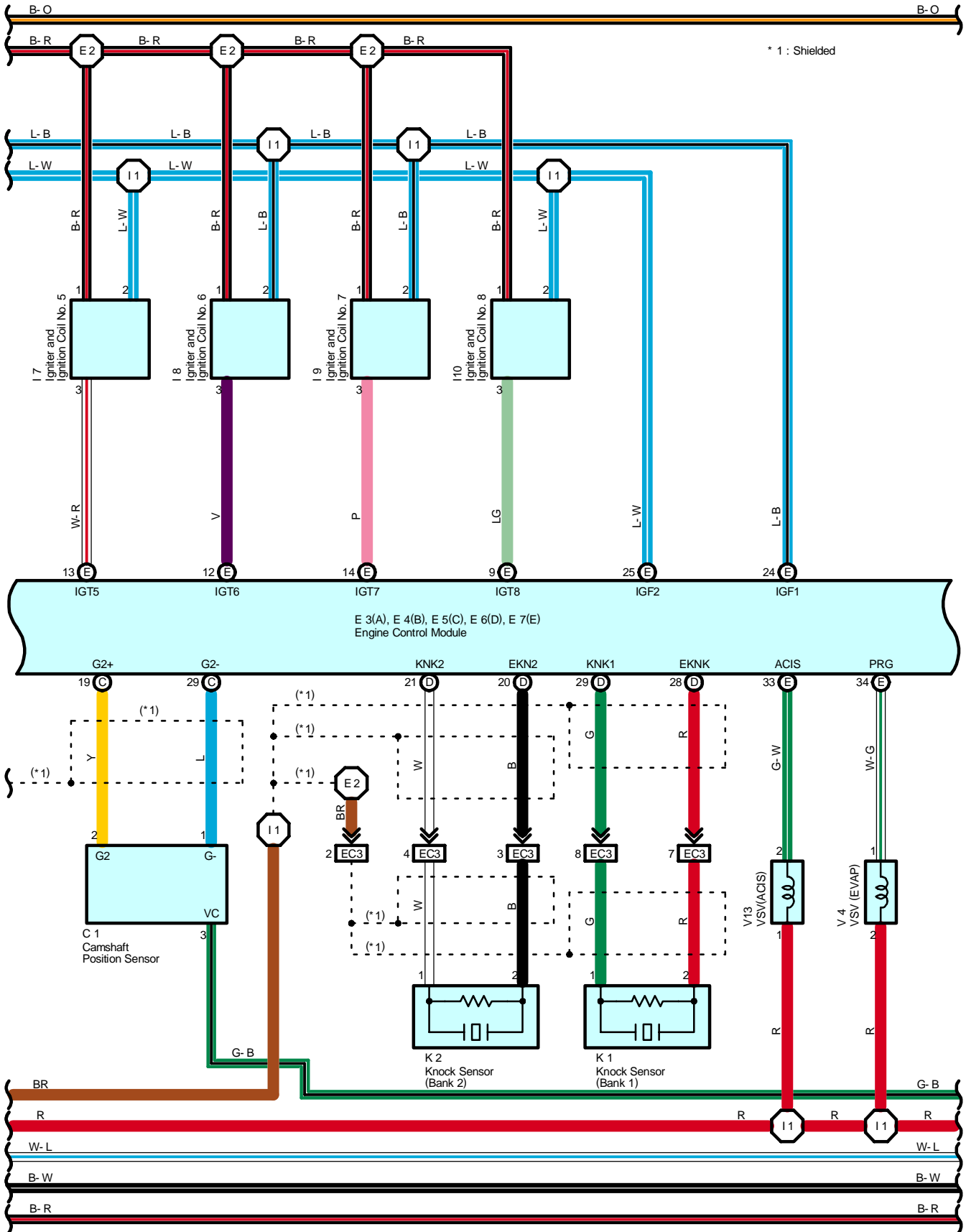
# Engine Control (Double Cab)



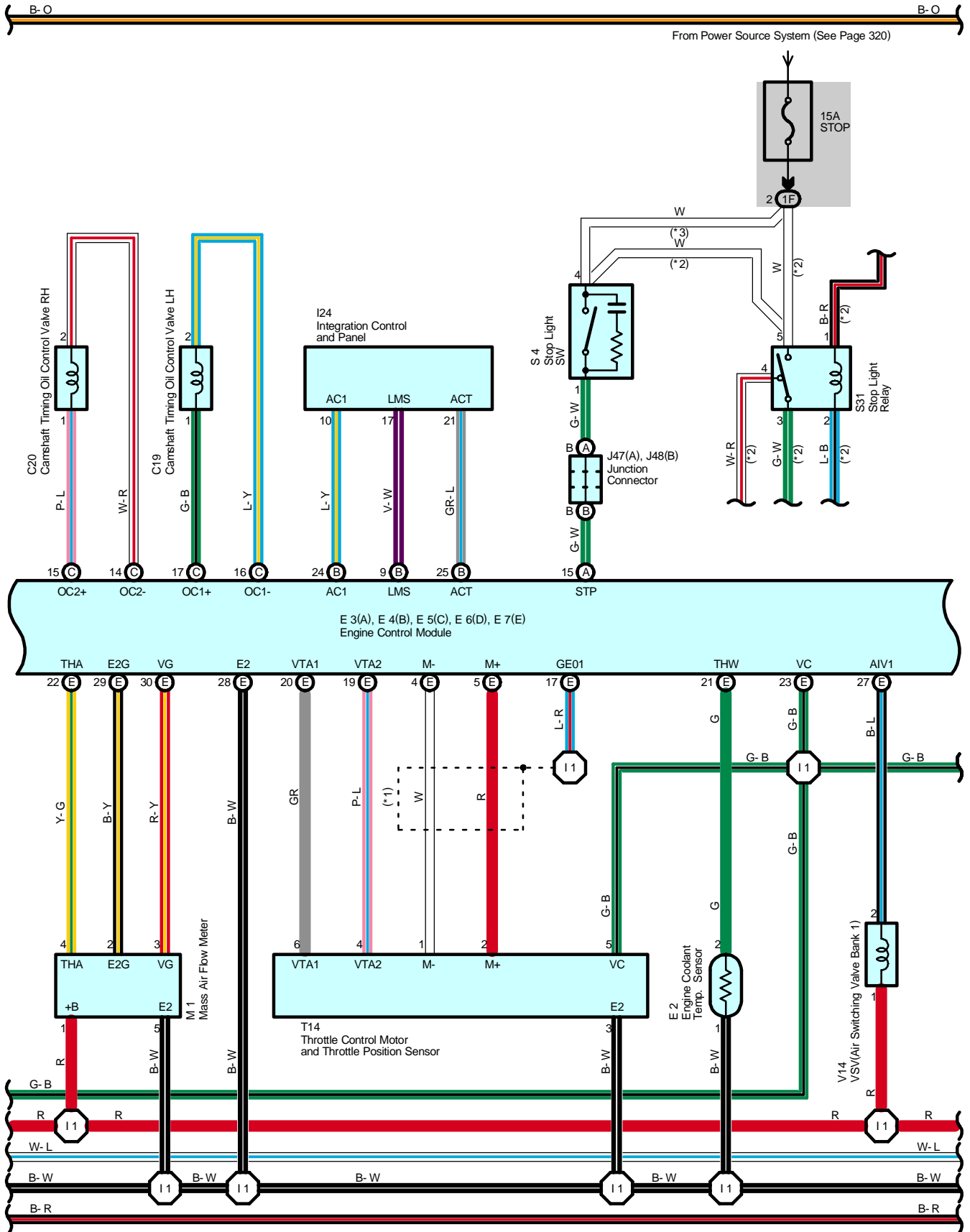


# Engine Control (Double Cab)





# Engine Control (Double Cab)

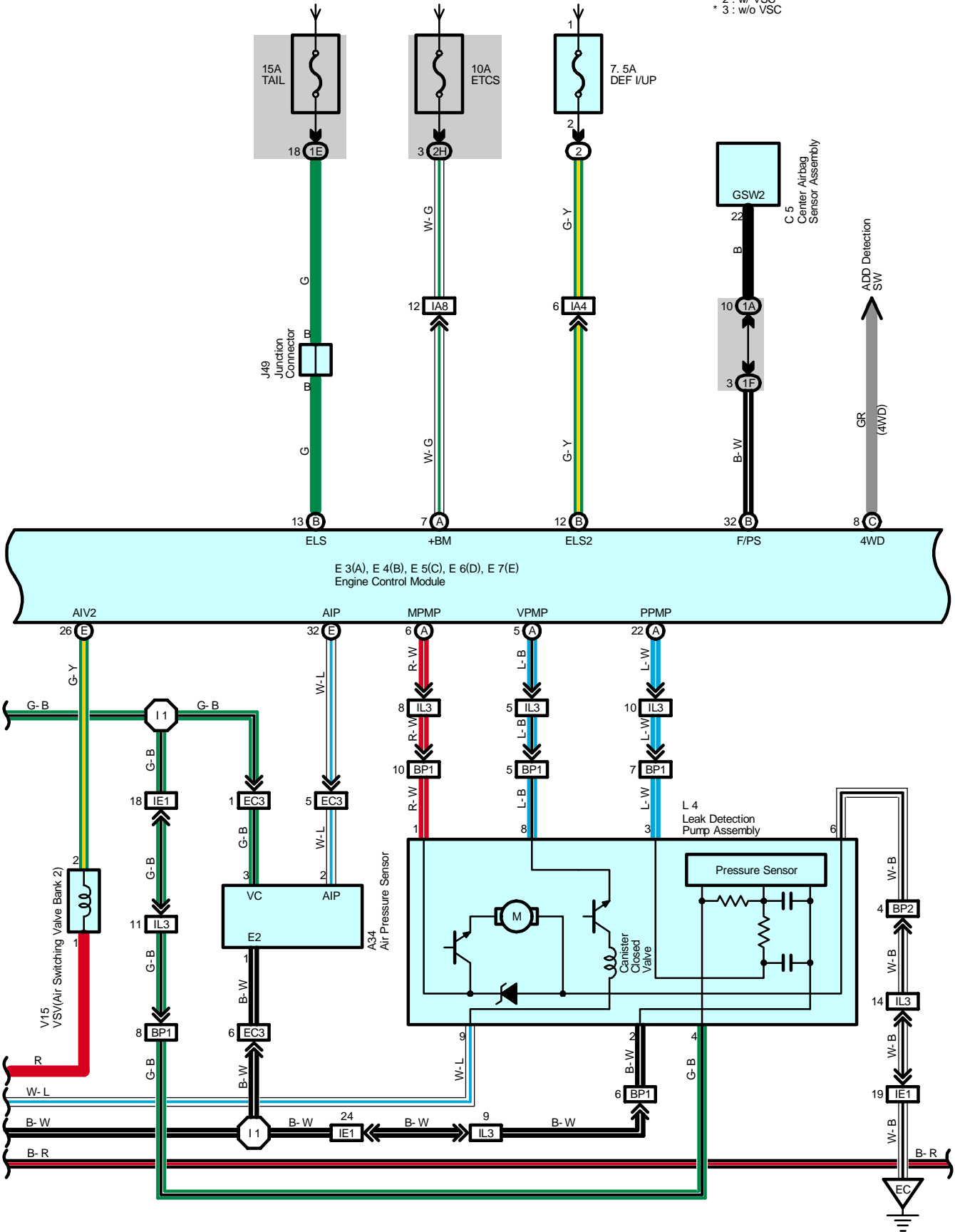




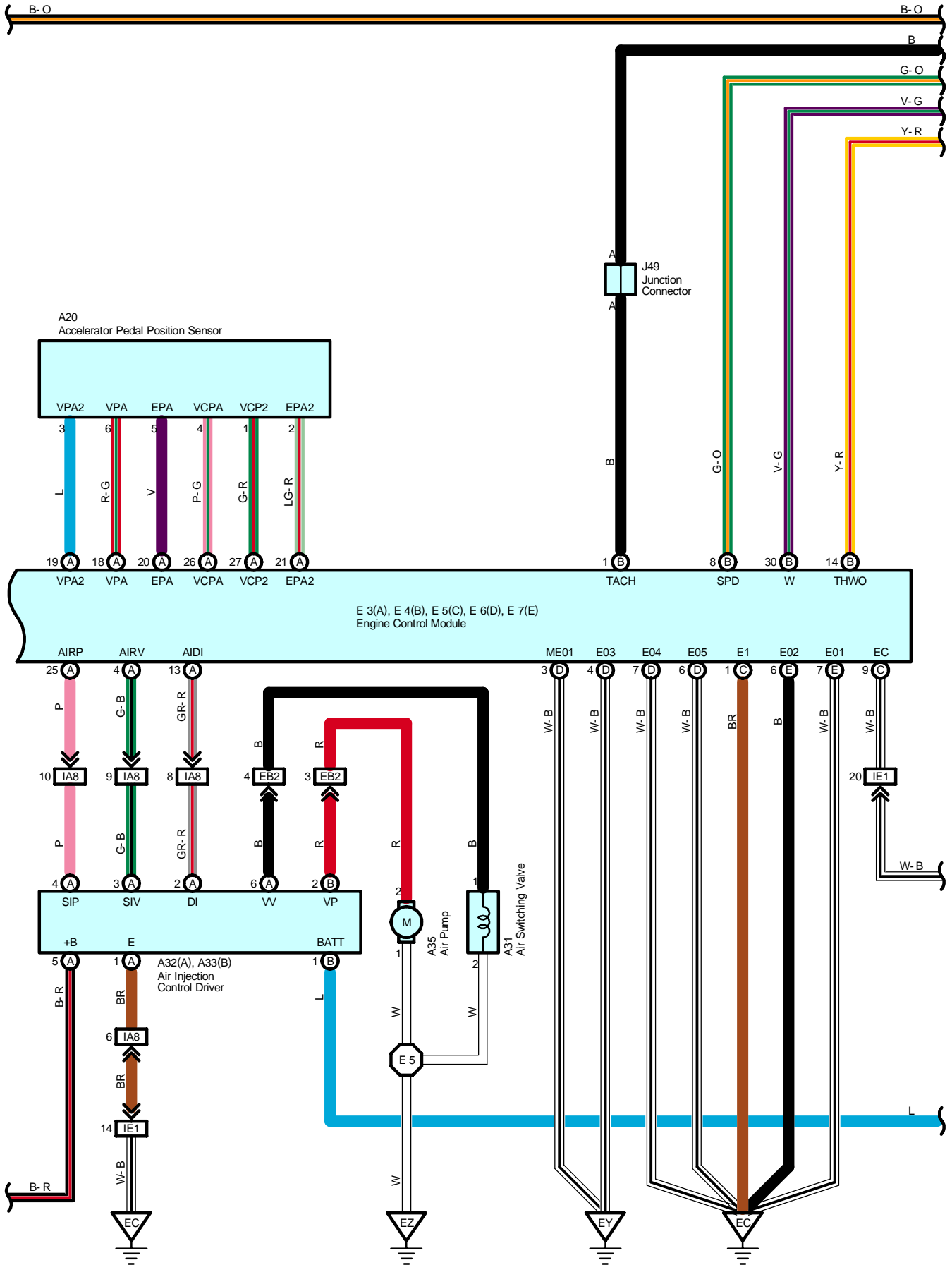
B-O B-O

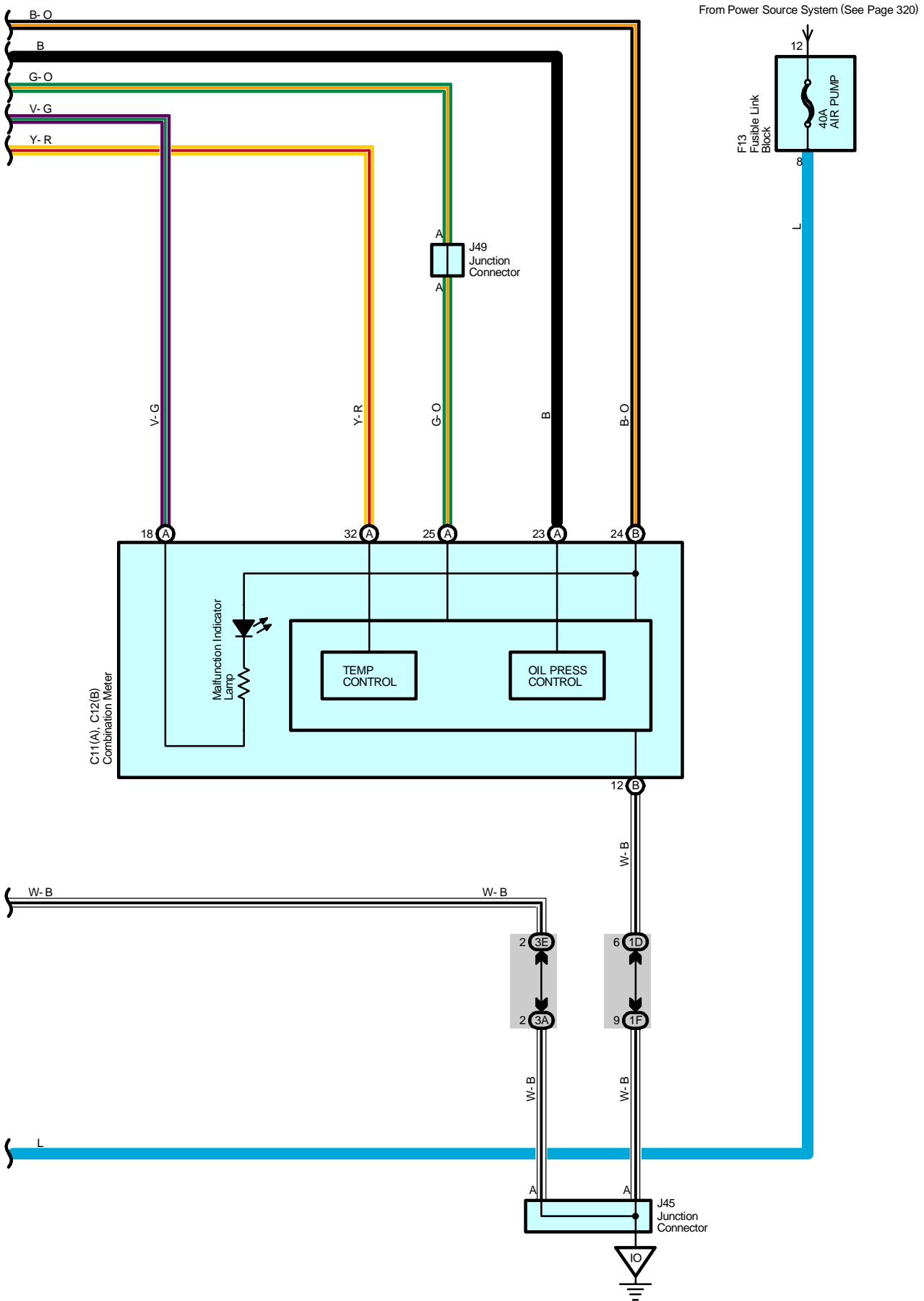
From Power Source System (See Page 320)

- \* 1 : Shielded
- \* 2 : w/ VSC
- \* 3 : w/o VSC



# Engine Control (Double Cab)





# Engine Control (Double Cab)

## System Outline

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

### 1. Input Signals

(1) Engine coolant temp. signal circuit

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

(2) Intake air temp. signal circuit

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

(3) Oxygen sensor signal circuit

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

(4) RPM signal circuit

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

(5) Throttle position sensor signal circuit

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

(6) Vehicle speed circuit

The vehicle speed sensor, detects the vehicle speed and input to the speed sensor of the skid control ECU with actuator, from skid control ECU to TERMINAL SPD of the engine control module, via combination meter.

(7) Battery signal circuit

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

(8) Intake air volume signal circuit

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

(9) Stop light SW signal circuit

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

(10) Starter signal circuit

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

(11) Engine knock signal circuit

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

## **2. Control System**

### **\* SFI system**

The SFI system monitors the engine condition through the signals input from each sensors to the engine control module. The control signal is sent to the engine control module TERMINALS #10, #20, #30, #40, #50, #60, #70, #80 to operate the injector (Fuel injection). The SFI system controls the fuel injection by the engine control module in response to the driving conditions.

### **\* ESA system**

The ESA system monitors the engine condition through the signals input from each sensors to the engine control module. The best ignition timing is decided according to this data and the data memorized in the engine control module. The control signal is output to TERMINALS IGT1, IGT2, IGT3, IGT4, IGT5, IGT6, IGT7, IGT8, and these signals control the igniter to provide the best ignition timing.

### **\* Heated oxygen sensor heater control system**

The heated oxygen sensor heater control system turns the heater on when the intake air volume is low (Temp. of exhaust emission is low), and warms up the heated oxygen sensors to improve their detection performance. The engine control module evaluates the signals from each sensors, and outputs current to TERMINALS HT1B and HT2B to control the heater.

### **\* Air fuel ratio sensor heater control system**

The air fuel ratio sensor heater control system turns the heater on when the intake air volume is low (Temp. of exhaust emission is low) and warms up the air fuel ratio sensor to improve detection performance of the sensor.

The engine control module evaluates the signals from each sensor, current is output to TERMINALS A1A+ and A2A+ controlling the heater.

### **\* Fuel pump control system**

The engine control module supplies current to TERMINAL FPR, and controls the operation speed of the fuel pump with the F/PMP relay.

### **\* ETCS-i**

The ETCS-i controls the engine output at its optimal level in accordance with the opening of the accelerator pedal, under all driving conditions.

## **3. Diagnosis System**

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

## **4. Fail-Safe System**

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

# Engine Control (Double Cab)

## Service Hints

### EFI Relay

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

### C/OPN Relay

5-3 : Closed with starter cranking or engine cranking

### E2 Engine Coolant Temp. Sensor

1-2 : Approx. 16.2 kΩ (-20°C, -4°F)

: Approx. 2.45 kΩ (20°C, 68°F)

: Approx. 0.32 kΩ (80°C, 176°F)

### E3 (A), E4 (B), E5 (C), E6 (D), E7 (E) Engine Control Module

BATT-E1 : Always 9.0-14.0 volts

+BM-E1 : Always 9.0-14.0 volts

IGSW-E1 : 9.0-14.0 volts with ignition SW at ON or ST position

+B, +B2-E1 : 9.0-14.0 volts with ignition SW at ON or ST position

VC-E1 : 4.5-5.5 volts with ignition SW at ON or ST position

VTA2-E1 : 2.0-2.9 volts with ignition SW on and throttle valve fully closed

: 4.7-5.1 volts with ignition SW on and throttle valve fully open

VTA1-E1 : 0.4-1.0 volts with ignition SW on and throttle valve fully closed

: 3.2-4.8 volts with ignition SW on and throttle valve fully open

VPA-E1 : 0.3-0.9 volts with ignition SW on and throttle valve fully closed

: 3.2-4.8 volts with ignition SW on and throttle valve fully open

VPA2-E1 : 1.8-2.7 volts with ignition SW on and throttle valve fully closed

: 4.7-5.1 volts with ignition SW on and throttle valve fully open

THA-E1 : 0.5-3.4 volts with idling, intake air temp. 0°C (32°F) -80°C (176°F)

THW-E1 : 0.2-1.0 volts with idling, engine coolant temp. 60°C (140°F) -120°C (248°F)

STA-E1 : 6.0 volts or more with engine cranking

W-E1 : 9.0-14.0 volts with idling and malfunction indicator lamp off

SPD-E1 : Pulse generation with vehicle moving

STP-E1 : 7.5-14.0 volts with brake pedal depressed

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A10	64	F5	64	J34	65
A20	66	F10	70	J45	68
A22	66	F13	34, 64	J47	A 68
A30	64	H4	64	J48	B 68
A31	64	H6	64	J49	68
A32	A 64	I3	65	J64	68
A33	B 64	I4	65	J75	68
A34	64	I5	65	J76	A 68
A35	64	I6	65	J77	B 68
C1	64	I7	65	K1	65
C2	64	I8	65	K2	65
C5	66	I9	65	L4	70
C11	A 66	I10	65	M1	65
C12	B 66	I14	65	S4	69
C19	64	I15	65	S31	69
C20	64	I16	65	T14	65
D6	67	I17	65	V4	65
E2	64	I18	65	V13	65
E3	A 67	I19	65	V14	65
E4	B 67	I20	65	V15	65
E5	C 67	I21	65	V16	65
E6	D 67	I23	67	V17	65
E7	E 67	I24	67		

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	38	Engine Room R/B No.2 (Engine Compartment Left)

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1C		
1D		
1E		
1F		
1G		
1H		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1L		
2A	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2C		
2D		
2F		
2H		
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3B		
3C		
3D		
3E		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB2	90	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
EC3	90	Engine No.2 Wire and Engine Wire (Near the Starter)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA8		
IE1	94	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ1	94	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)
IL2	92	Floor No.2 Wire and Cowl Wire (Right Kick Panel)
IL3	94	Floor No.2 Wire and Cowl Wire (Instrument Panel Brace RH)
BP1	96	Frame Wire and Floor No.2 Wire (Under the Driver's Seat)
BP2		

 : **Ground Points**

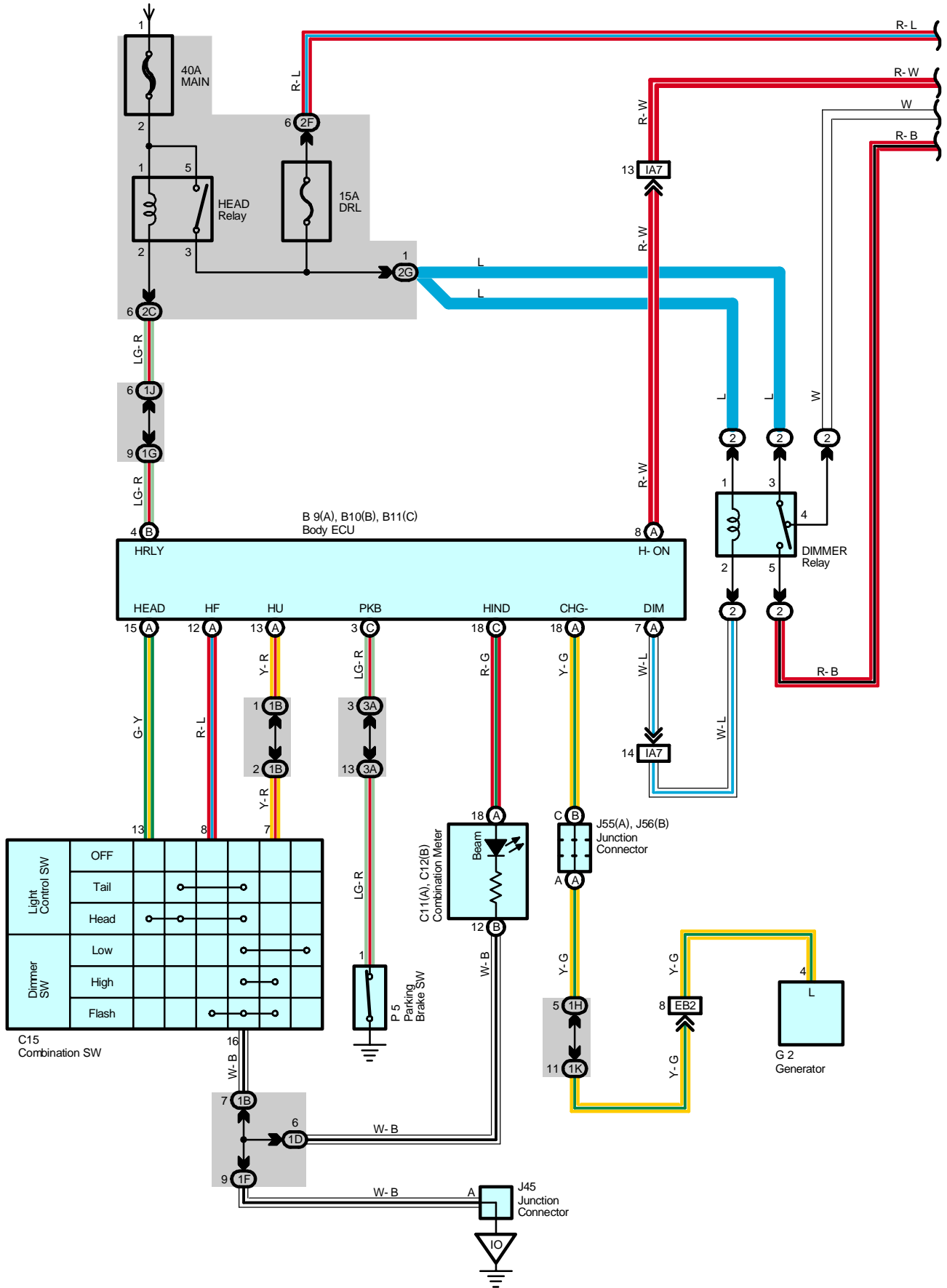
Code	See Page	Ground Points Location
EA	90	Front Left Fender Apron
EC	90	Rear Bank of Left Cylinder Head
EY	90	Front Left Side of Cylinder Head
EZ	90	Left Side of Cylinder Block
IO	92	Left Kick Panel
BQ	96	Left Side of Center Pillar

 : **Splice Points**

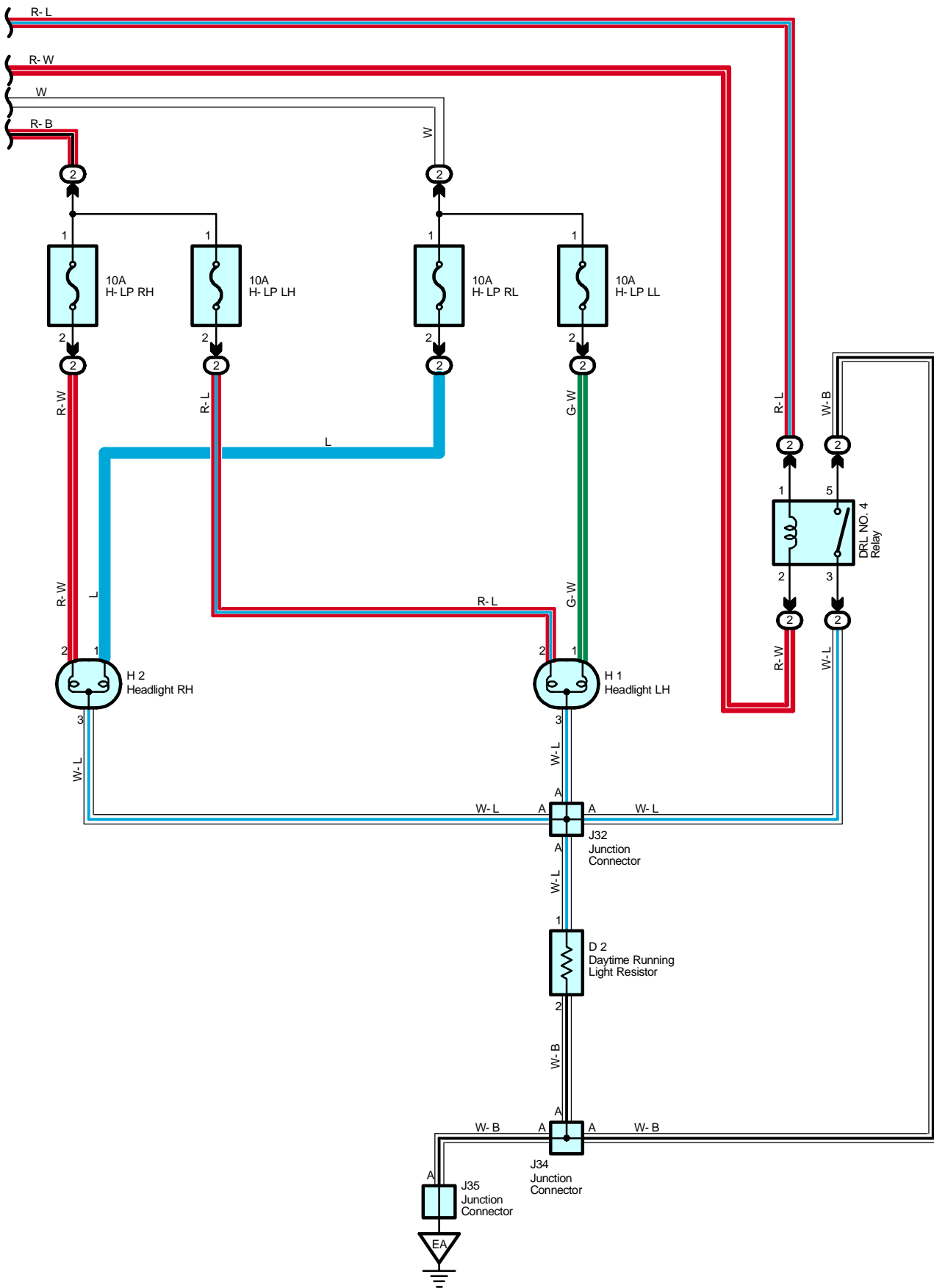
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E2	90	Engine Wire	I1	94	Engine Wire
E5	90	Engine No.2 Wire			

# Headlight with DRL (Double Cab)

From Power Source System (See Page 320)







# Headlight with DRL (Double Cab)

## System Outline

### Daytime Running Light Operation

When the engine is started, the generator signal is input of the body ECU. At this time, if the parking brake pedal is depressed (Parking brake SW ON), the body ECU is not activated, and the daytime running light system does not operate. When the parking brake pedal is released (Parking brake SW OFF), a signal is input into TERMINAL (C) 3 of the body ECU. This activates the body ECU and the headlight turns on.

## Service Hints

### HEAD Relay

5-3 : Closed with the light control SW at HEAD position or dimmer SW at FLASH position  
 Closed with the engine running and parking brake pedal released

### DIMMER Relay

5-3 : Closed with the HEAD relay on and dimmer SW at HIGH or FLASH position

### C15 Combination SW

13-16 : Closed with the light control SW at HEAD position  
 8-16 : Closed with the dimmer SW at FLASH position  
 7-16 : Closed with the dimmer SW at HIGH or FLASH position

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B9	A 66	D2	64	J35	65
B10	B 66	G2	64	J45	68
B11	C 66	H1	64	J55	A 68
C11	A 66	H2	64	J56	B 68
C12	B 66	J32	65	P5	69
C15	66	J34	65		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	38	Engine Room R/B No.2 (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1D		
1F		
1G		
1H		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1K		
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2F		
2G		
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)

## □ : Connector Joining Wire Harness and Wire Harness

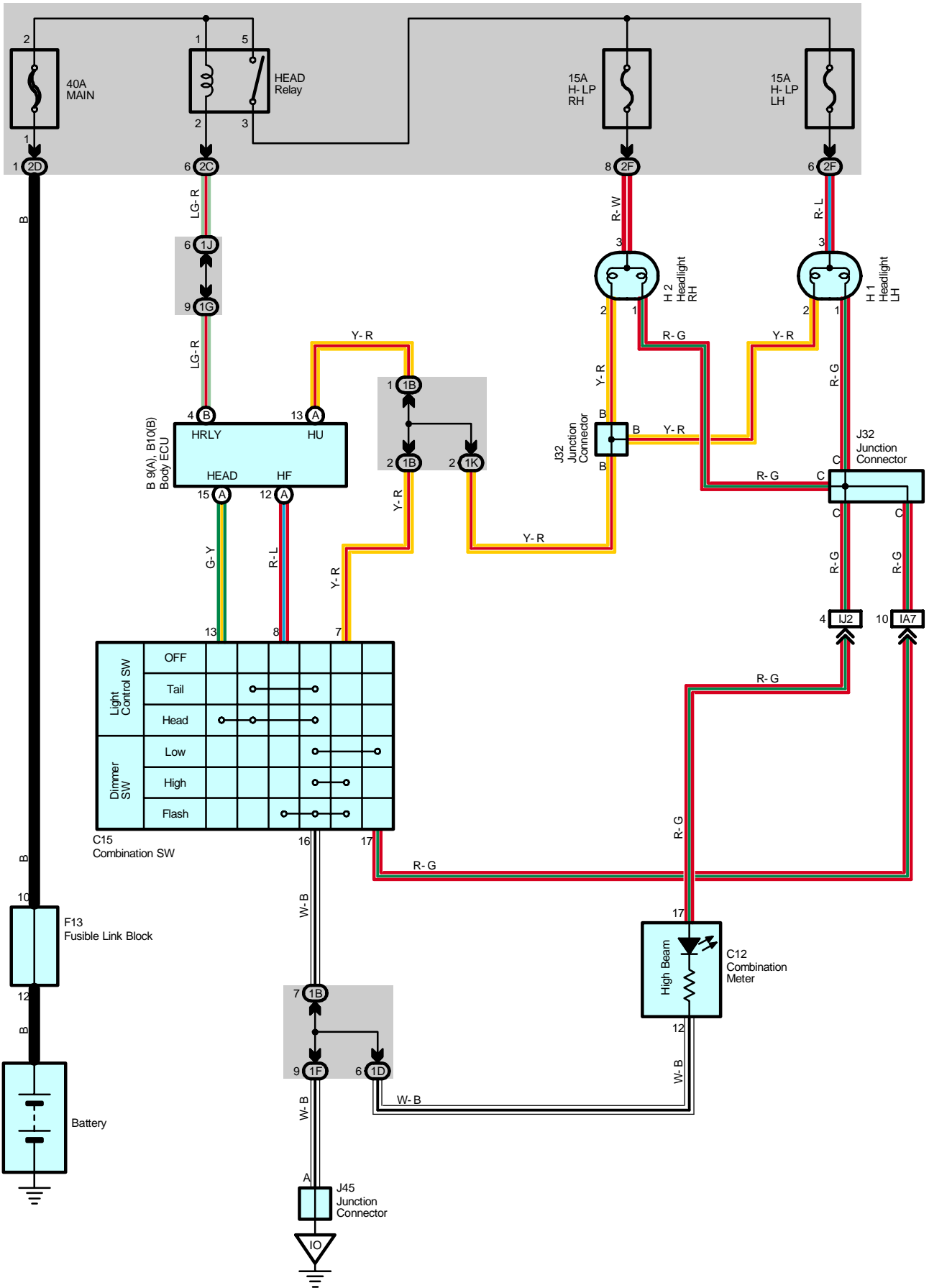
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB2	90	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
IA7	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)

## ▽ : Ground Points

Code	See Page	Ground Points Location
EA	90	Front Left Fender Apron
IO	92	Left Kick Panel



# Headlight without DRL (Double Cab)



**Service Hints****HEAD Relay**

5-3 : Closed with the light control SW at HEAD position or dimmer SW at FLASH position

 : **Parts Location**

Code		See Page	Code	See Page	Code	See Page
B9	A	66	C15	66	H2	64
B10	B	66	F13	34, 64	J32	65
C12		66	H1	64	J45	68

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1D		
1F		
1G		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1K		
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2D		
2F		

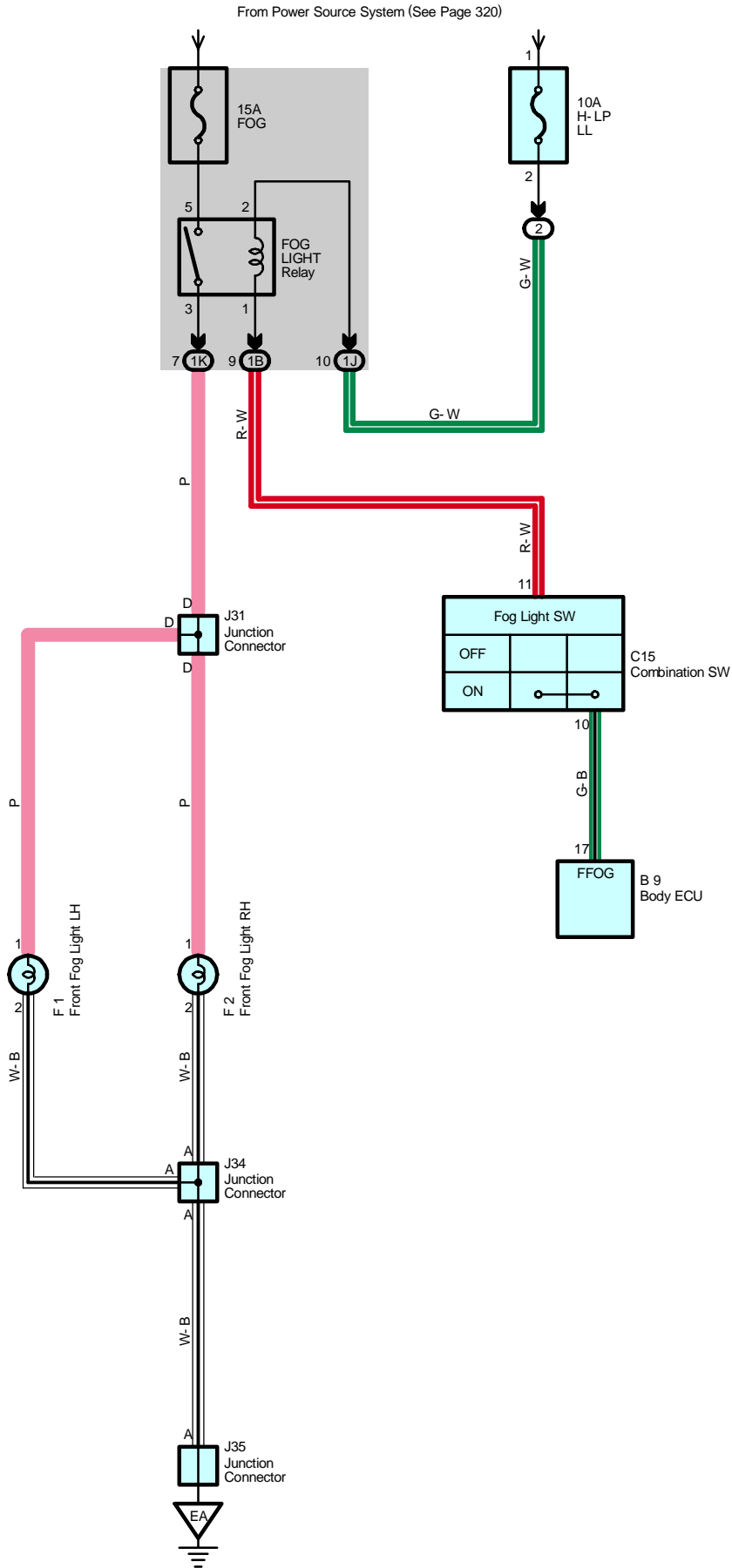
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA7	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IJ2	94	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)

 : **Ground Points**

Code	See Page	Ground Points Location
IO	92	Left Kick Panel

# Fog Light with DRL (Double Cab)



**Service Hints****FOG LIGHT Relay**

5-3 : Closed with the light control SW at HEAD position, dimmer SW at LOW position and fog light SW on

 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
B9	<a href="#">66</a>	F2	<a href="#">64</a>	J35	<a href="#">65</a>
C15	<a href="#">66</a>	J31	<a href="#">65</a>		
F1	<a href="#">64</a>	J34	<a href="#">65</a>		

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
2	<a href="#">38</a>	Engine Room R/B No.2 (Engine Compartment Left)

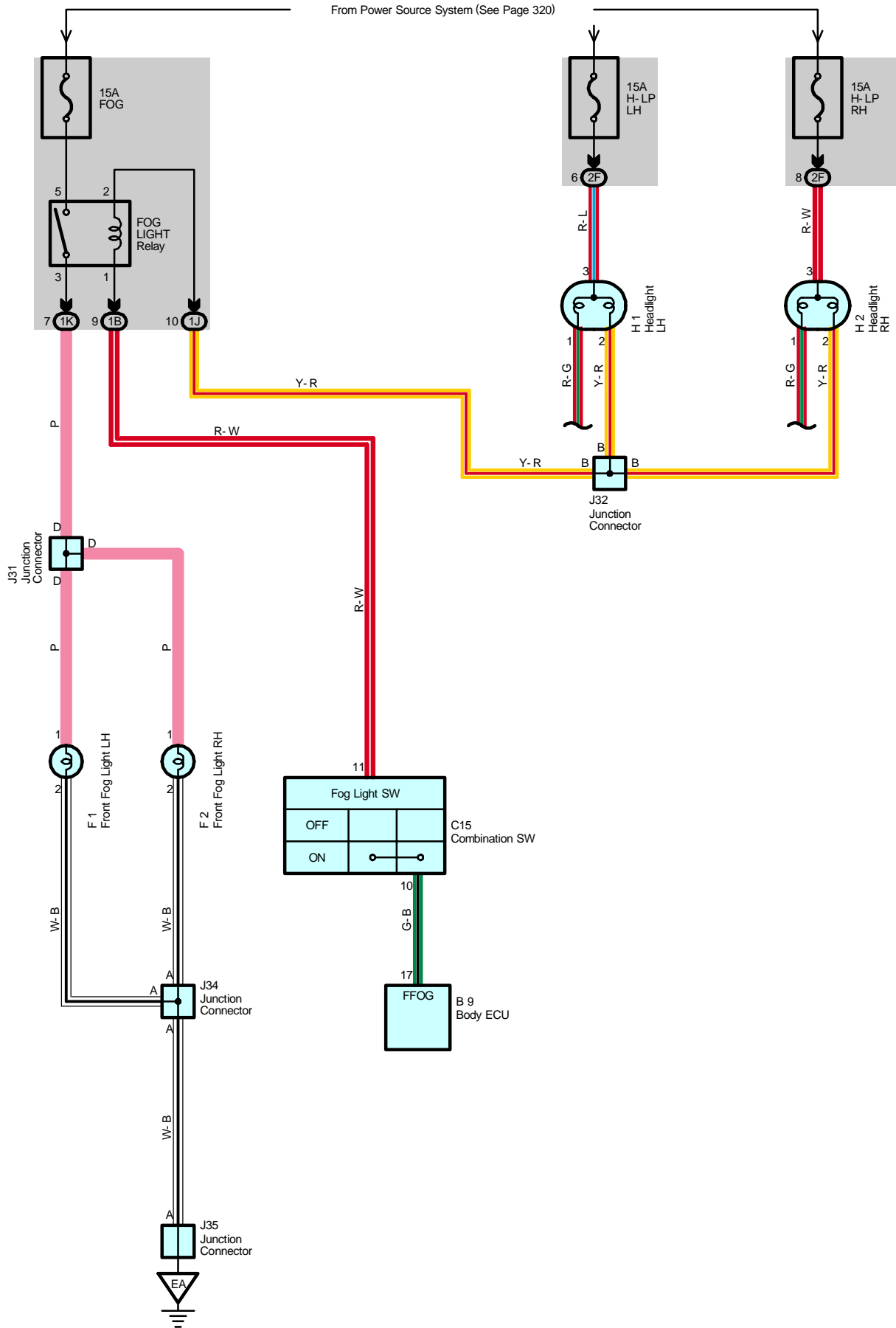
 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	<a href="#">45</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1J	<a href="#">45</a>	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1K		

 : **Ground Points**

Code	See Page	Ground Points Location
EA	<a href="#">90</a>	Front Left Fender Apron

# Fog Light without DRL (Double Cab)





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**Service Hints****FOG LIGHT Relay**

5-3 : Closed with the light control SW at HEAD position, dimmer SW at LOW position and fog light SW on

 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
B9	<a href="#">66</a>	H1	<a href="#">64</a>	J34	<a href="#">65</a>
C15	<a href="#">66</a>	H2	<a href="#">64</a>	J35	<a href="#">65</a>
F1	<a href="#">64</a>	J31	<a href="#">65</a>		
F2	<a href="#">64</a>	J32	<a href="#">65</a>		

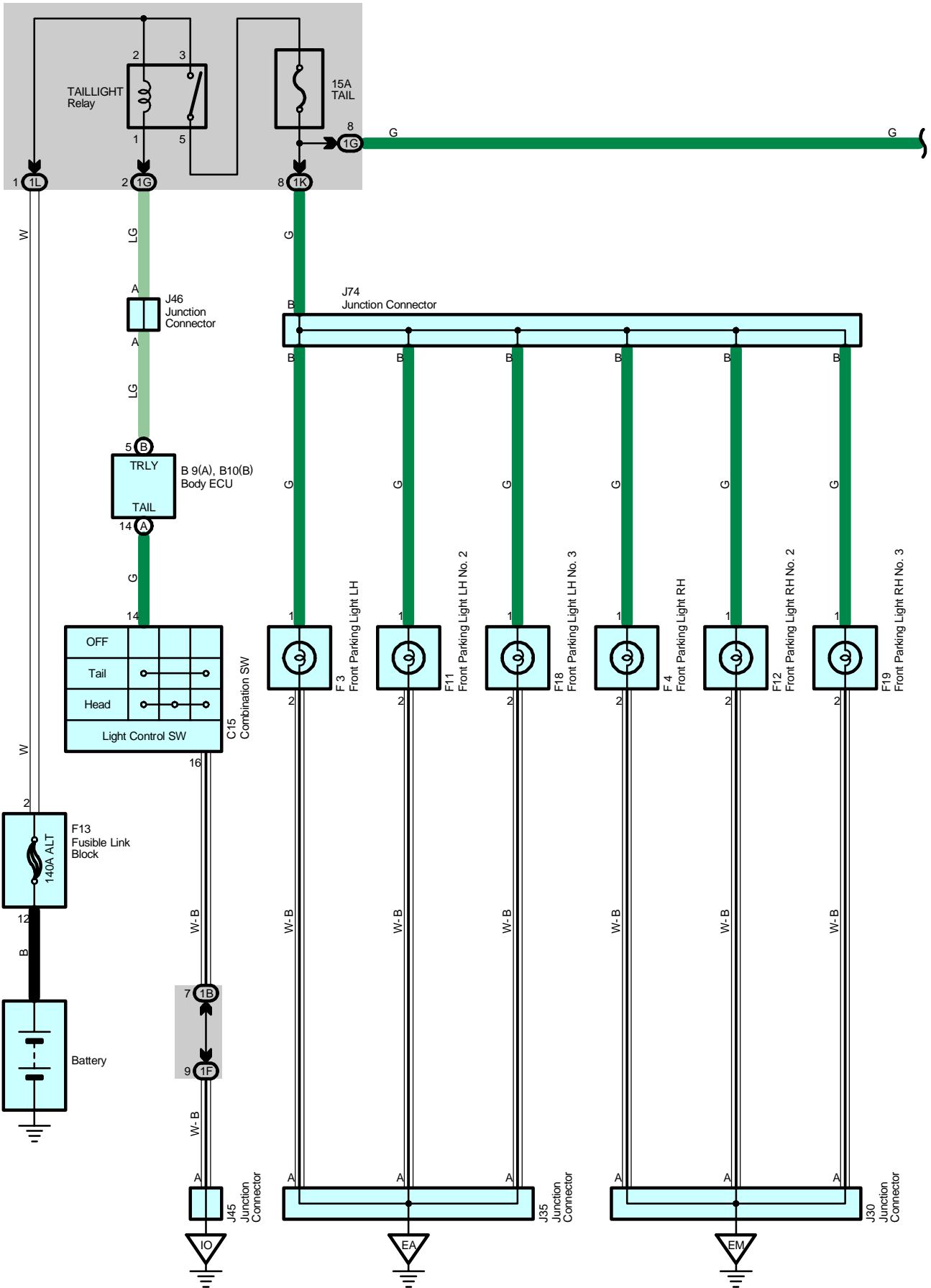
 : **Junction Block and Wire Harness Connector**

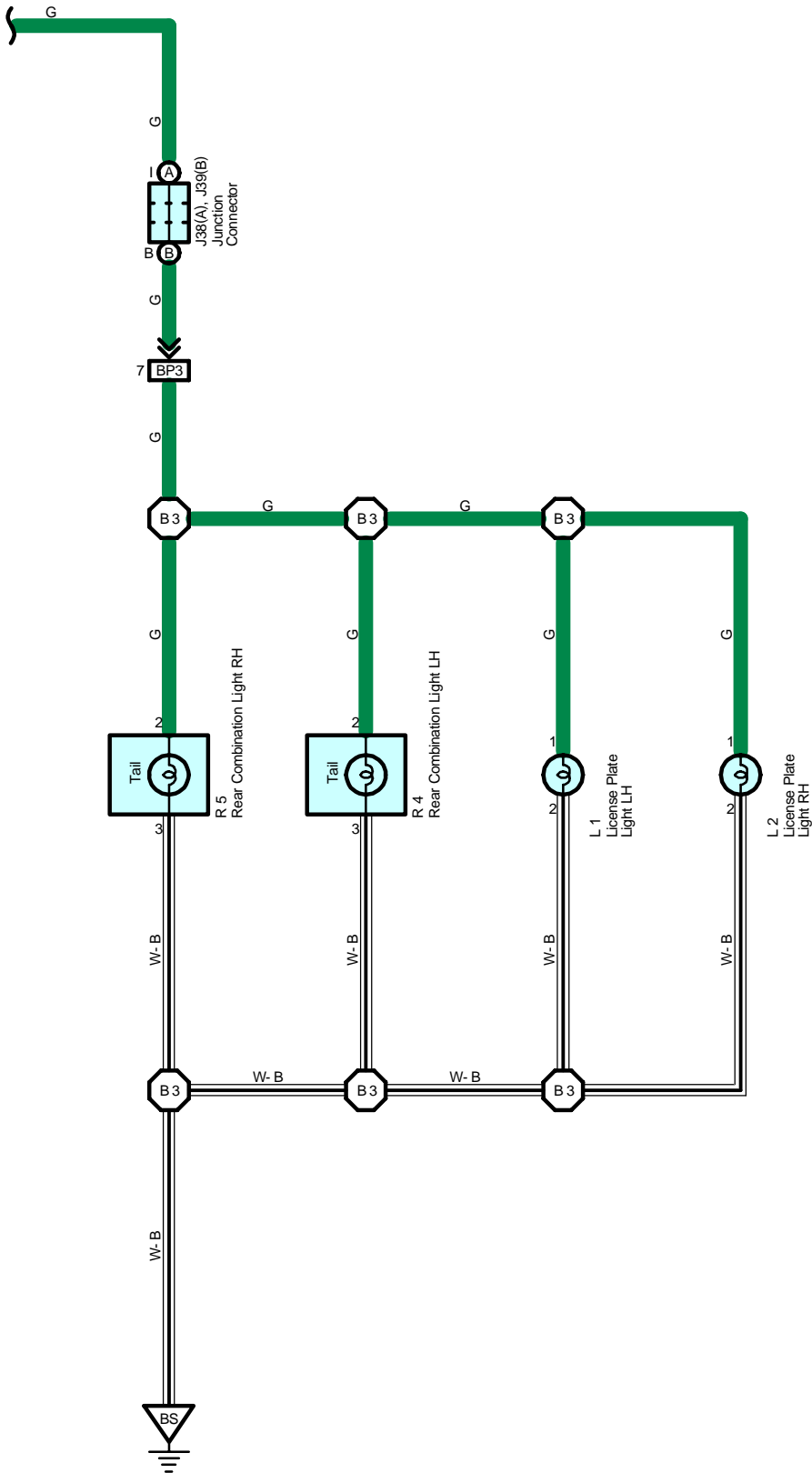
Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	<a href="#">45</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1J	<a href="#">45</a>	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1K		
2F	<a href="#">41</a>	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)

 : **Ground Points**

Code	See Page	Ground Points Location
EA	<a href="#">90</a>	Front Left Fender Apron

# Taillight (Double Cab)





# Taillight (Double Cab)

## Service Hints

### C15 Combination SW

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

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page	
B9	A	66	F13	34, 64	J45	68
B10	B	66	F18	64	J46	68
C15	66	F19	64	J74	65	
F3	64	J30	65	L1	70	
F4	64	J35	65	L2	70	
F11	64	J38	A	68	R4	71
F12	64	J39	B	68	R5	71

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1F		
1G		
1K	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1L		

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
BP3	96	Frame Wire and Floor No.2 Wire (Under the Driver's Seat)

## ▽ : Ground Points

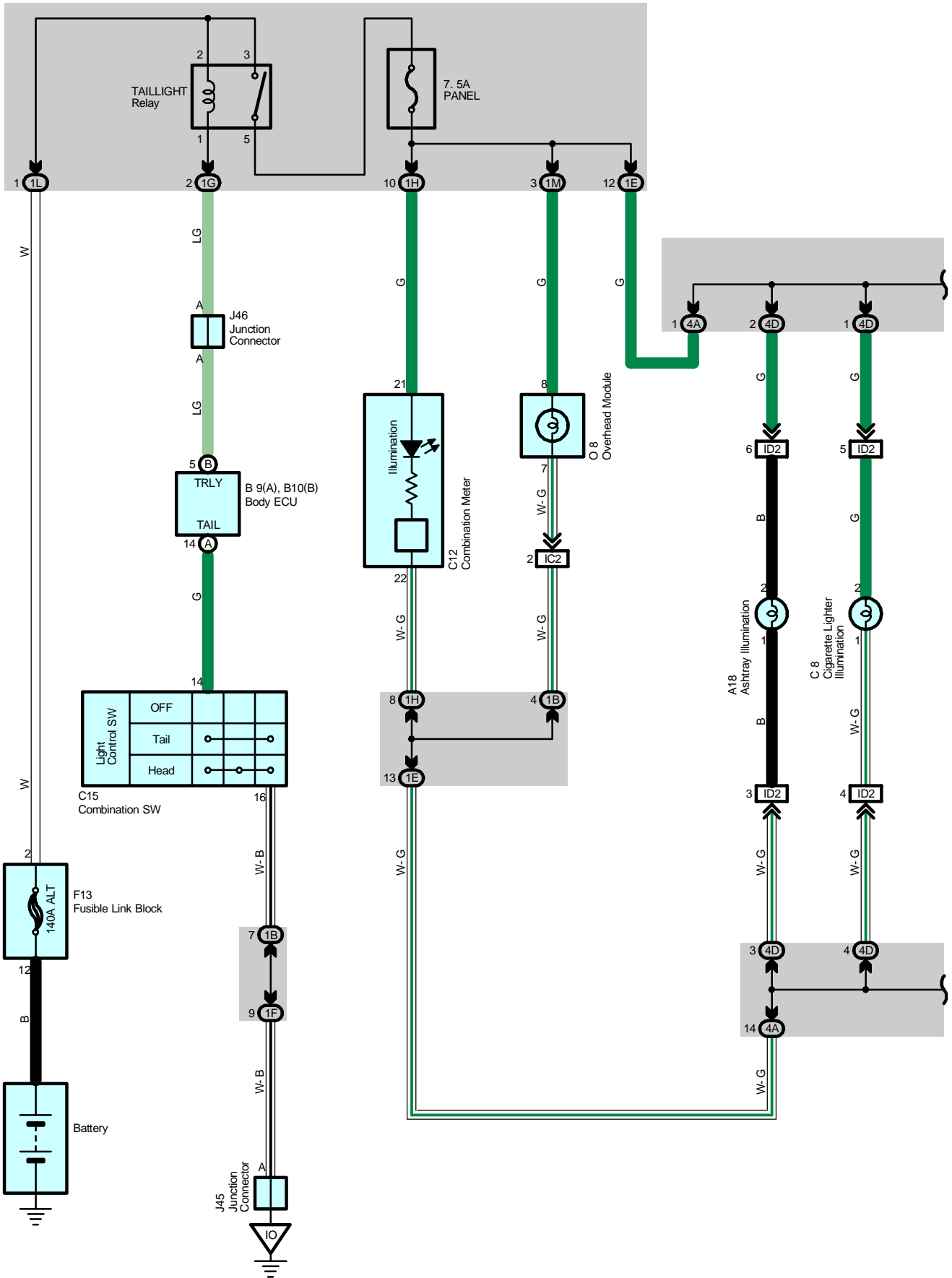
Code	See Page	Ground Points Location
EA	90	Front Left Fender Apron
EM	90	Radiator Side Support RH
IO	92	Left Kick Panel
BS	96	Surrounding of the Front of the Fuel Tank

## ○ : Splice Points

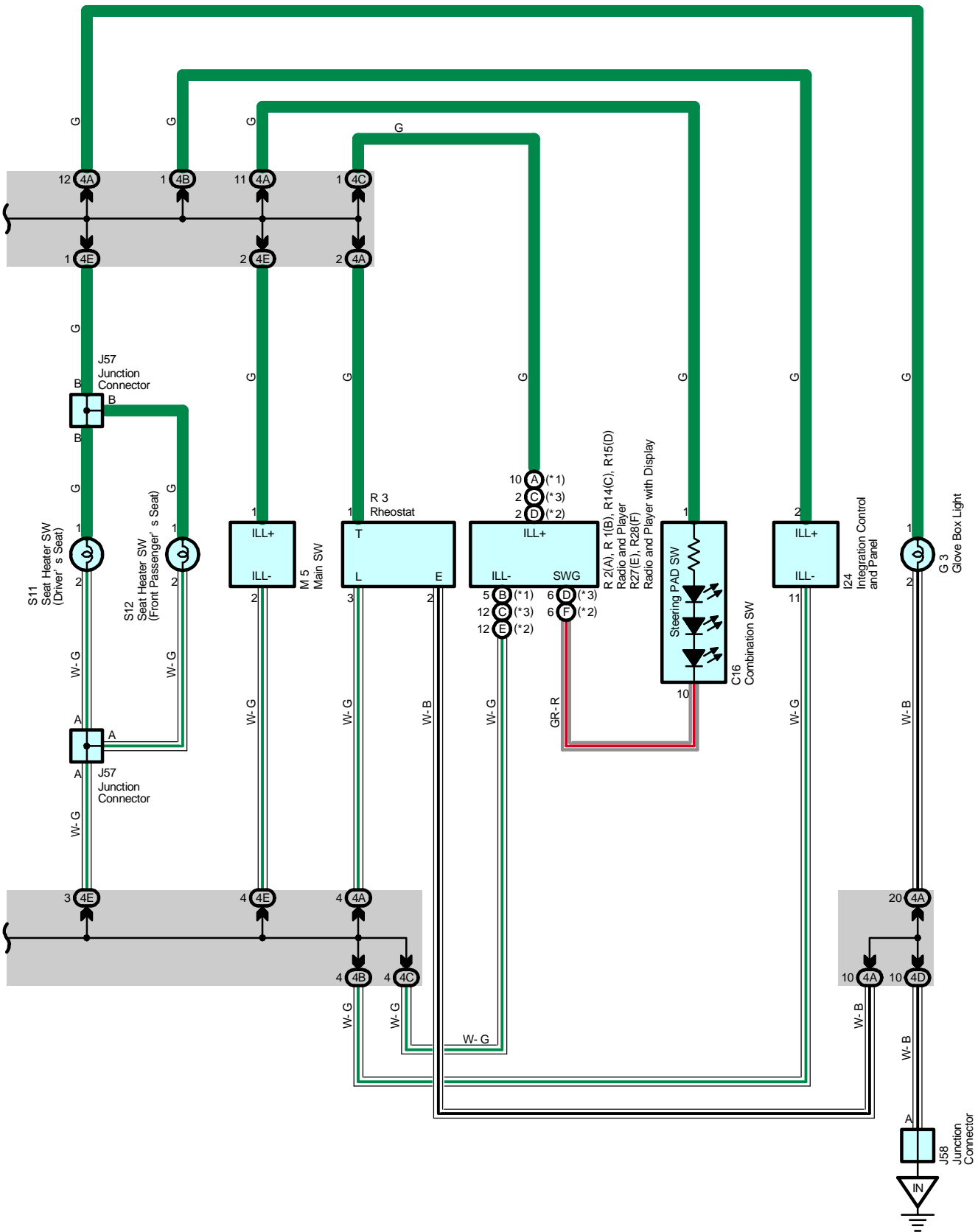
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B3	96	Frame Wire			



# Illumination (Double Cab)



- \* 1 : 6 Speaker
- \* 2 : 8 Speaker w/ Navigation System
- \* 3 : 8 Speaker w/o Navigation System



# Illumination (Double Cab)

## Service Hints

### C15 Combination SW

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

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A18	66	I24	67	R3	69
B9	A 66	J45	68	R14	C 69
B10	B 66	J46	68	R15	D 69
C8	66	J57	68	R27	E 69
C12	66	J58	68	R28	F 69
C15	66	M5	69	S11	69
C16	66	O8	70	S12	69
F13	34, 64	R1	B 69		
G3	67	R2	A 69		

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F		
1G		
1H		
1L	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1M	45	Roof Wire and Driver Side J/B (Lower Finish Panel)
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4B		
4C		
4D		
4E		

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC2	92	Cowl Wire and Roof Wire (Left Side of Instrument Panel)
ID2	92	Cigarette Lighter Wire and Cowl Wire (Instrument Panel Brace LH)

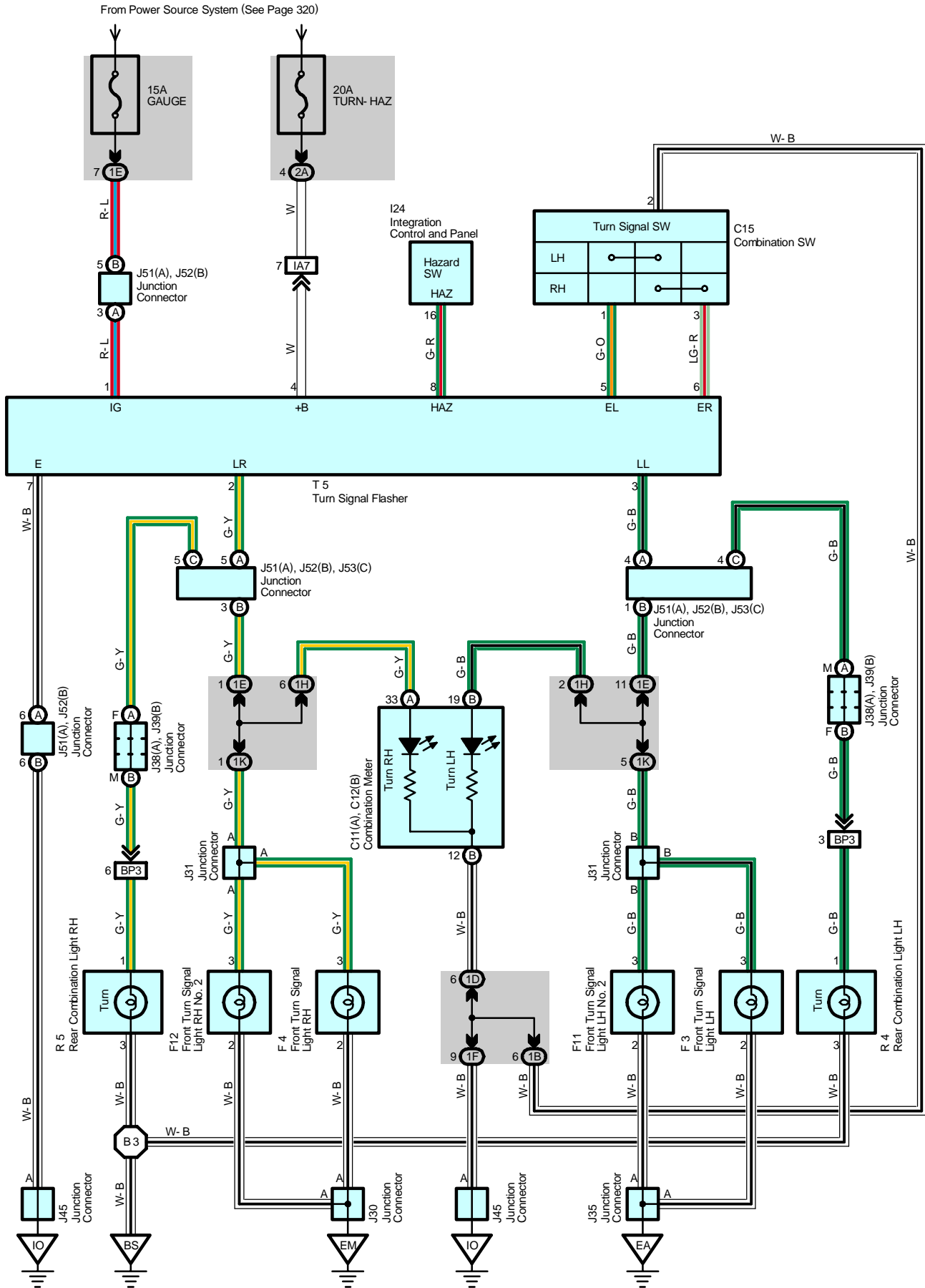
## ▽ : Ground Points

Code	See Page	Ground Points Location
IN	92	Right Kick Panel
IO	92	Left Kick Panel





# Turn Signal and Hazard Warning Light (Double Cab)



## Service Hints

### T5 Turn Signal Flasher

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

### ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page		
C11	A	66	I24	67	J51	A	68
C12	B	66	J30	65	J52	B	68
C15	66	J31	65	J53	C	68	
F3	64	J35	65	R4	71		
F4	64	J38	A	68	R5	71	
F11	64	J39	B	68	T5	69	
F12	64	J45	68				

### ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1D		
1E		
1F		
1H		
1K	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
2A	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)

### □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA7	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
BP3	96	Frame Wire and Floor No.2 Wire (Under the Driver's Seat)

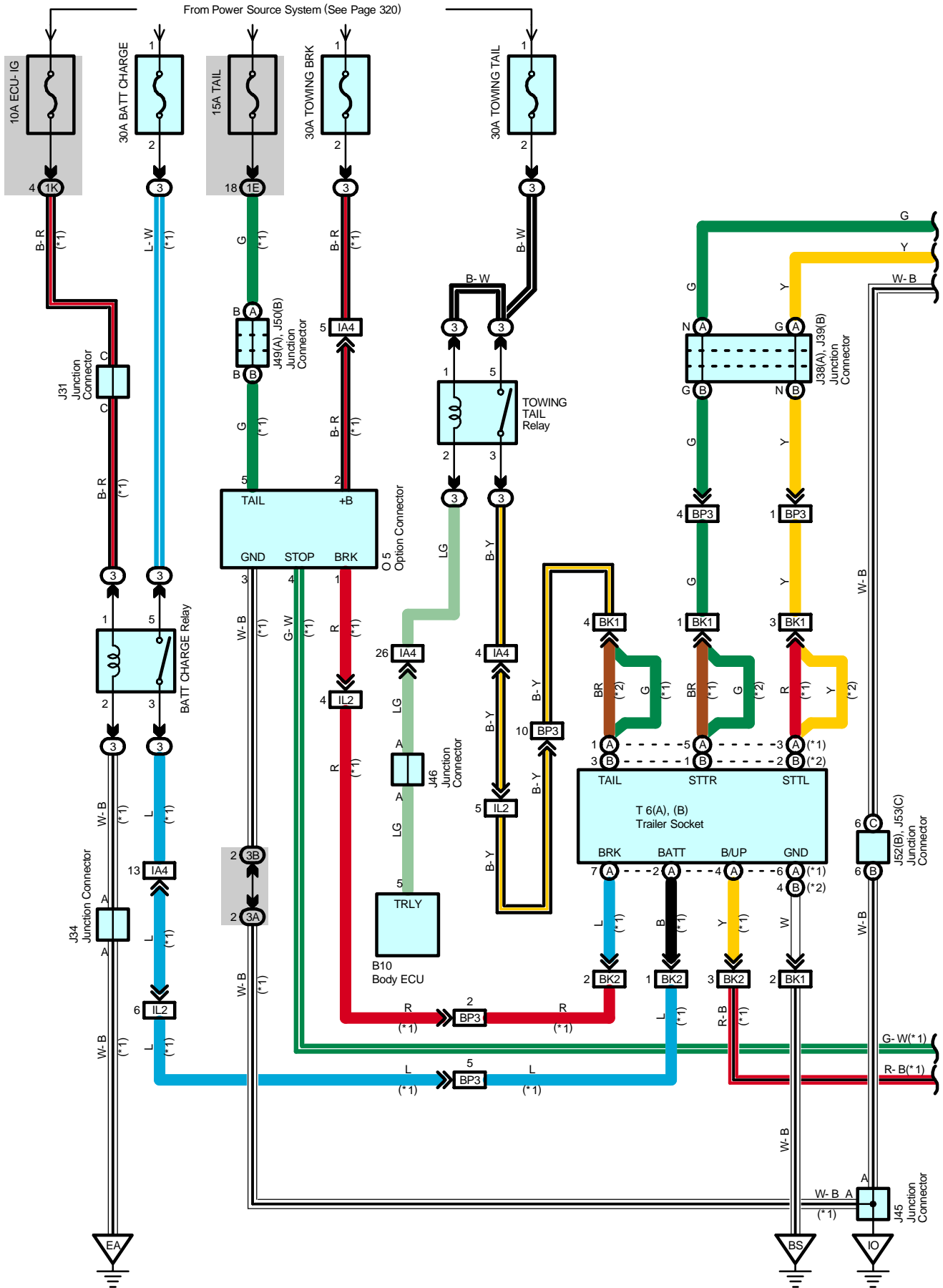
### ▽ : Ground Points

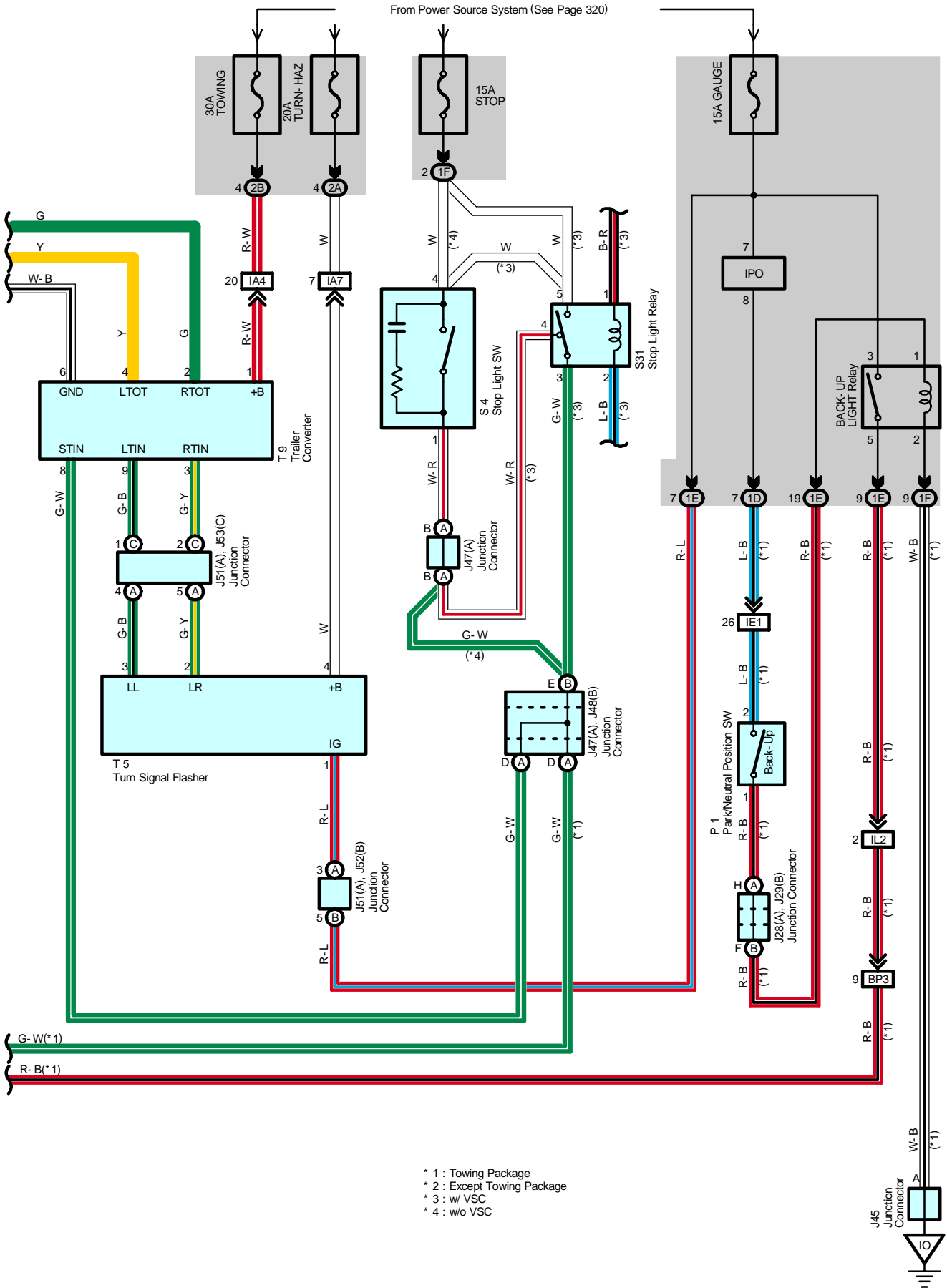
Code	See Page	Ground Points Location
EA	90	Front Left Fender Apron
EM	90	Radiator Side Support RH
IO	92	Left Kick Panel
BS	96	Surrounding of the Front of the Fuel Tank

### ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B3	96	Frame Wire			

# Trailer Towing (Double Cab)





# Trailer Towing (Double Cab)

## Service Hints

### T9 Trailer Converter

8-Ground : Approx. 12 volts with the brake pedal depressed

1-Ground : Always approx. 12 volts

6-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B10	66	J46	68	O5	69
J28	A 68	J47	A 68	P1	65
J29	B 68	J48	B 68	S4	69
J31	65	J49	A 68	S31	69
J34	65	J50	B 68	T5	69
J38	A 68	J51	A 68	T6	A 71
J39	B 68	J52	B 68		B 71
J45	68	J53	C 68	T9	69

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
3	39	Engine Room R/B No.3 (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F		
1K	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
2A	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3B		

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA7		
IE1	94	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IL2	92	Floor No.2 Wire and Cowl Wire (Right Kick Panel)
BK1	96	Frame Wire and Frame No.3 Wire (Near the License Plate Light)
BK2		
BP3	96	Frame Wire and Floor No.2 Wire (Under the Driver's Seat)

## ▽ : Ground Points

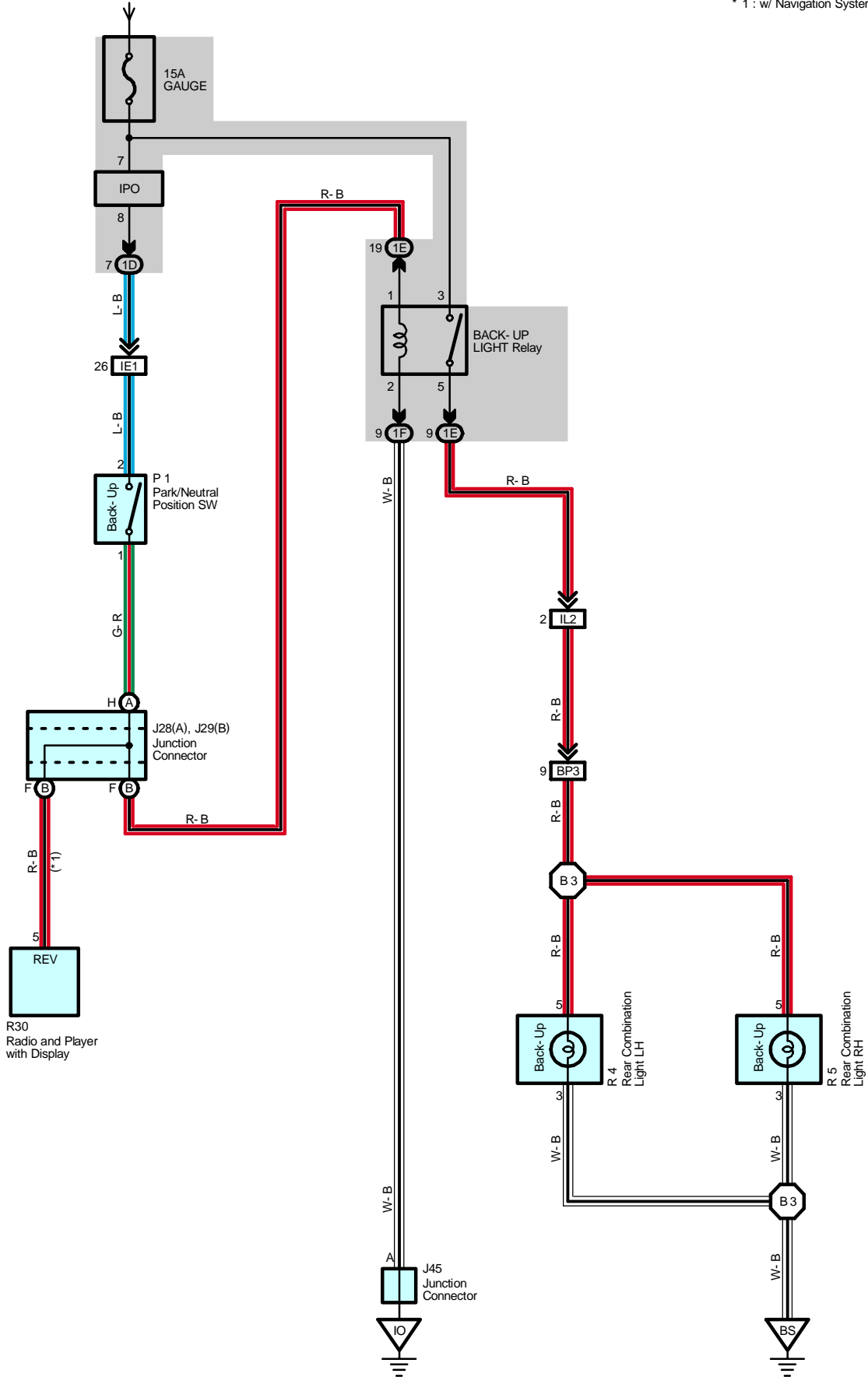
Code	See Page	Ground Points Location
EA	90	Front Left Fender Apron
IO	92	Left Kick Panel
BS	96	Surrounding of the Front of the Fuel Tank



# Back-Up Light (Double Cab)

From Power Source System (See Page 320)

\* 1 : w/ Navigation System





### Service Hints

#### P1 Park/Neutral Position SW

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

#### BACK-UP LIGHT Relay

3-5 : Closed with the shift level in R position and ignition SW at ON position

### : Parts Location

Code		See Page	Code	See Page	Code	See Page
J28	A	68	P1	65	R30	69
J29	B	68	R4	71		
J45		68	R5	71		

### : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F		

### : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	94	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IL2	92	Floor No.2 Wire and Cowl Wire (Right Kick Panel)
BP3	96	Frame Wire and Floor No.2 Wire (Under the Driver's Seat)

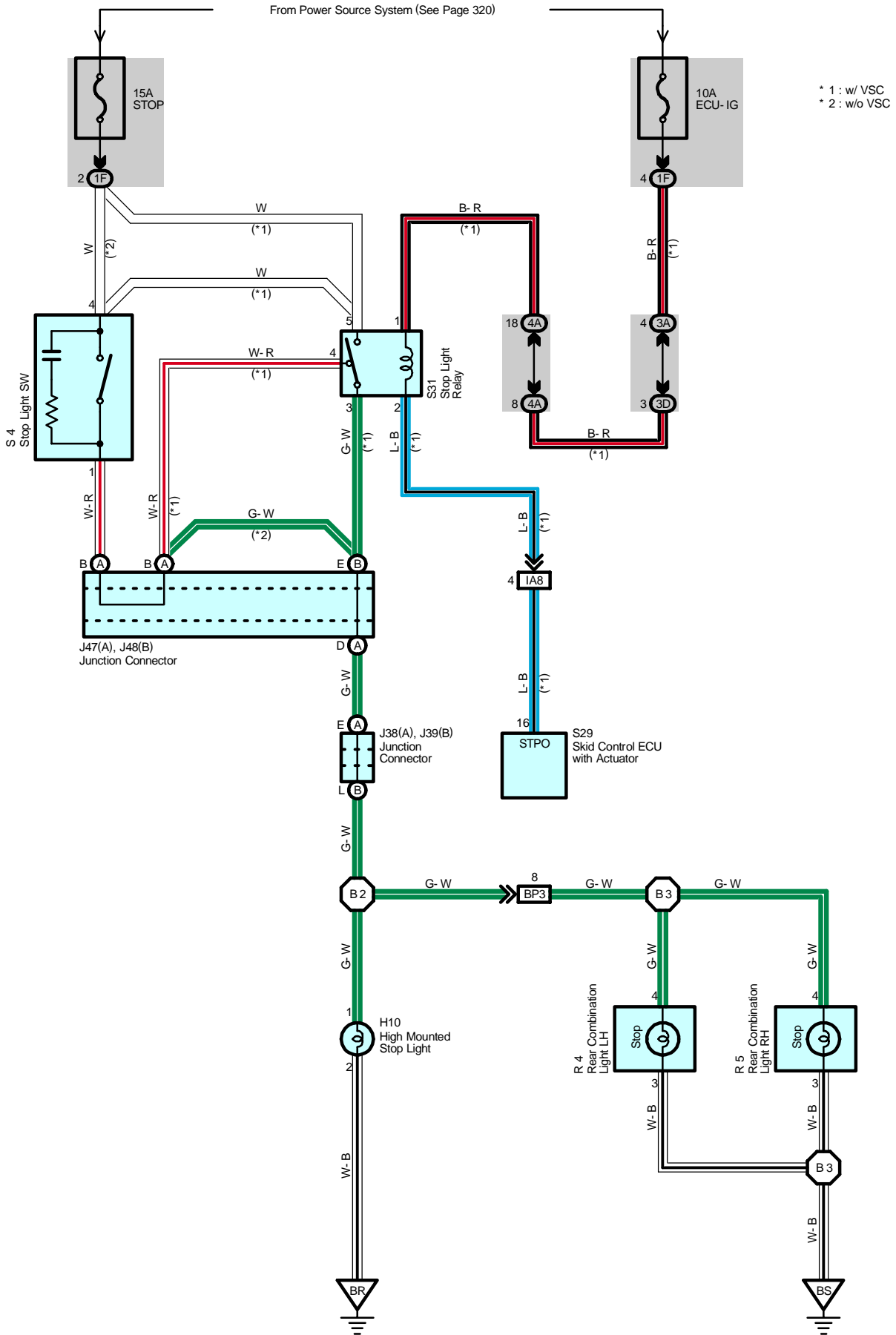
### : Ground Points

Code	See Page	Ground Points Location
IO	92	Left Kick Panel
BS	96	Surrounding of the Front of the Fuel Tank

### : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B3	96	Frame Wire			

# Stop Light (Double Cab)



**Service Hints****S4 Stop Light SW**

4-1 : Closed with the brake pedal depressed

 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page	
H10	70	J48	B	68	S29	65
J38	A	68	R4	71	S31	69
J39	B	68	R5	71		
J47	A	68	S4	69		

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3D		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA8	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
BP3	96	Frame Wire and Floor No.2 Wire (Under the Driver's Seat)

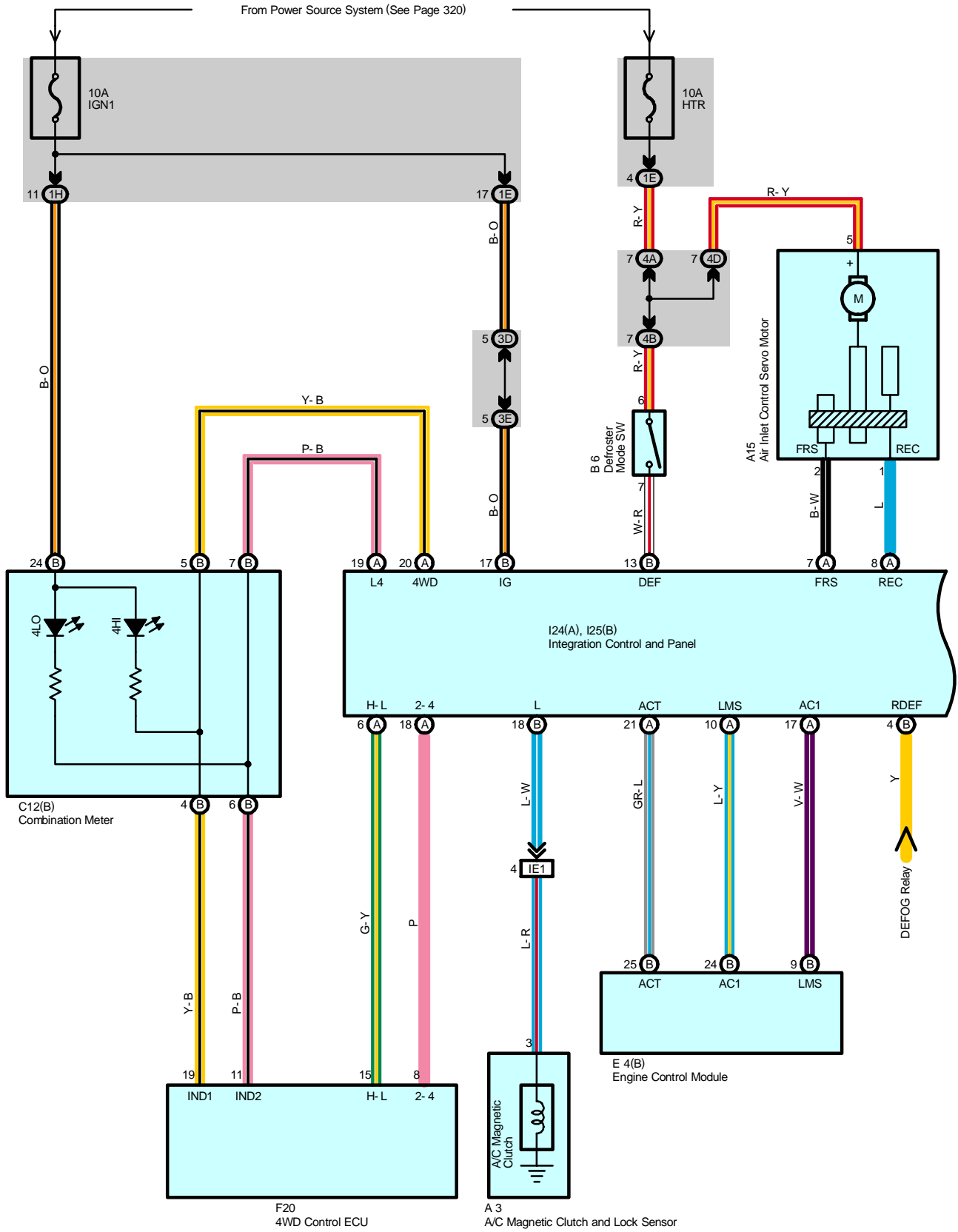
 : **Ground Points**

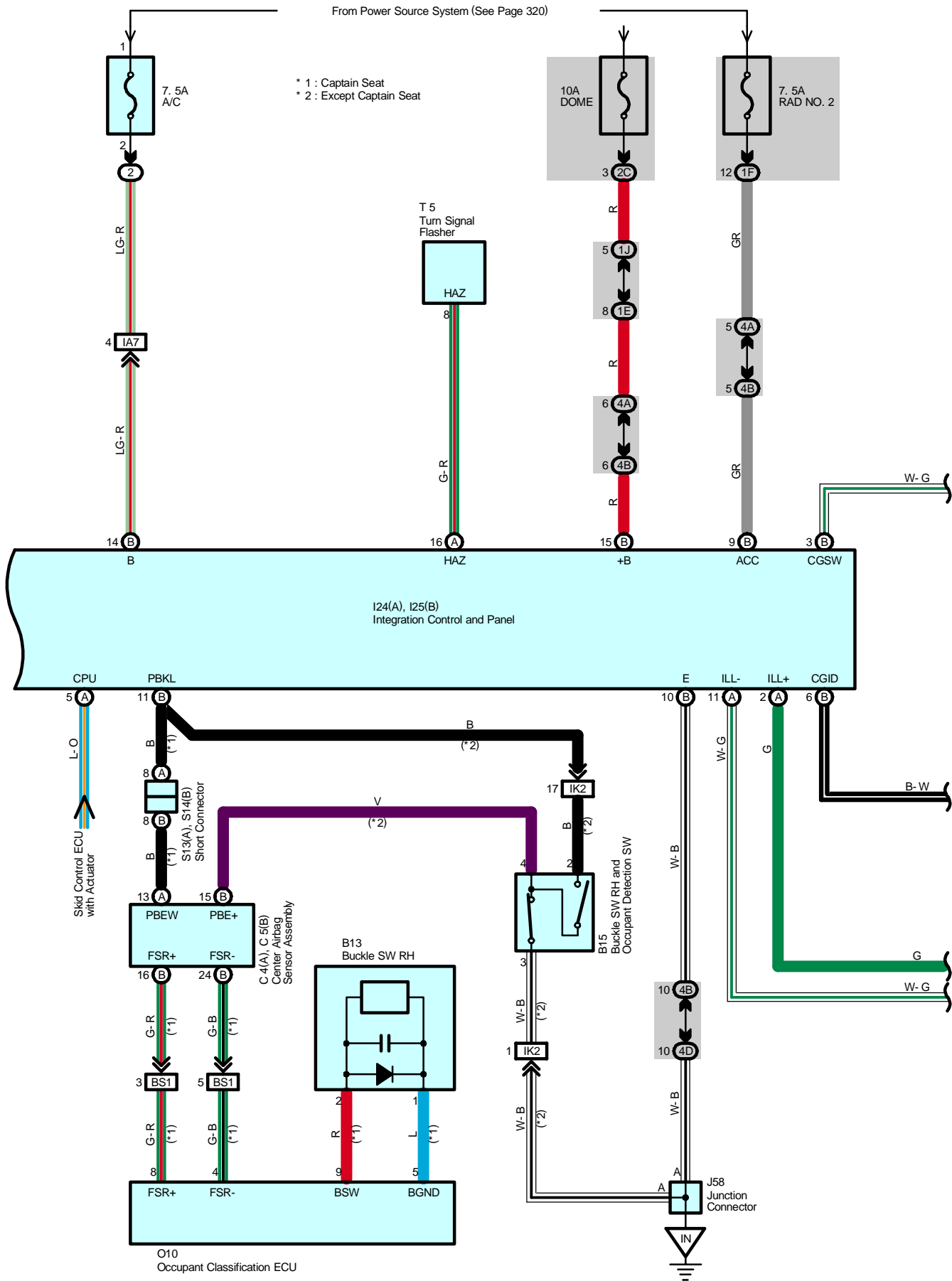
Code	See Page	Ground Points Location
BR	96	Back Panel Left
BS	96	Surrounding of the Front of the Fuel Tank

 : **Splice Points**

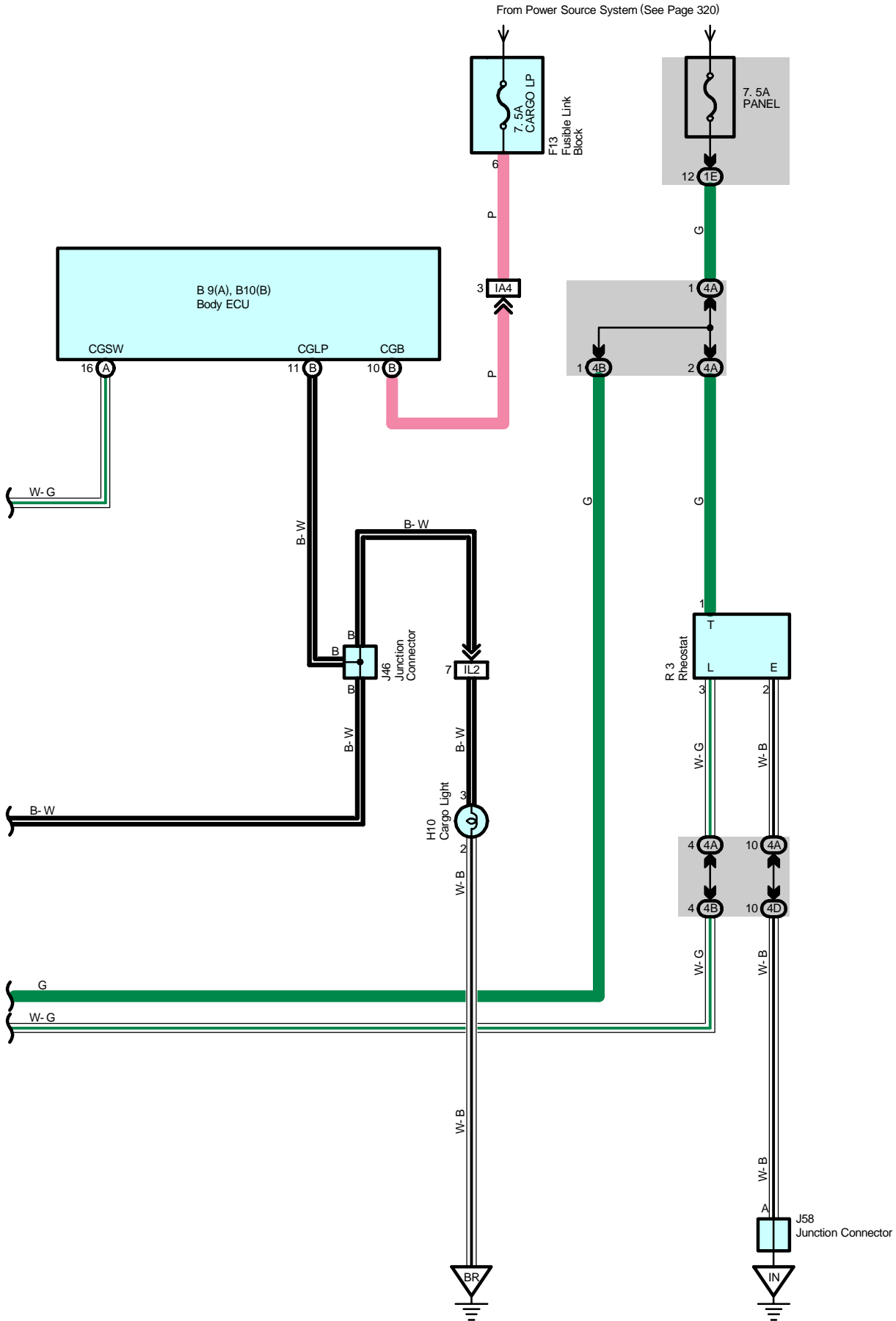
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B2	96	Floor No.2 Wire	B3	96	Frame Wire

# Center Cluster Integration Control System (Double Cab)





# Center Cluster Integration Control System (Double Cab)



## System Outline

The integration control panel is composed by design components such as the cluster, resistor, heater control panel, and SW. The integration control panel controls systems such as the air conditioning, cargo light, 4WD and hazard warning light and clock.

## Service Hints

### I25 (B) Integration Control and Panel

- (B)17-Ground : Approx. 12 volts with ignition SW on and blower SW on
- (B)14-Ground : Approx. 12 volts with ignition SW at ON or ST position
- (B)15-Ground : Always approx. 12 volts
- (B) 9-Ground : Approx. 12 volts with ignition SW at ACC or ON position
- (B)10-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A3	64	C5	B 66	J46	68
A15	66	C12	B 66	J58	68
B6	66	E4	B 67	O10	72
B9	A 66	F13	34, 64	R3	69
B10	B 66	F20	67	S13	A 69
B13	72	H10	70	S14	B 69
B15	70	I24	A 67	T5	69
C4	A 66	I25	B 67		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	38	Engine Room R/B No.2 (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1F		
1H		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3D	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3E		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4B		
4D		

## □ : Connector Joining Wire Harness and Wire Harness

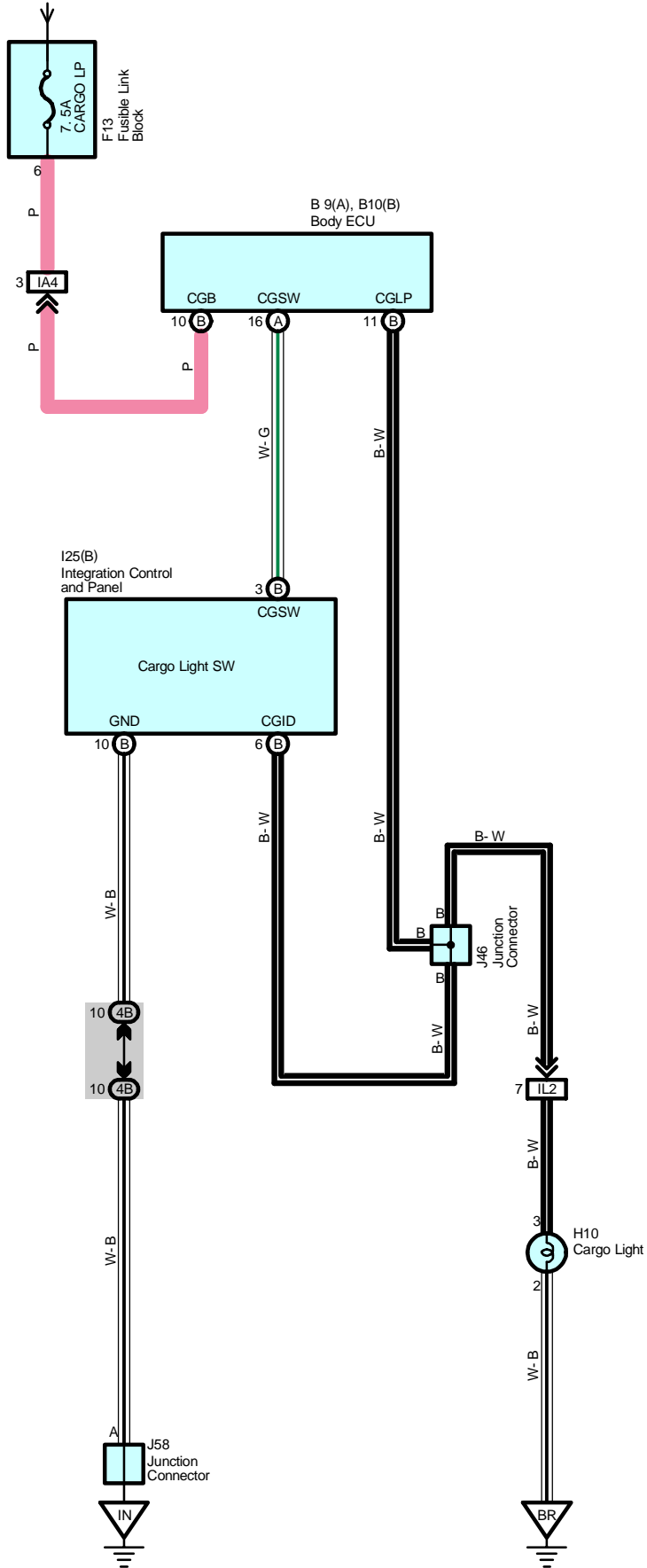
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA7		
IE1	94	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IK2	94	Floor Wire and Cowl Wire (Right Kick Panel)
IL2	92	Floor No.2 Wire and Cowl Wire (Right Kick Panel)
BS1	98	Seat No.1 Wire and Floor Wire (Under the Front Passenger's Seat)

## ▽ : Ground Points

Code	See Page	Ground Points Location
IN	92	Right Kick Panel
BR	96	Back Panel Left

# Cargo Light (Double Cab)

From Power Source System (See Page 320)





### Service Hints

#### I25 (B) Integration Control and Panel

- (B)10-Ground : Always continuity
- (B) 3-Ground : Always. approx. 12 volts

#### : Parts Location

Code		See Page	Code		See Page	Code		See Page
B9	A	66	H10		70	J58		68
B10	B	66	I25	B	67			
F13		34, 64	J46		68			

#### : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
4B	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)

#### : Connector Joining Wire Harness and Wire Harness

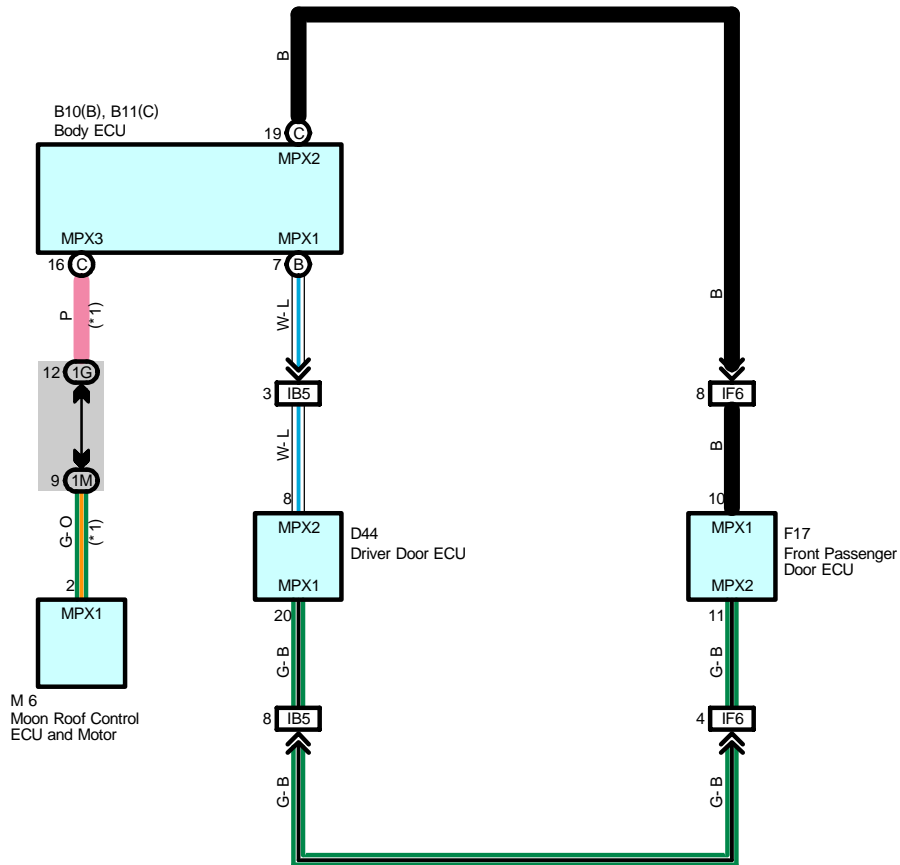
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IL2	92	Floor No.2 Wire and Cowl Wire (Right Kick Panel)

#### : Ground Points

Code	See Page	Ground Points Location
IN	92	Right Kick Panel
BR	96	Back Panel Left

# Multiplex Communication System - BEAN Bus (Double Cab)

\* 1 : w/ Moon Roof



## Multiplex Communication System Includes Following Systems

- \* Door Lock Control
- \* Fog Light
- \* Headlight
- \* Horn
- \* Interior Light
- \* Key Reminder
- \* Light Auto Turn Off System
- \* Power Window
- \* Theft Deterrent
- \* Wireless Door Lock Control

### : Parts Location

Code		See Page	Code	See Page	Code	See Page
B10	B	<a href="#">66</a>	D44	<a href="#">70</a>	M6	<a href="#">70</a>
B11	C	<a href="#">66</a>	F17	<a href="#">70</a>		

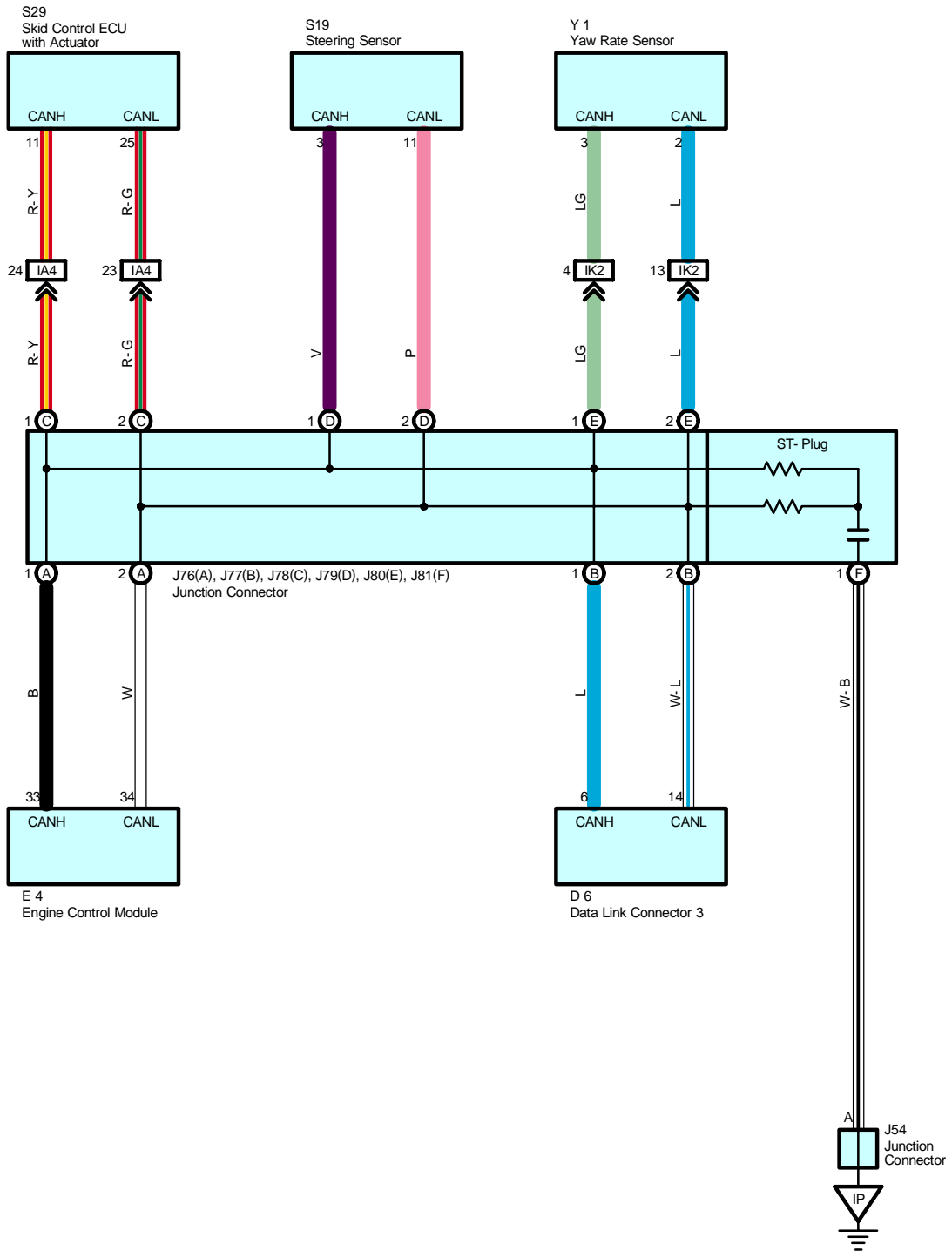
### : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	<a href="#">45</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1M	<a href="#">45</a>	Roof Wire and Driver Side J/B (Lower Finish Panel)

### : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB5	<a href="#">92</a>	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF6	<a href="#">94</a>	Front Door RH Wire and Cowl Wire (Right Kick Panel)

# Multiplex Communication System - CAN (Double Cab)



### System Outline

CAN has two lines as a pair which make communication with operating voltage. CAN has excellent data speed and error detecting capacity. It consists of vehicle control systems such as engine control module, data link connector 3 and skid control ECU with actuator.

This system is working for the following systems:

- \* Cruise Control
- \* Electronically Controlled Transmission and A/T Indicator
- \* Engine Control
- \* VSC

### ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page		
D6	<a href="#">67</a>	J77	B	<a href="#">68</a>	J81	F	<a href="#">68</a>
E4	<a href="#">67</a>	J78	C	<a href="#">68</a>	S19	<a href="#">69</a>	
J54	<a href="#">68</a>	J79	D	<a href="#">68</a>	S29	<a href="#">65</a>	
J76	A	<a href="#">68</a>	J80	E	<a href="#">68</a>	Y1	<a href="#">69</a>

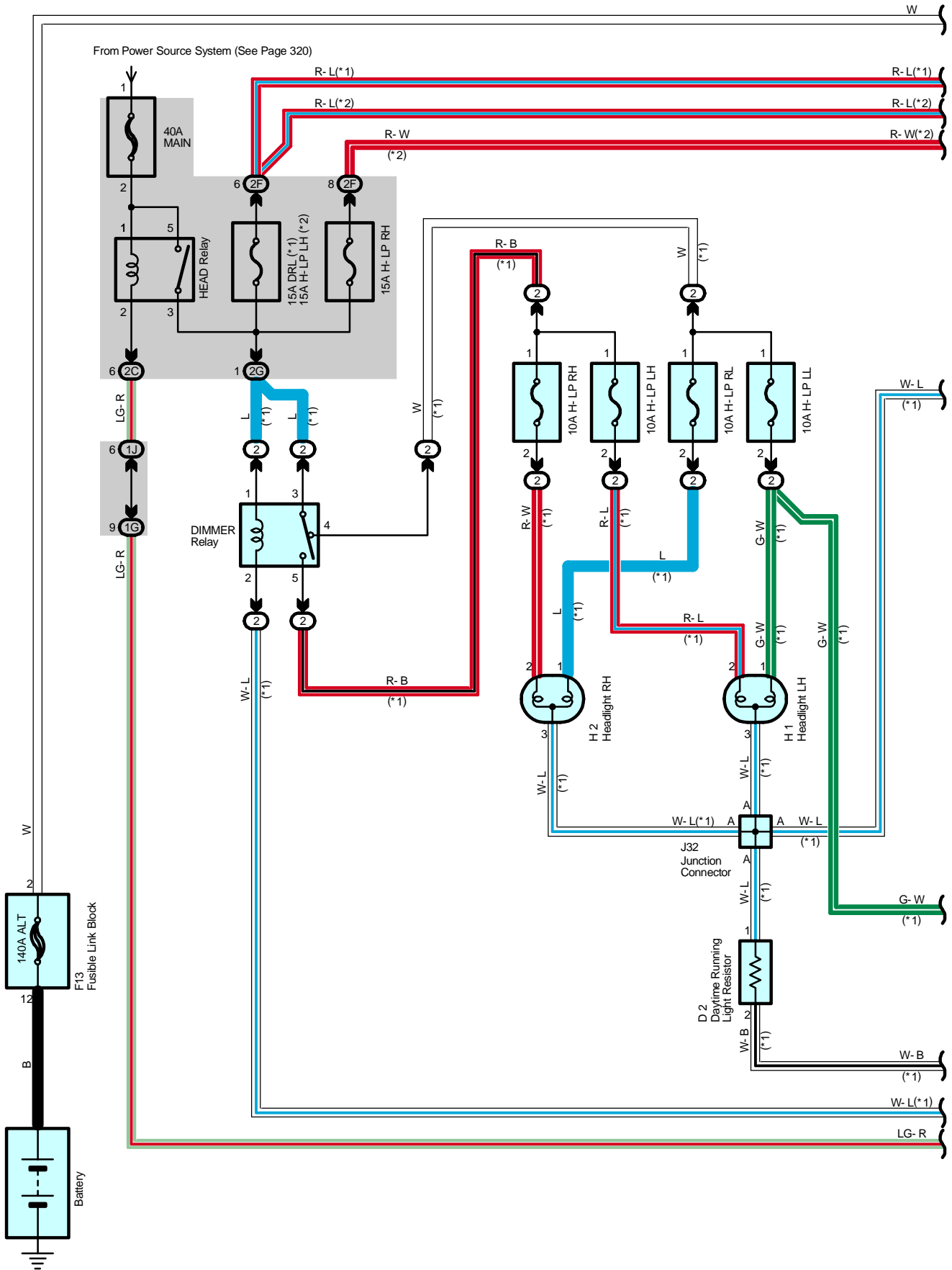
### □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	<a href="#">92</a>	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IK2	<a href="#">94</a>	Floor Wire and Cowl Wire (Right Kick Panel)

### ▽ : Ground Points

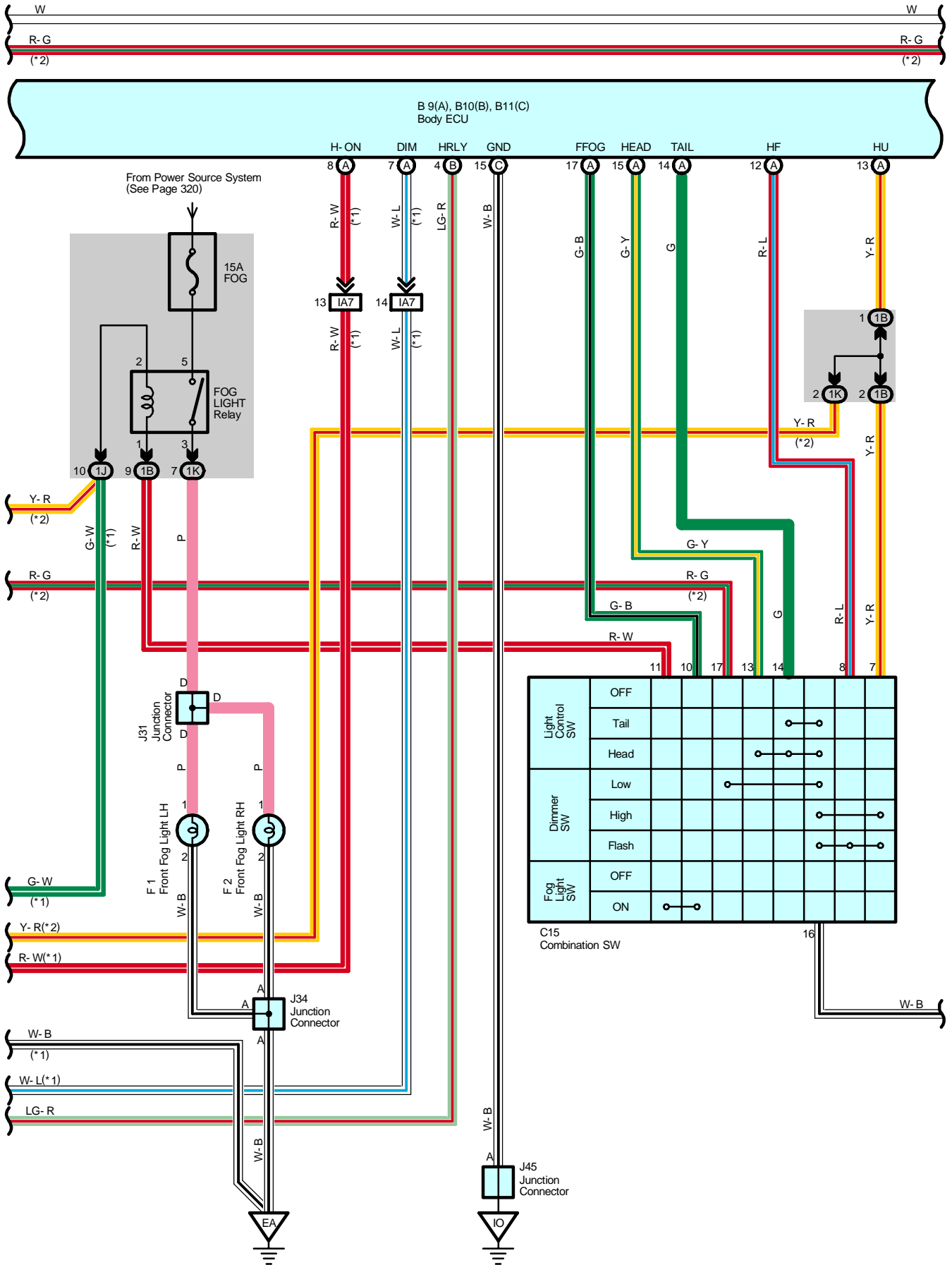
Code	See Page	Ground Points Location
IP	<a href="#">92</a>	Instrument Panel Brace LH

# Multiplex Communication System - BEAN (Double Cab)

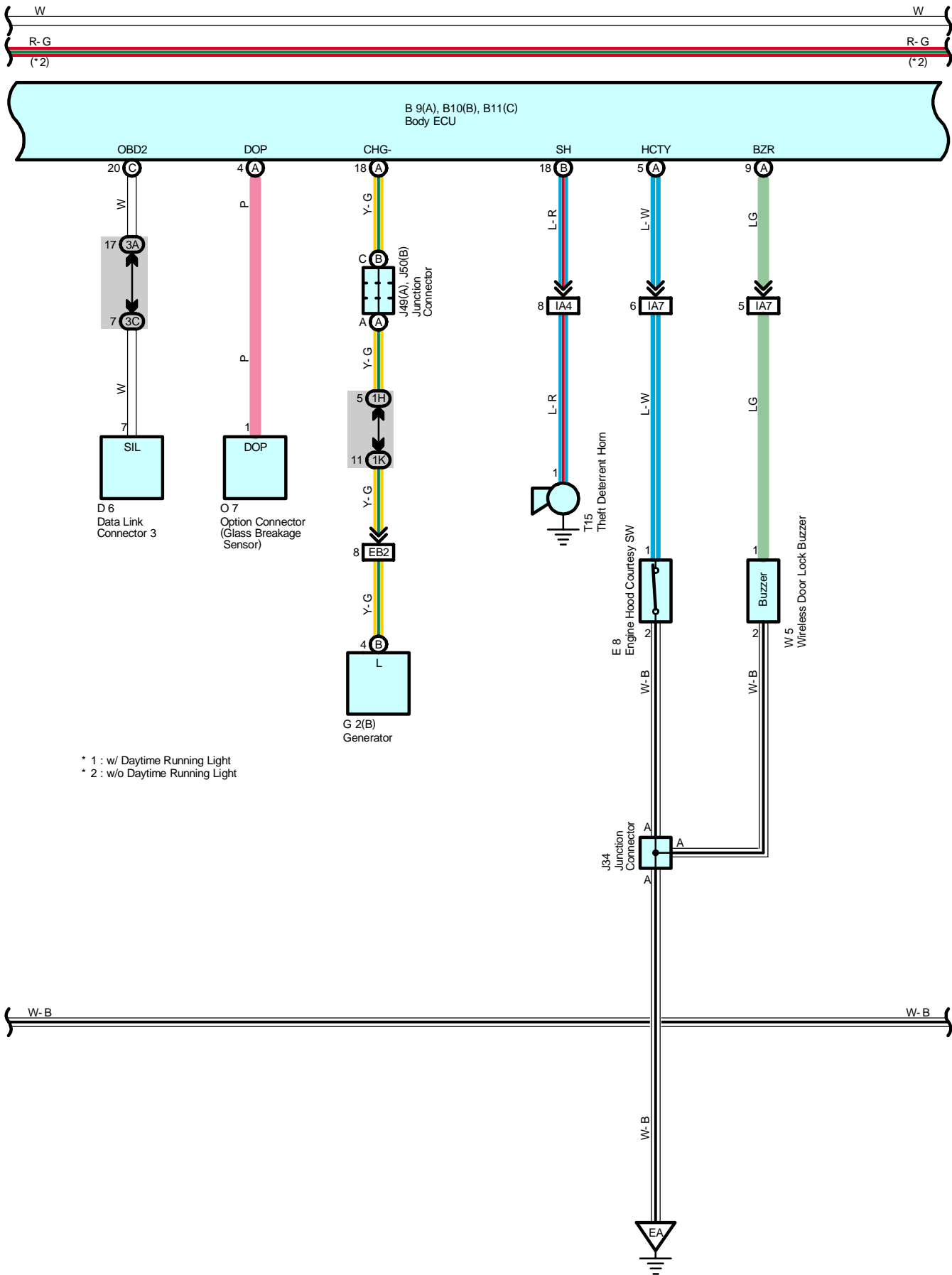




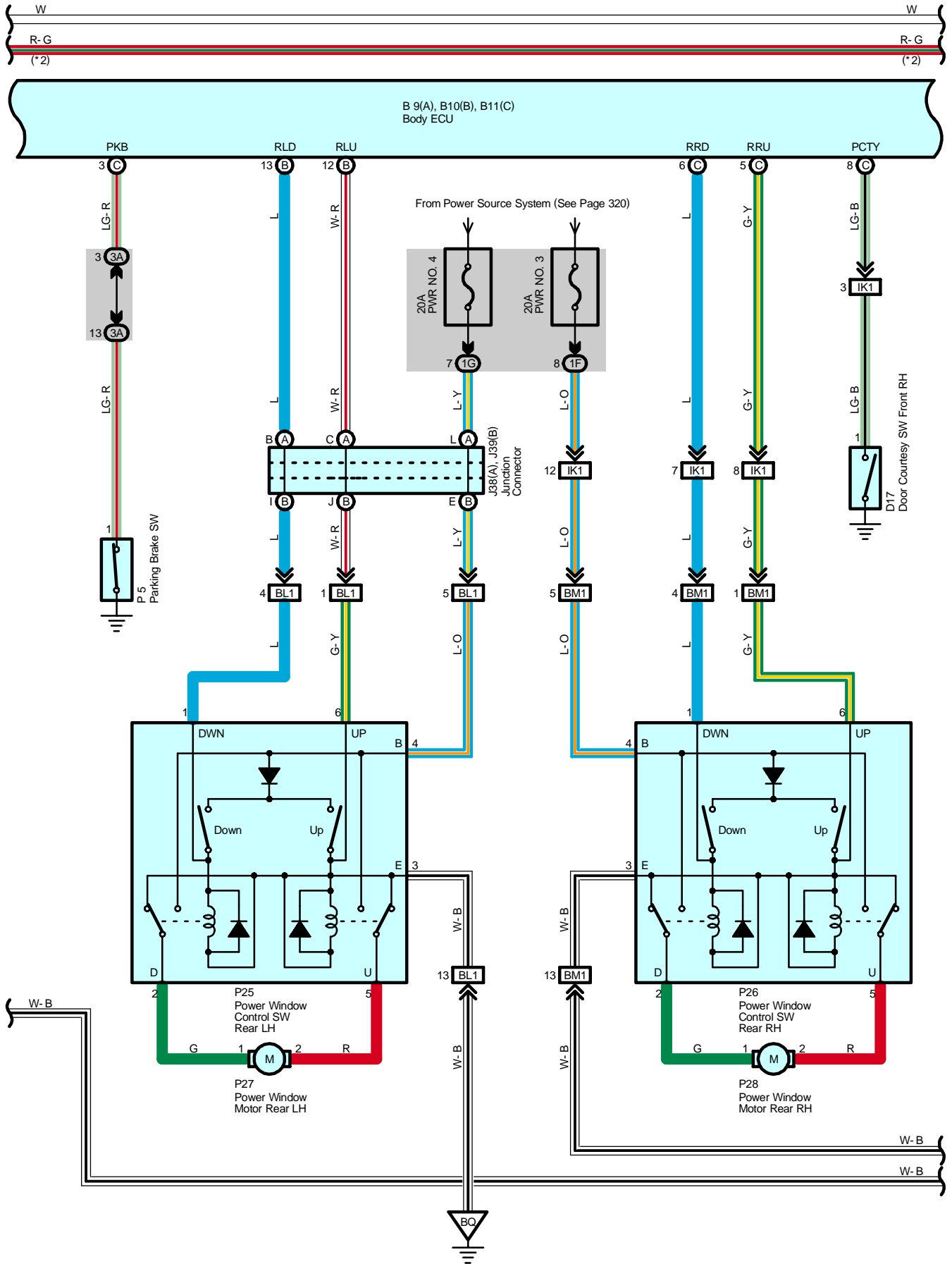
# Multiplex Communication System - BEAN (Double Cab)

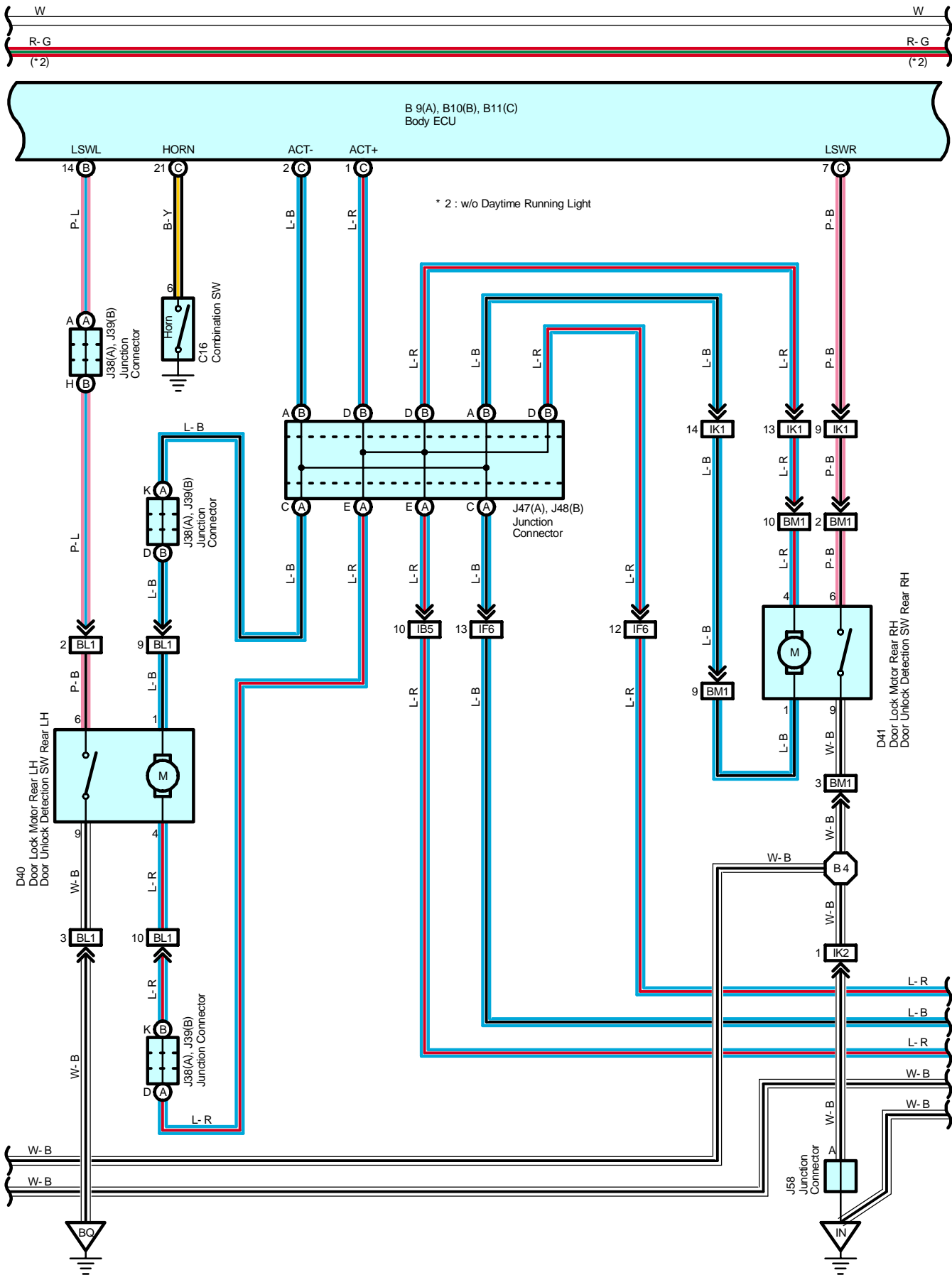




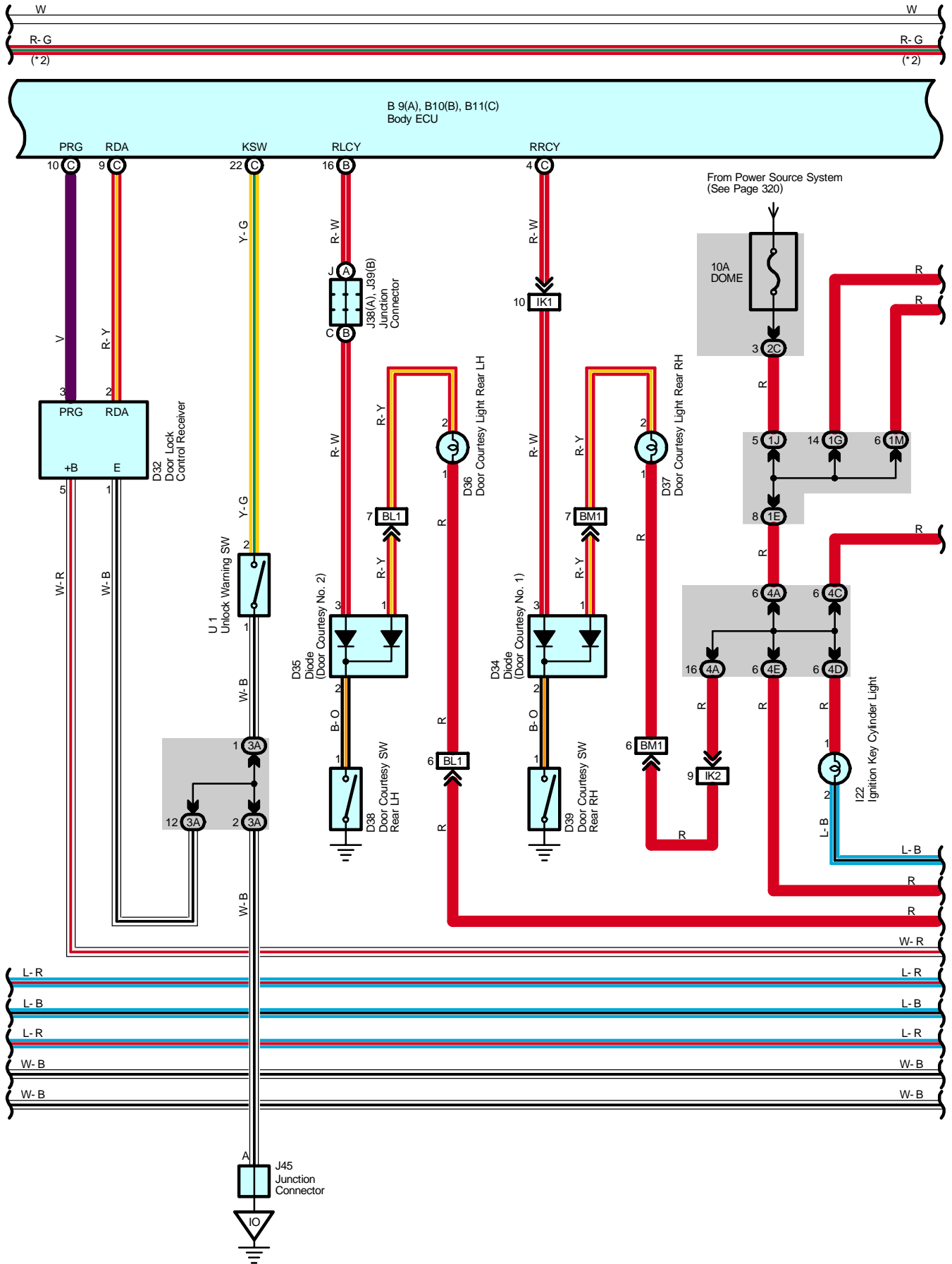


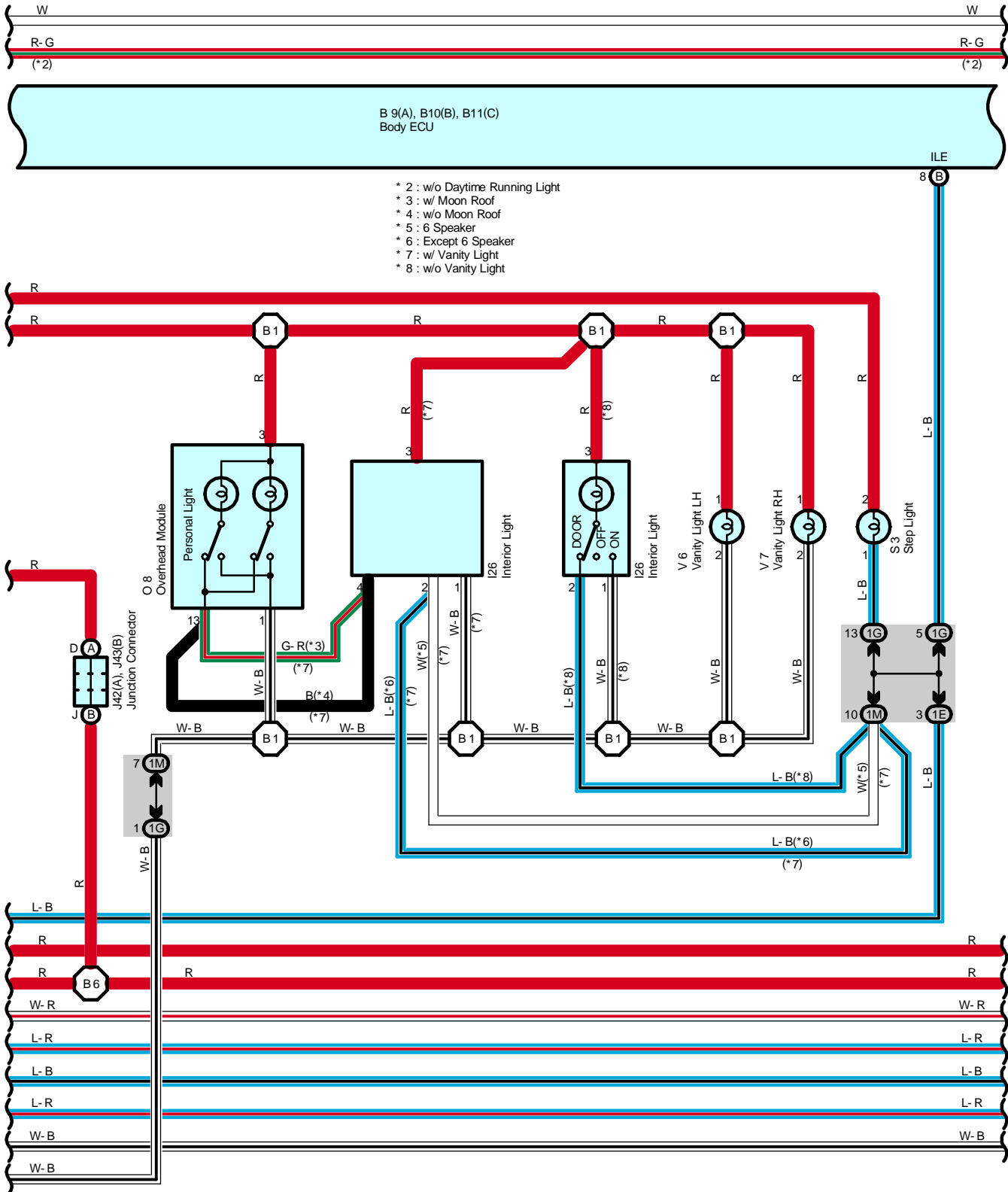
# Multiplex Communication System - BEAN (Double Cab)



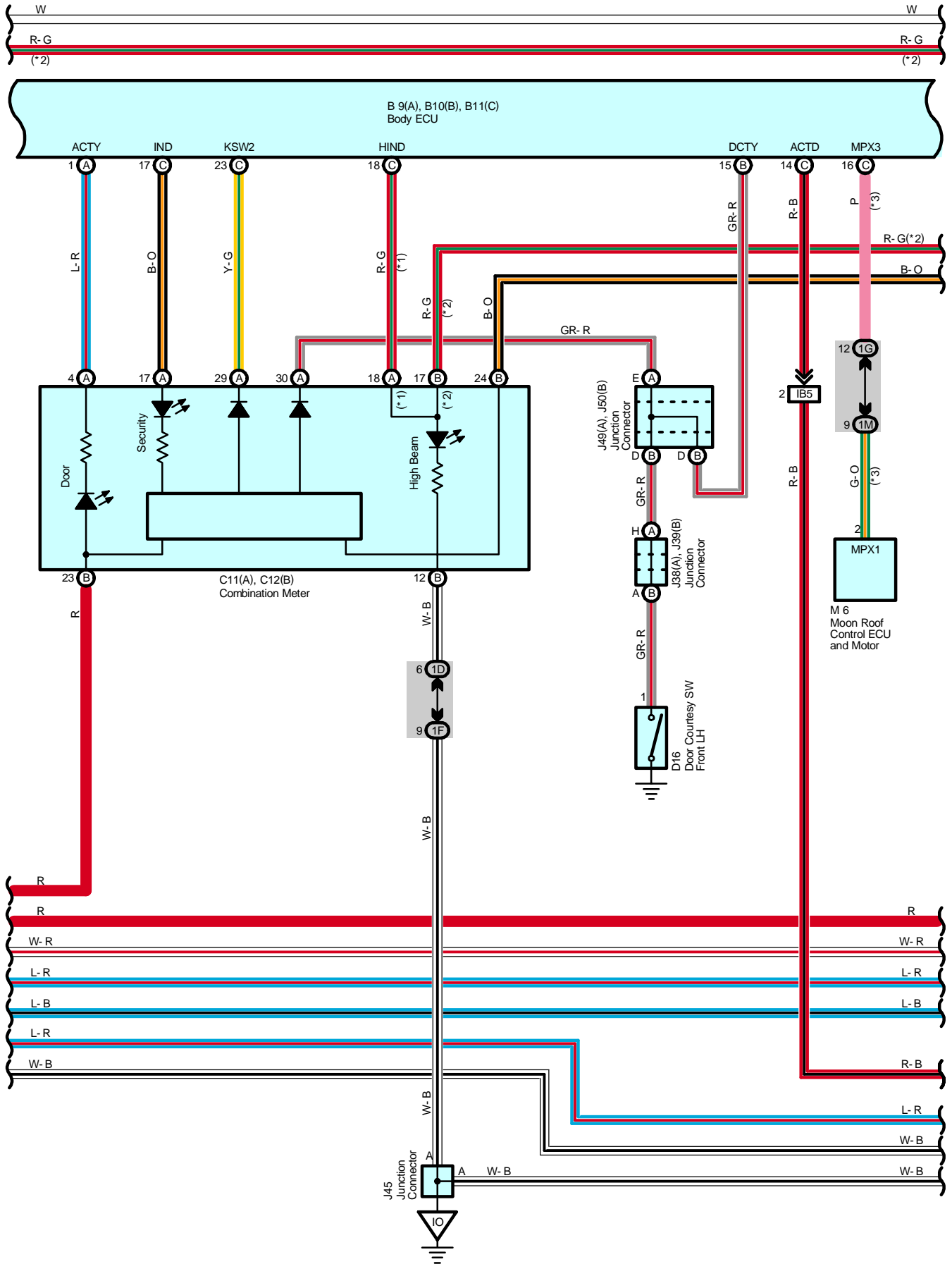


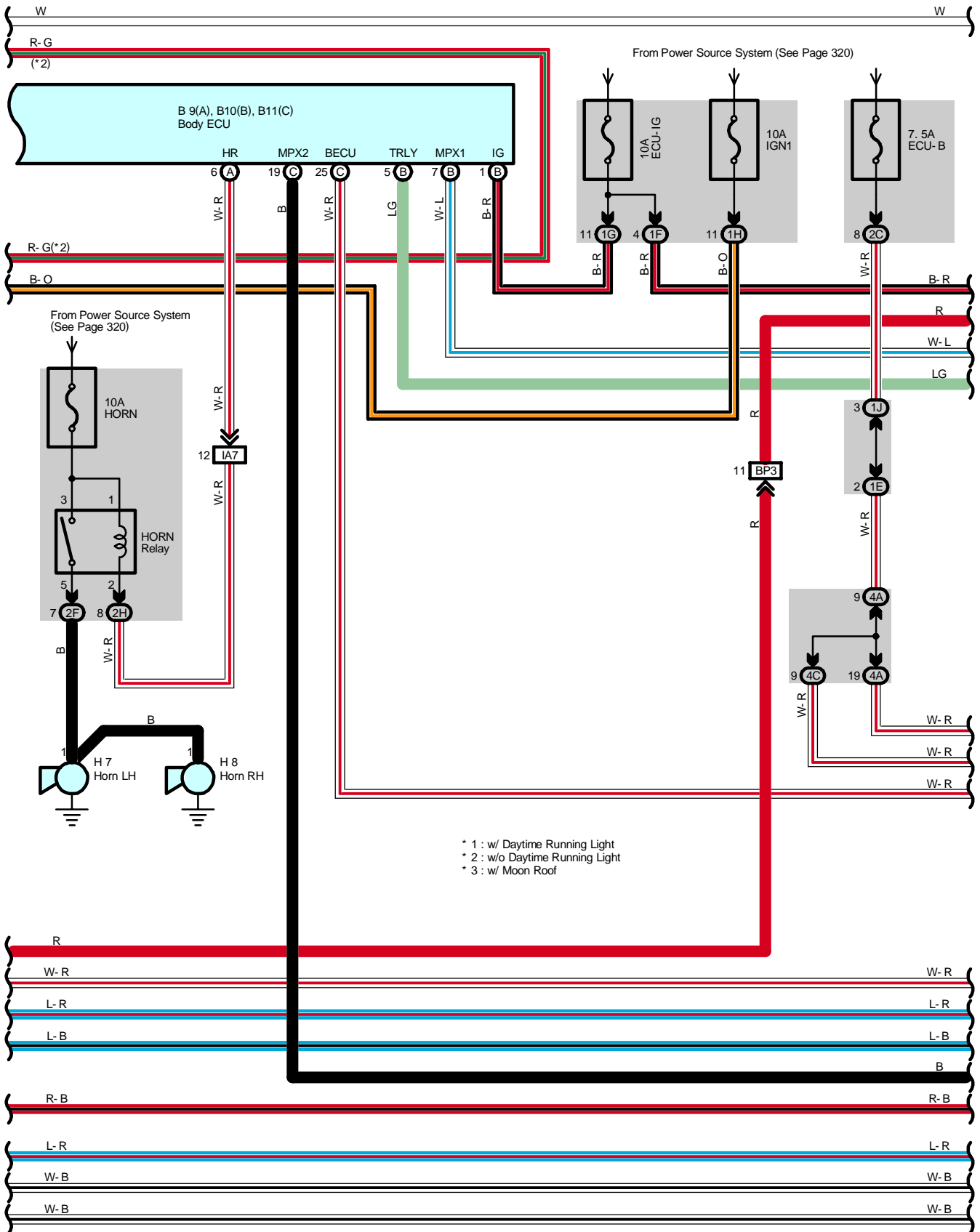
# Multiplex Communication System - BEAN (Double Cab)



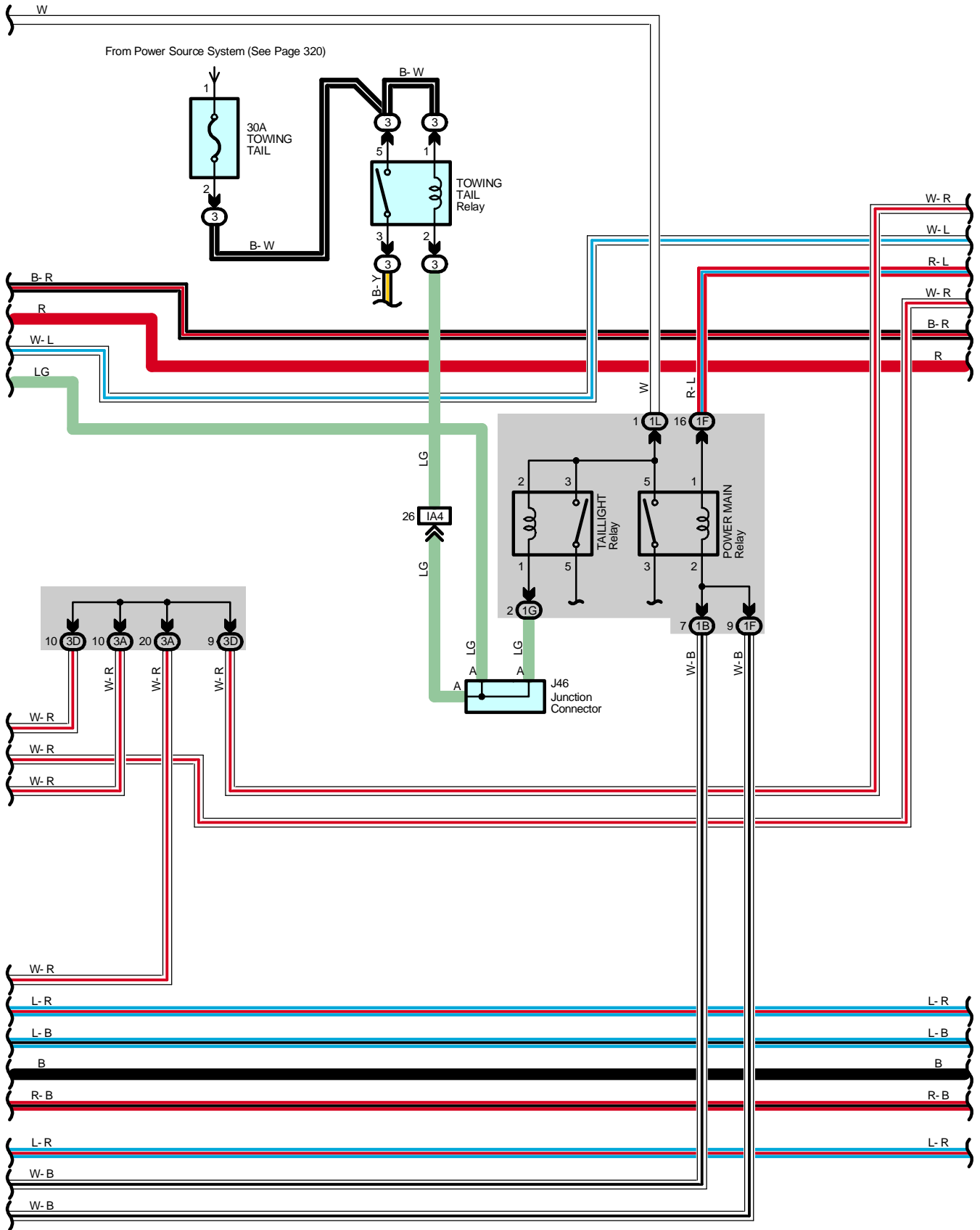


# Multiplex Communication System - BEAN (Double Cab)



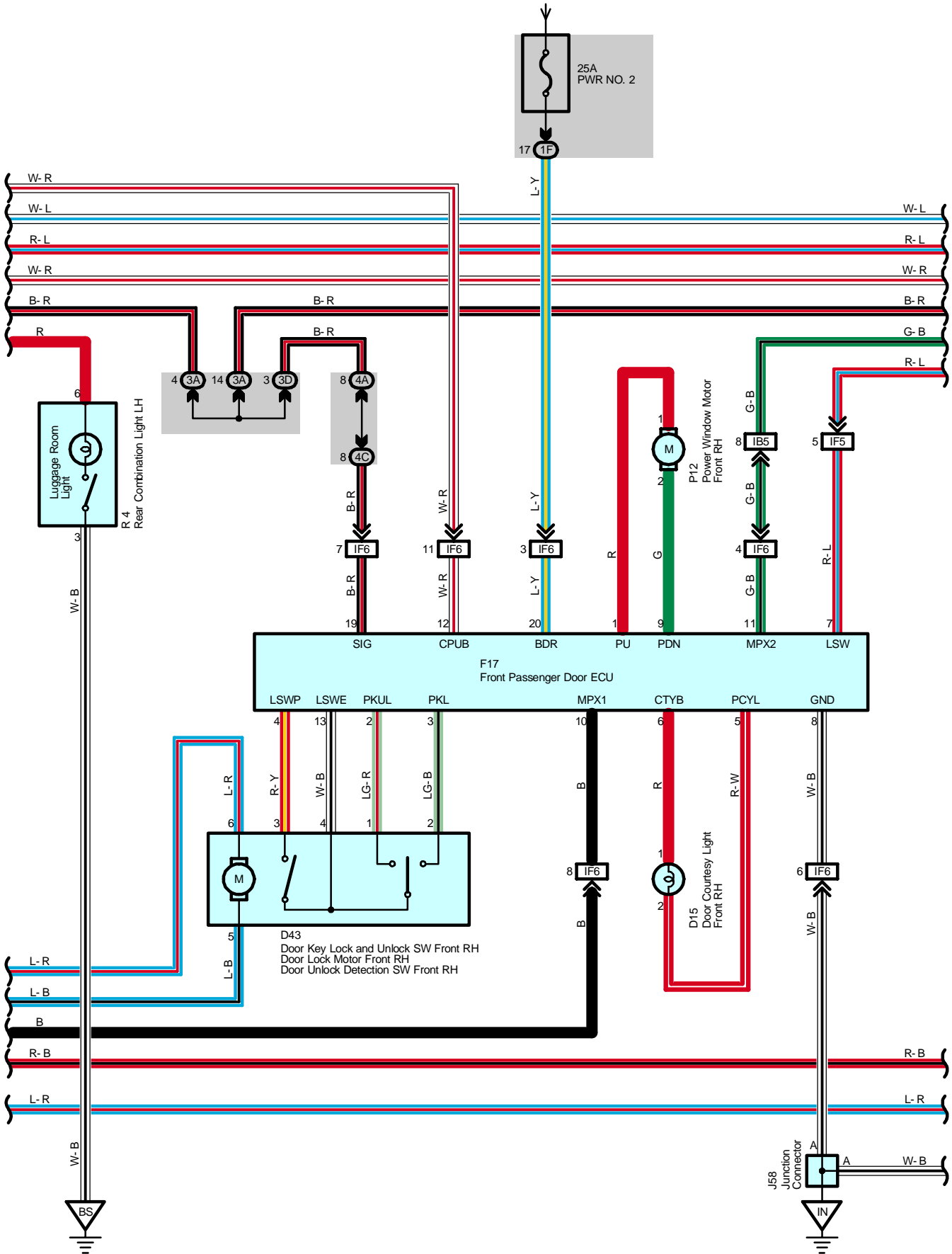


# Multiplex Communication System - BEAN (Double Cab)



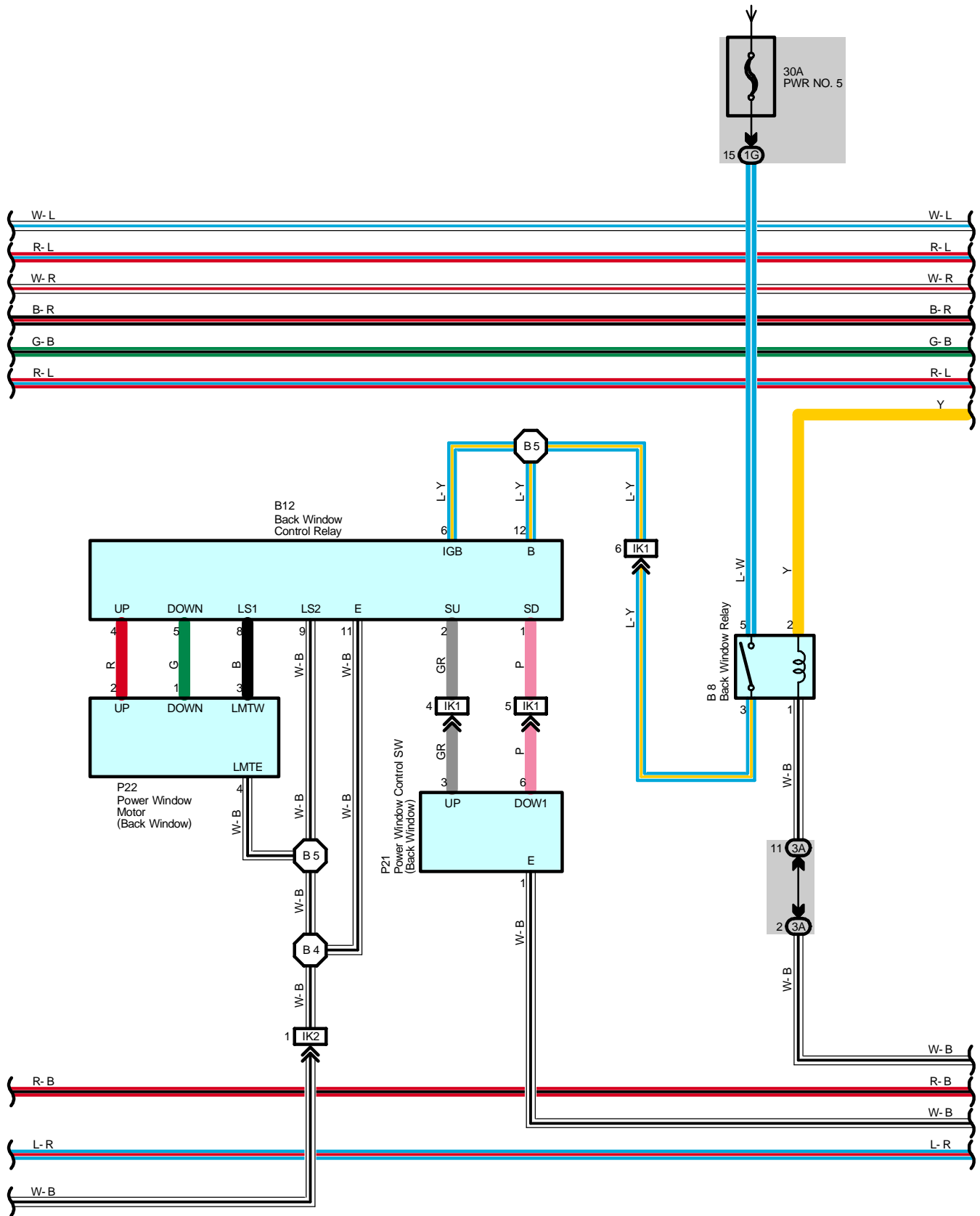


From Power Source System (See Page 320)

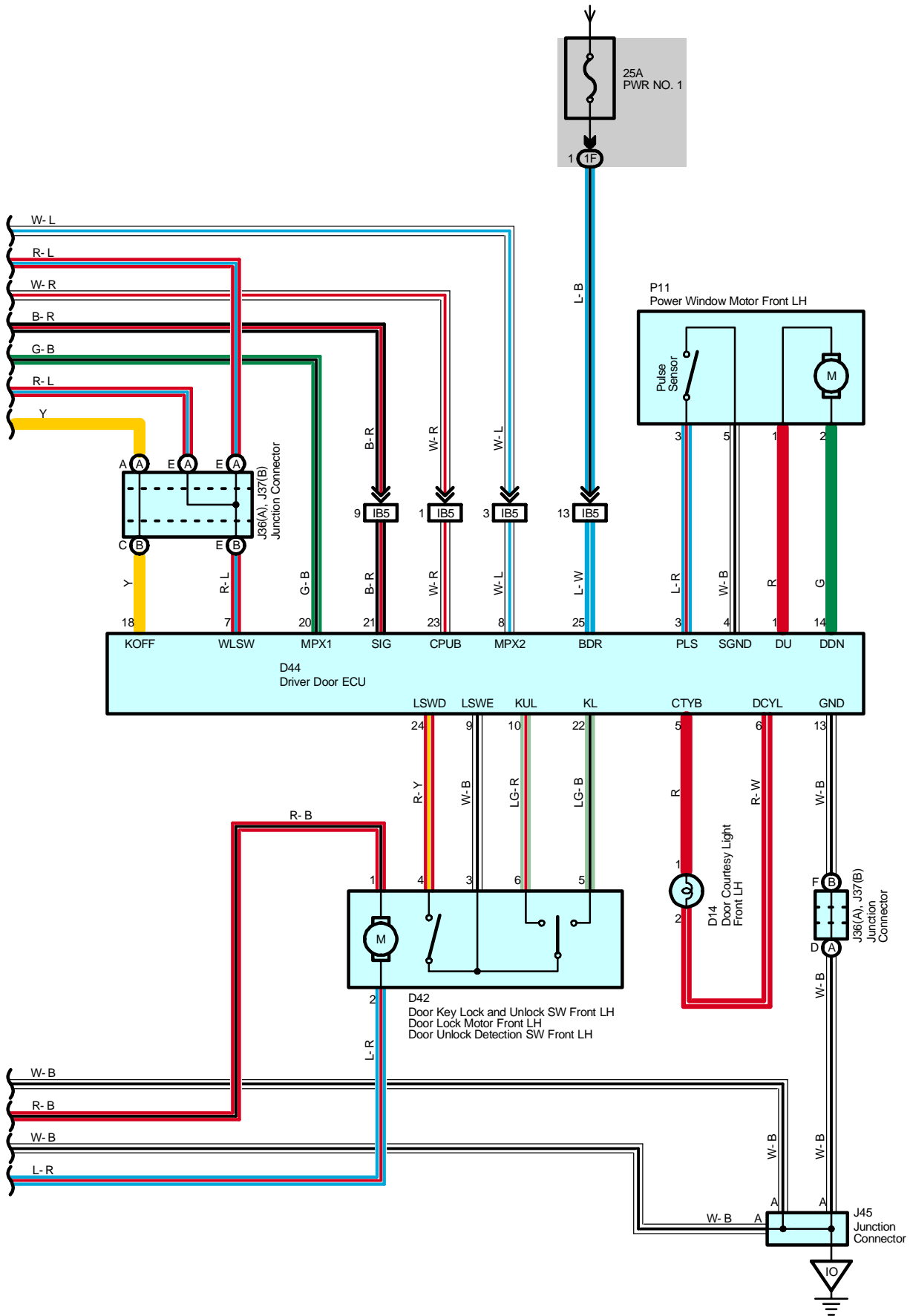


# Multiplex Communication System - BEAN (Double Cab)

From Power Source System (See Page 320)



From Power Source System (See Page 320)



# Multiplex Communication System - BEAN (Double Cab)

## System Outline

This multiplex communication system is consisted of the BODY ECU, driver door ECU, passenger door ECU and sliding roof control ECU.

## Service Hints

### B10 (B), B11 (C) Body ECU

- (B) 1-Ground : Approx. 12 volts with the ignition SW at ON position
- (B) 3-Ground : Approx. 12 volts with the ignition SW at ACC or ON position
- (B) 9-Ground : Always approx. 12 volts
- (C)25-Ground : Always approx. 12 volts
- (C)15-Ground : Always continuity

### D44 Driver Door ECU

- 21-Ground : Approx. 12 volts with the ignition SW at ON position
- 23-Ground : Always approx. 12 volts
- 25-Ground : Always approx. 12 volts
- 13-Ground : Always continuity

### F17 Front Passenger Door ECU

- 19-Ground : Approx. 12 volts with the ignition SW at ON position
- 12-Ground : Always approx. 12 volts
- 20-Ground : Always approx. 12 volts
- 8-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B8	66	D43	70	J47	A 68
B9	A 66	D44	70	J48	B 68
B10	B 66	E8	64	J49	A 68
B11	C 66	F1	64	J50	B 68
B12	70	F2	64	J58	68
C11	A 66	F13	34, 64	M6	70
C12	B 66	F17	70	O7	69
C15	66	G2	B 64	O8	70
C16	66	H1	64	P5	69
D2	64	H2	64	P11	71
D6	67	H7	64	P12	71
D14	70	H8	64	P21	69
D15	70	I22	67	P22	71
D16	70	I26	70	P25	71
D17	70	J31	65	P26	71
D32	67	J32	65	P27	71
D34	70	J34	65	P28	71
D35	70	J36	A 68	R4	71
D36	70	J37	B 68	S3	69
D37	70	J38	A 68	T15	65
D38	70	J39	B 68	U1	69
D39	70	J42	A 68	V6	71
D40	70	J43	B 68	V7	71
D41	70	J45	68	W5	65
D42	70	J46	68		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	38	Engine Room R/B No.2 (Engine Compartment Left)
3	39	Engine Room R/B No.3 (Engine Compartment Left)

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1D		
1E		
1F		
1G		
1H		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1K		
1L		
1M	45	Roof Wire and Driver Side J/B (Lower Finish Panel)
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2F		
2G		
2H		
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3C		
3D		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4C		
4D		
4E		

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB2	90	Engine No.2 Wire and Engine Room Main Wire (Under the Engine Room R/B)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA7		
IB5	92	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF5	94	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IF6		
IJ2	94	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)
IK1	94	Floor Wire and Cowl Wire (Right Kick Panel)
IK2		
BL1	96	Rear Door No.1 Wire LH and Floor No.2 Wire (Left Side of Center Pillar)
BM1	96	Rear Door No.1 Wire RH and Floor Wire (Right Side of Center Pillar)
BP3	96	Frame Wire and Floor No.2 Wire (Under the Driver's Seat)

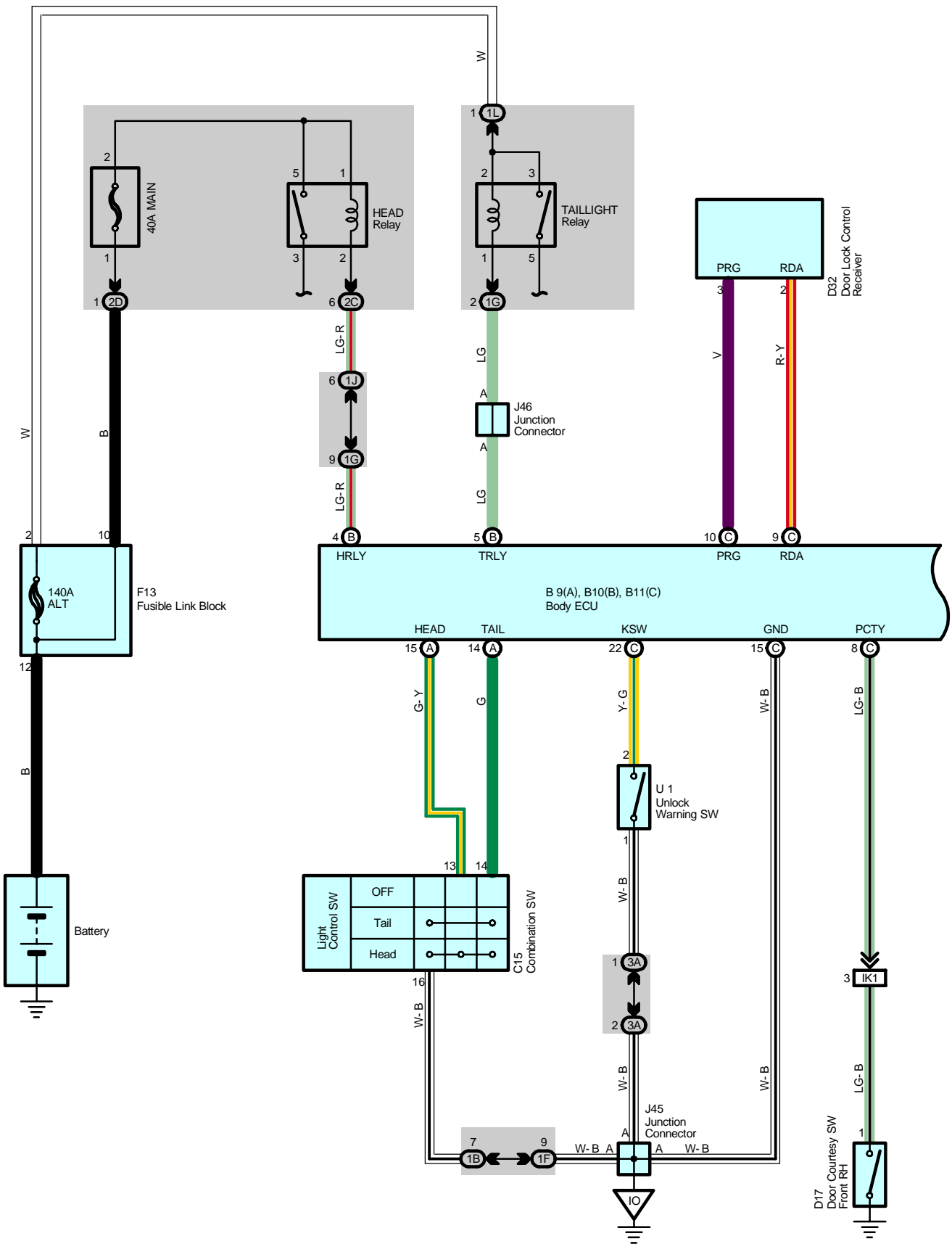
 : **Ground Points**

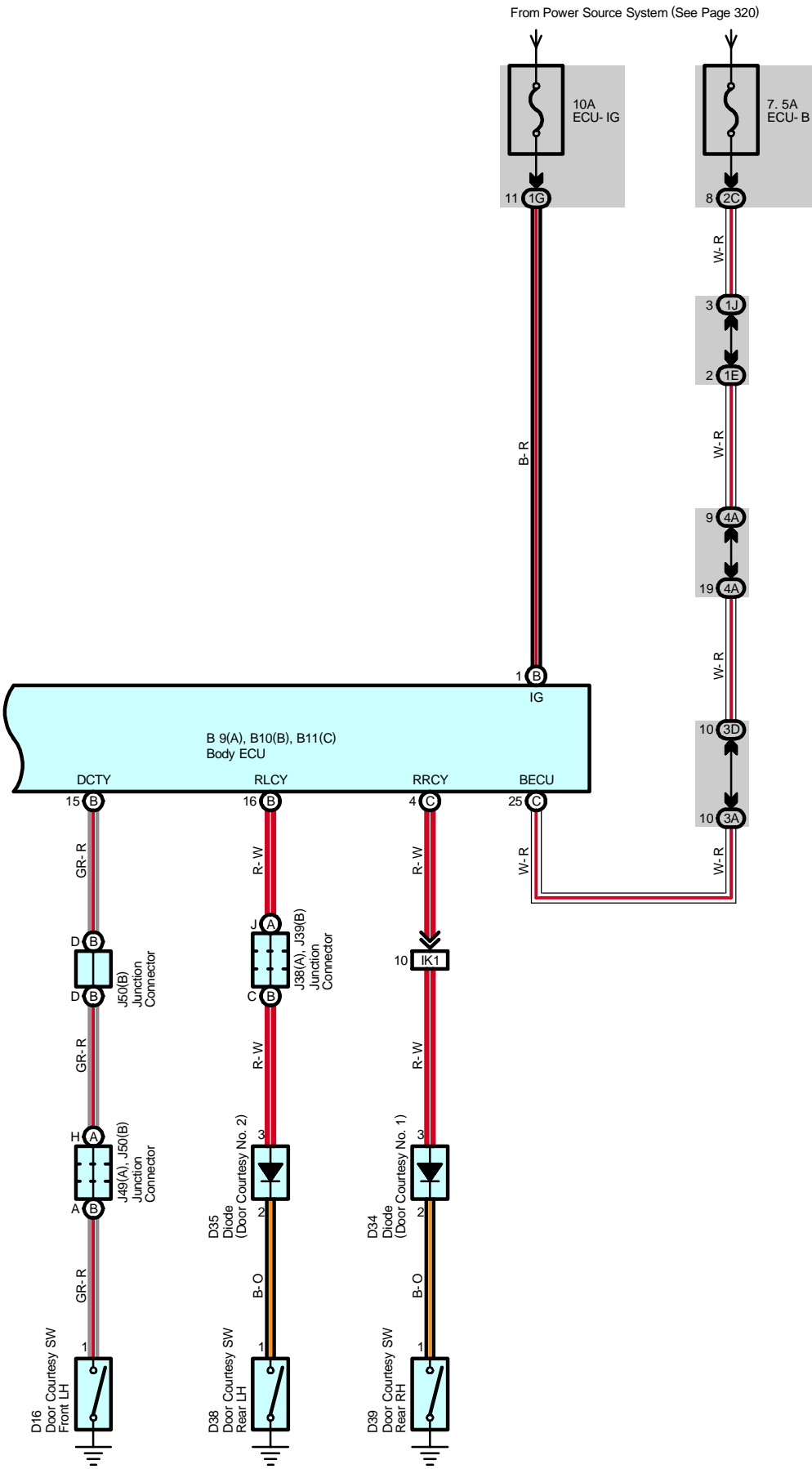
Code	See Page	Ground Points Location
EA	90	Front Left Fender Apron
IN	92	Right Kick Panel
IO	92	Left Kick Panel
BQ	96	Left Side of Center Pillar
BS	96	Surrounding of the Front of the Fuel Tank

 : **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B1	96	Roof Wire	B5	96	Floor Wire
B4	96	Floor Wire	B6	96	Floor No.2 Wire

# Light Auto Turn Off System (Double Cab)





# Light Auto Turn Off System (Double Cab)

## System Outline

With the light control SW at TAIL position, and the ignition SW turned to ACC or OFF position from ON or ST position, the tail lights will be turned off when the driver's door is opened.  
 When the ignition SW is turned to ACC or OFF position from ON or ST position with the headlights on, the headlights will be turned off 30 seconds after all the doors are closed.  
 The light goes off immediately when all the doors are locked using the wireless door lock.

## Service Hints

### HEAD Relay

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

### C15 Combination SW

13-16 : Closed with the light control SW at HEAD position  
 14-16 : Closed with the light control SW at TAIL or HEAD position

### D16 Door Courtesy SW Front LH

1-Ground : Continuity with the front LH door open

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B9	A 66	D34	70	J45	68
B10	B 66	D35	70	J46	68
B11	C 66	D38	70	J49	A 68
C15	66	D39	70	J50	B 68
D16	70	F13	34, 64	U1	69
D17	70	J38	A 68		
D32	67	J39	B 68		

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F		
1G		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1L		
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2D		
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3D		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IK1	94	Floor Wire and Cowl Wire (Right Kick Panel)

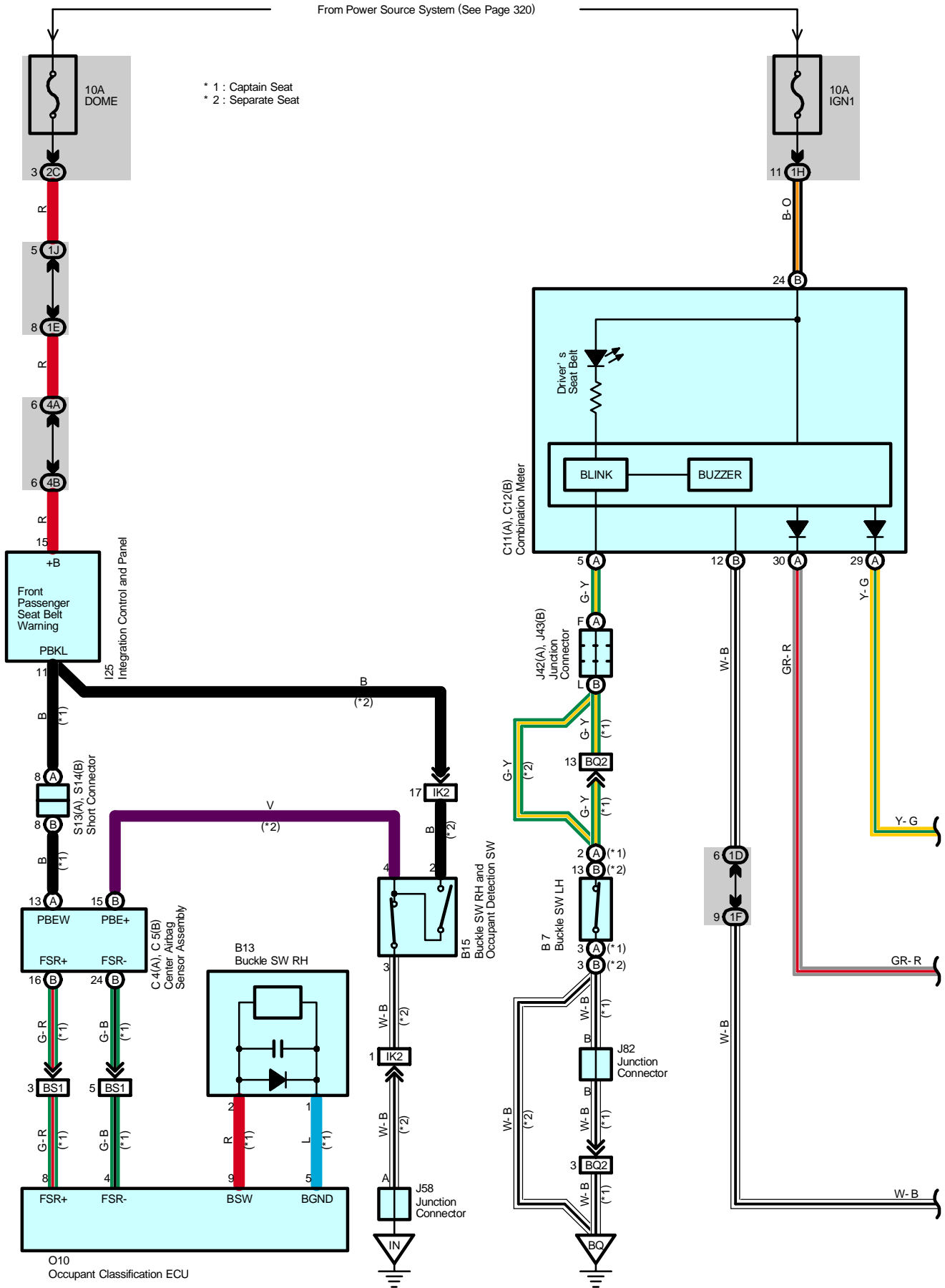
## ▽ : Ground Points

Code	See Page	Ground Points Location
IO	92	Left Kick Panel

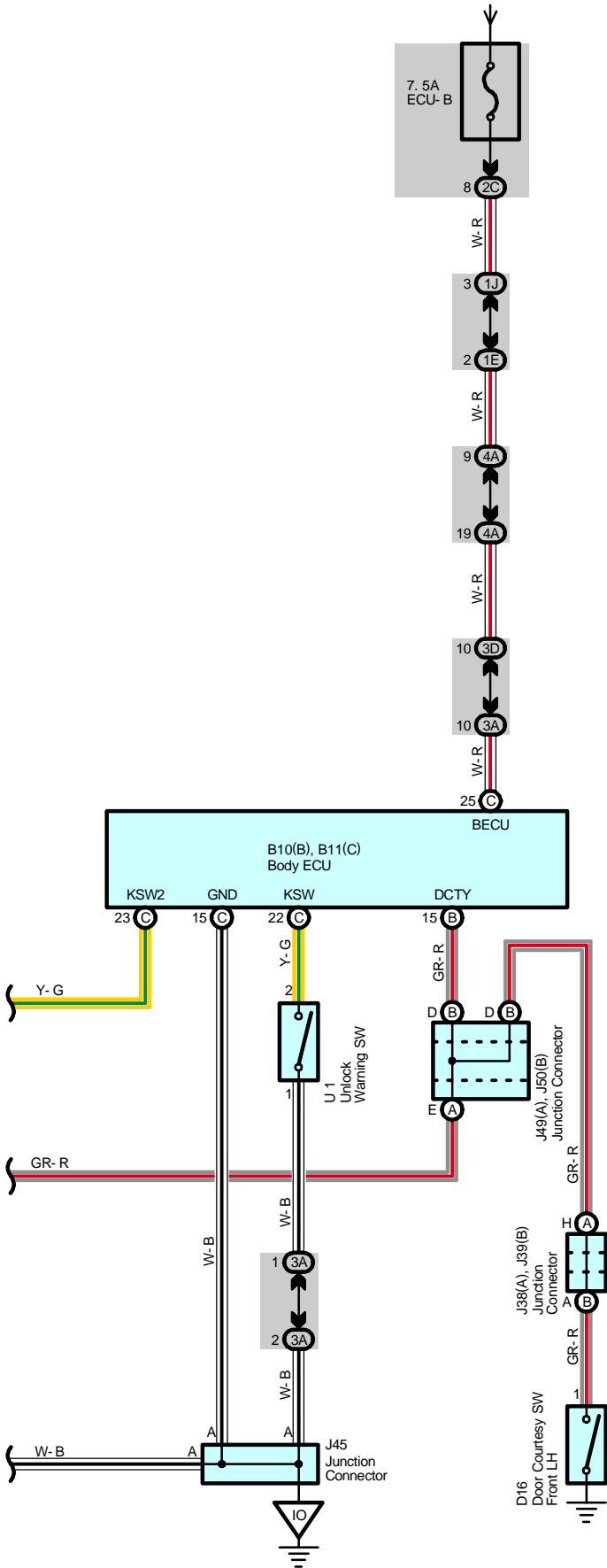




# Key Reminder and Seat Belt Warning (Double Cab)



From Power Source System (See Page 320)



# Key Reminder and Seat Belt Warning (Double Cab)

## System Outline

### 1. Seat Belt Warning

In case the driver has not fastened the seat belt when the ignition SW is turned ON, a warning light flashes, and the warning buzzer goes on.

### 2. Key Reminder

In case the driver's door is opened with the key in the key cylinder and the ignition SW at ACC or OFF position, a warning buzzer goes on.

## Service Hints

### B7 Buckle SW LH

2-3 : Open with the driver's seat belt in use

### D16 Door Courtesy SW Front LH

1-Ground : Closed with the front LH door open

### U1 Unlock Warning SW

1-2 : Closed with the ignition key in cylinder

### C11 (A), C12 (B) Combination Meter

(A) 5-Ground : Continuity with the driver's seat belt not use

(B)12-Ground : Always continuity

(B)24-Ground : Approx. 12 volts with the ignition SW at ON position

### B10 (B), B11 (C) Body ECU

(C)25-Ground : Always approx. 12 volts

(C)15-Ground : Always continuity

(C)22-Ground : Continuity with the ignition key in cylinder

(B)15-Ground : Continuity with the front LH door open

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B7	72	C12   B	66	J49   A	68
B10   B	66	D16	70	J50   B	68
B11   C	66	I25	67	J58	68
B13	72	J38   A	68	J82	72
B15	70	J39   B	68	O10	72
C4   A	66	J42   A	68	S13   A	69
C5   B	66	J43   B	68	S14   B	69
C11   A	66	J45	68	U1	69

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F		
1H		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3D		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4B		

## □ : Connector Joining Wire Harness and Wire Harness

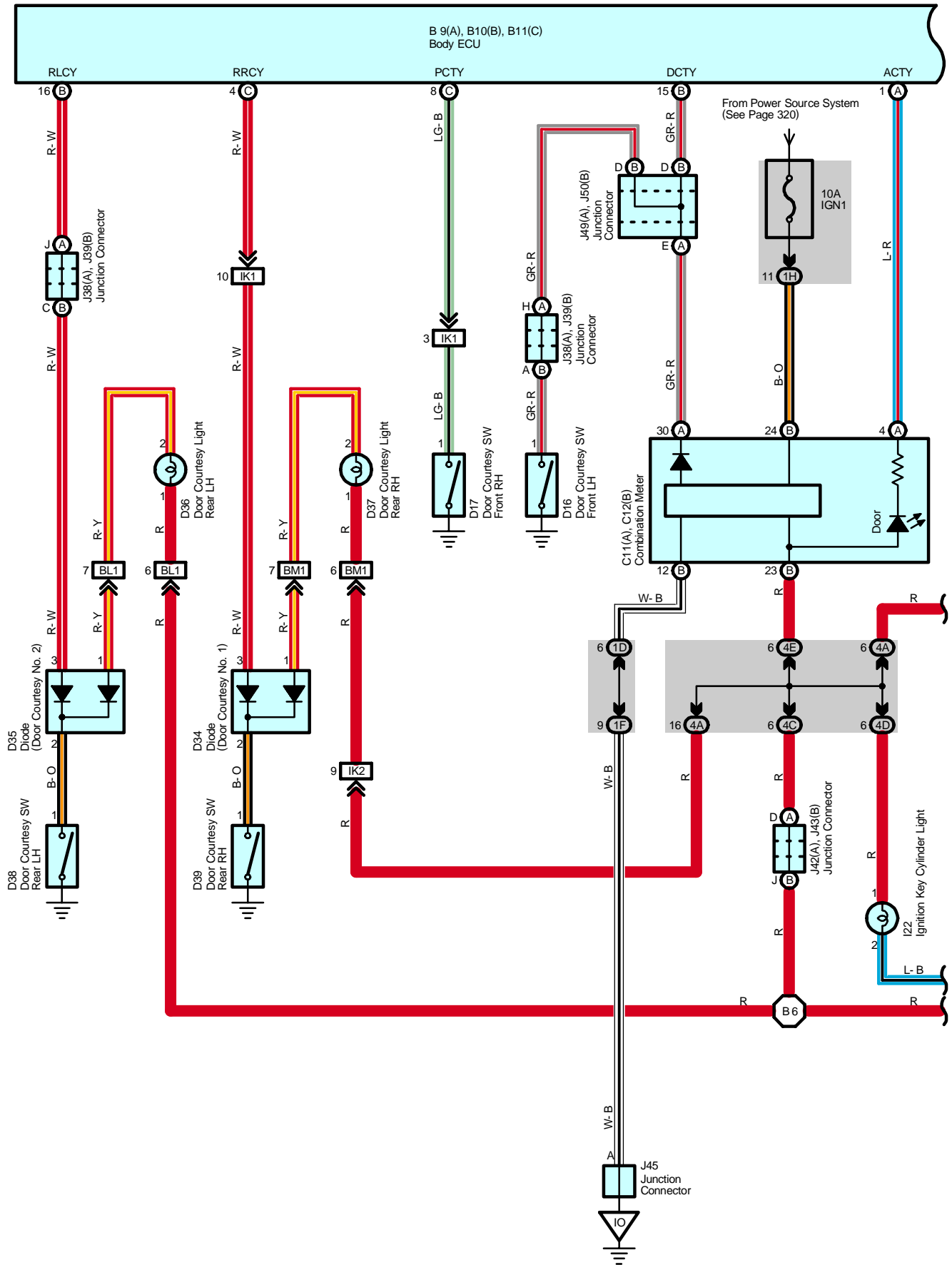
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IK2	94	Floor Wire and Cowl Wire (Right Kick Panel)
BQ2	98	Floor No.2 Wire and Seat No.2 Wire (Under the Driver's Seat)
BS1	98	Seat No.1 Wire and Floor Wire (Under the Front Passenger's Seat)



**: Ground Points**

Code	See Page	Ground Points Location
IN	<a href="#">92</a>	Right Kick Panel
IO	<a href="#">92</a>	Left Kick Panel
BQ	<a href="#">96</a>	Left Side of Center Pillar

# Interior Light (Double Cab)



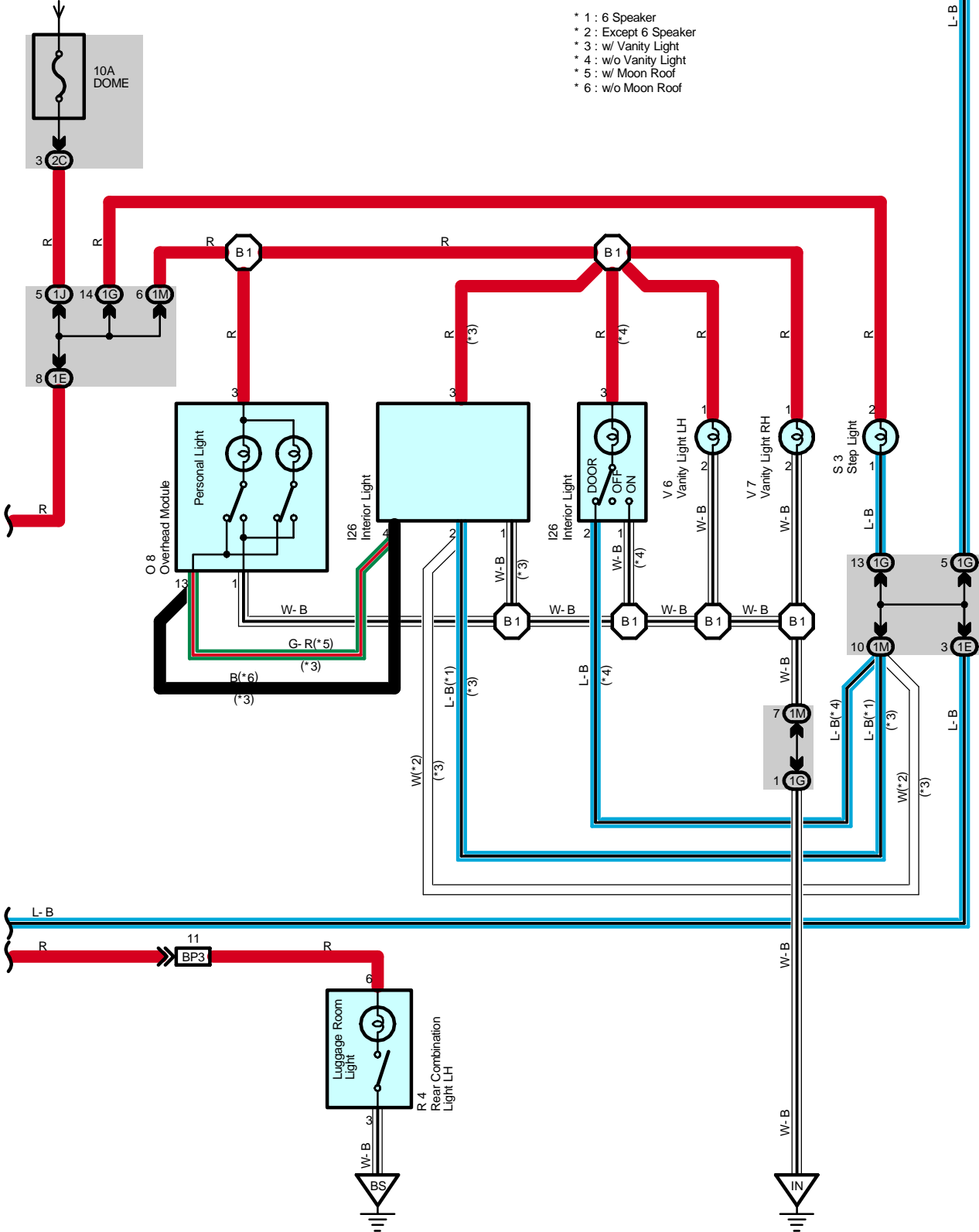
B 9(A), B10(B), B11(C)  
Body ECU

ILE

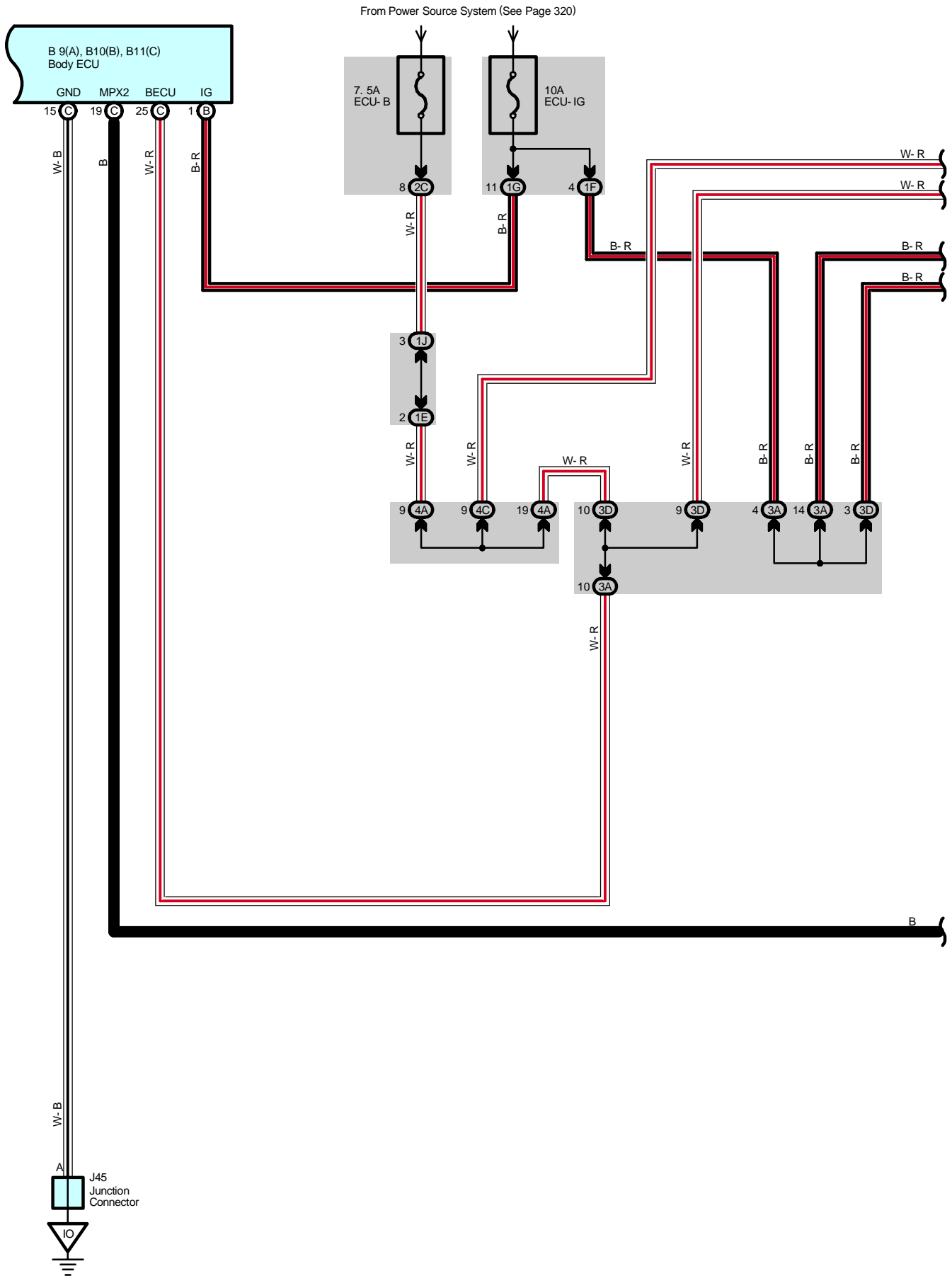
8 B

From Power Source System (See Page 320)

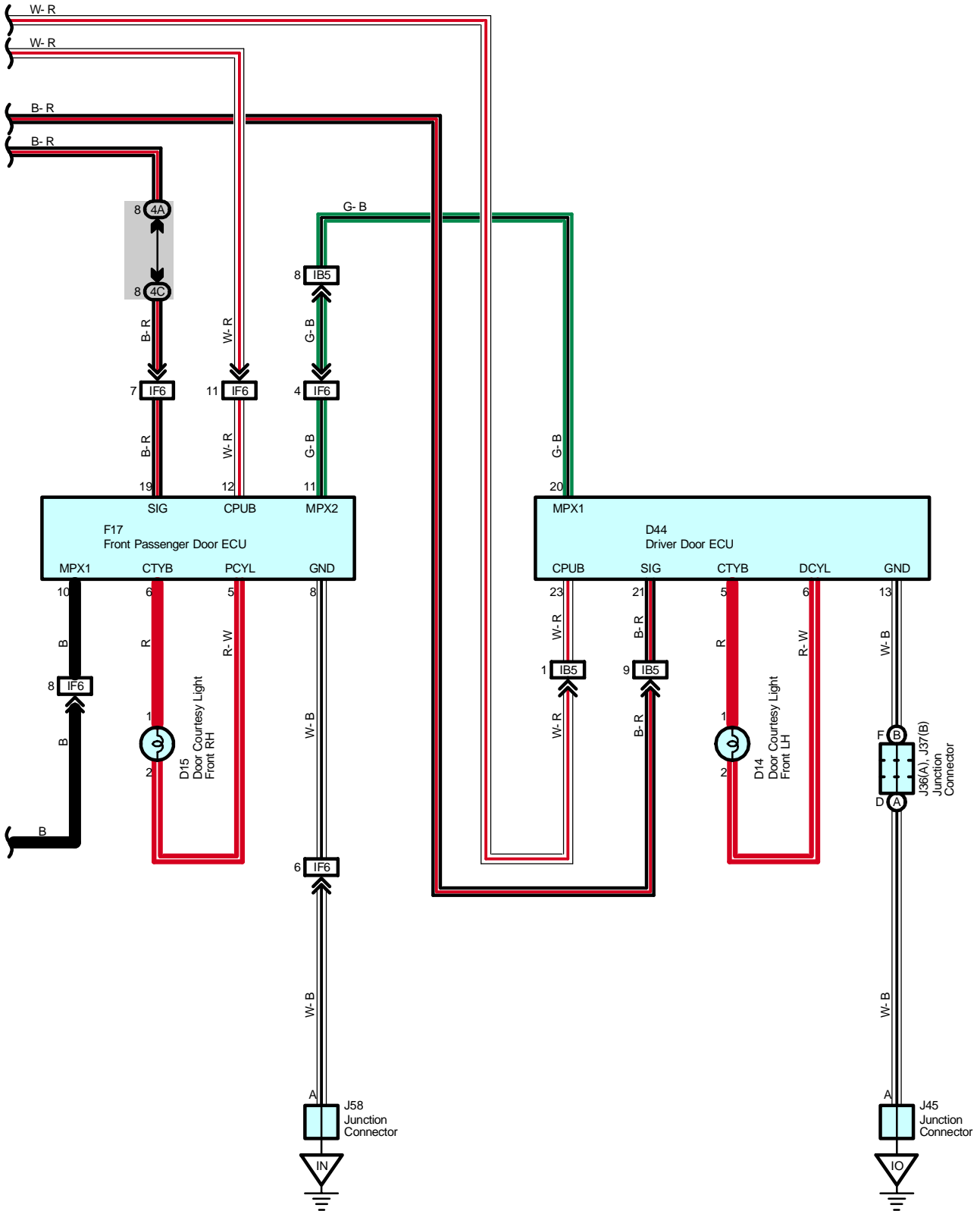
- \* 1 : 6 Speaker
- \* 2 : Except 6 Speaker
- \* 3 : w/ Vanity Light
- \* 4 : w/o Vanity Light
- \* 5 : w/ Moon Roof
- \* 6 : w/o Moon Roof



# Interior Light (Double Cab)







# Interior Light (Double Cab)

## Service Hints

### D16, D17, D38, D39 Door Courtesy SW Front LH, RH, Rear LH, RH

1-Ground : Closed with the door open

### B 9 (A), B10 (B), B11 (C) Body ECU

(B) 1-Ground : Approx. 12 volts with the ignition SW at ON position

(C)15-Ground : Always continuity

(C)25-Ground : Always approx. 12 volts

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B9	A 66	D37	70	J43	B 68
B10	B 66	D38	70	J45	68
B11	C 66	D39	70	J49	A 68
C11	A 66	D44	70	J50	B 68
C12	B 66	F17	70	J58	68
D14	70	I22	67	O8	70
D15	70	I26	70	R4	71
D16	70	J36	A 68	S3	69
D17	70	J37	B 68	V6	71
D34	70	J38	A 68	V7	71
D35	70	J39	B 68		
D36	70	J42	A 68		

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F		
1G		
1H		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1M	45	Roof Wire and Driver Side J/B (Lower Finish Panel)
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3D		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4C		
4D		
4E		

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB5	92	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF6	94	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IK1	94	Floor Wire and Cowl Wire (Right Kick Panel)
IK2		
BL1	96	Rear Door No.1 Wire LH and Floor No.2 Wire (Left Side of Center Pillar)
BM1	96	Rear Door No.1 Wire RH and Floor Wire (Right Side of Center Pillar)
BP3	96	Frame Wire and Floor No.2 Wire (Under the Driver's Seat)



**: Ground Points**

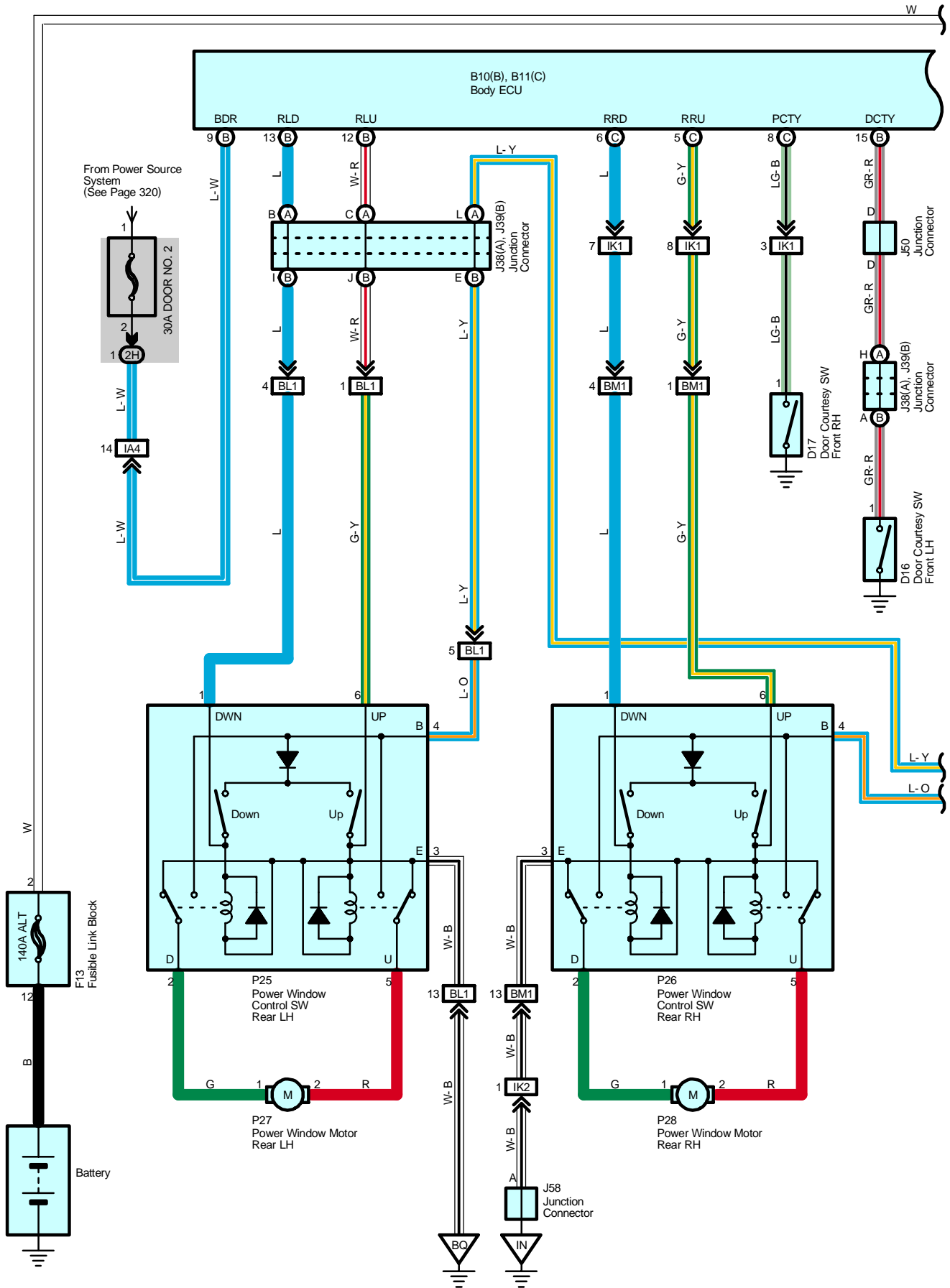
Code	See Page	Ground Points Location
IN	<a href="#">92</a>	Right Kick Panel
IO	<a href="#">92</a>	Left Kick Panel
BS	<a href="#">96</a>	Surrounding of the Front of the Fuel Tank

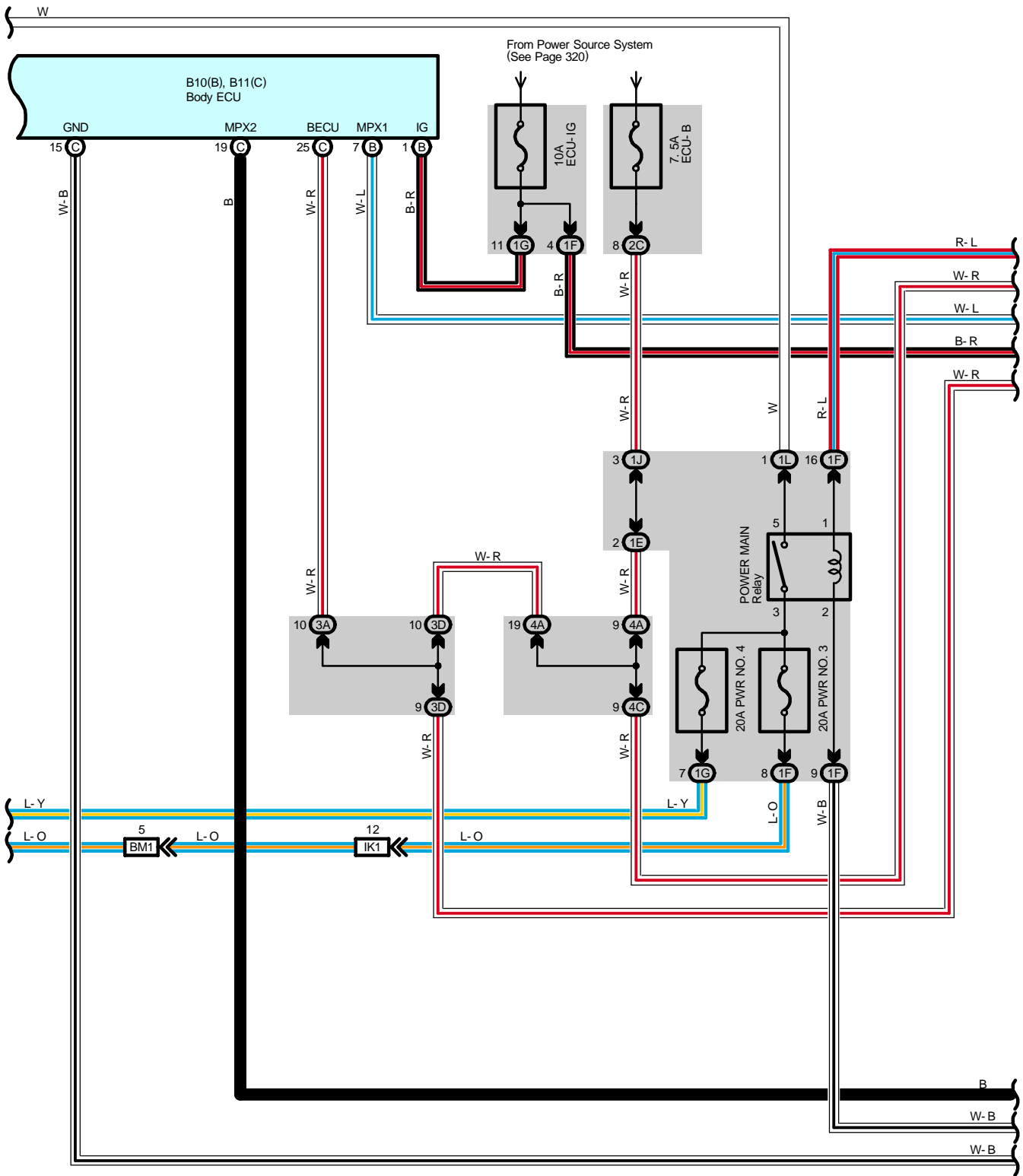


**: Splice Points**

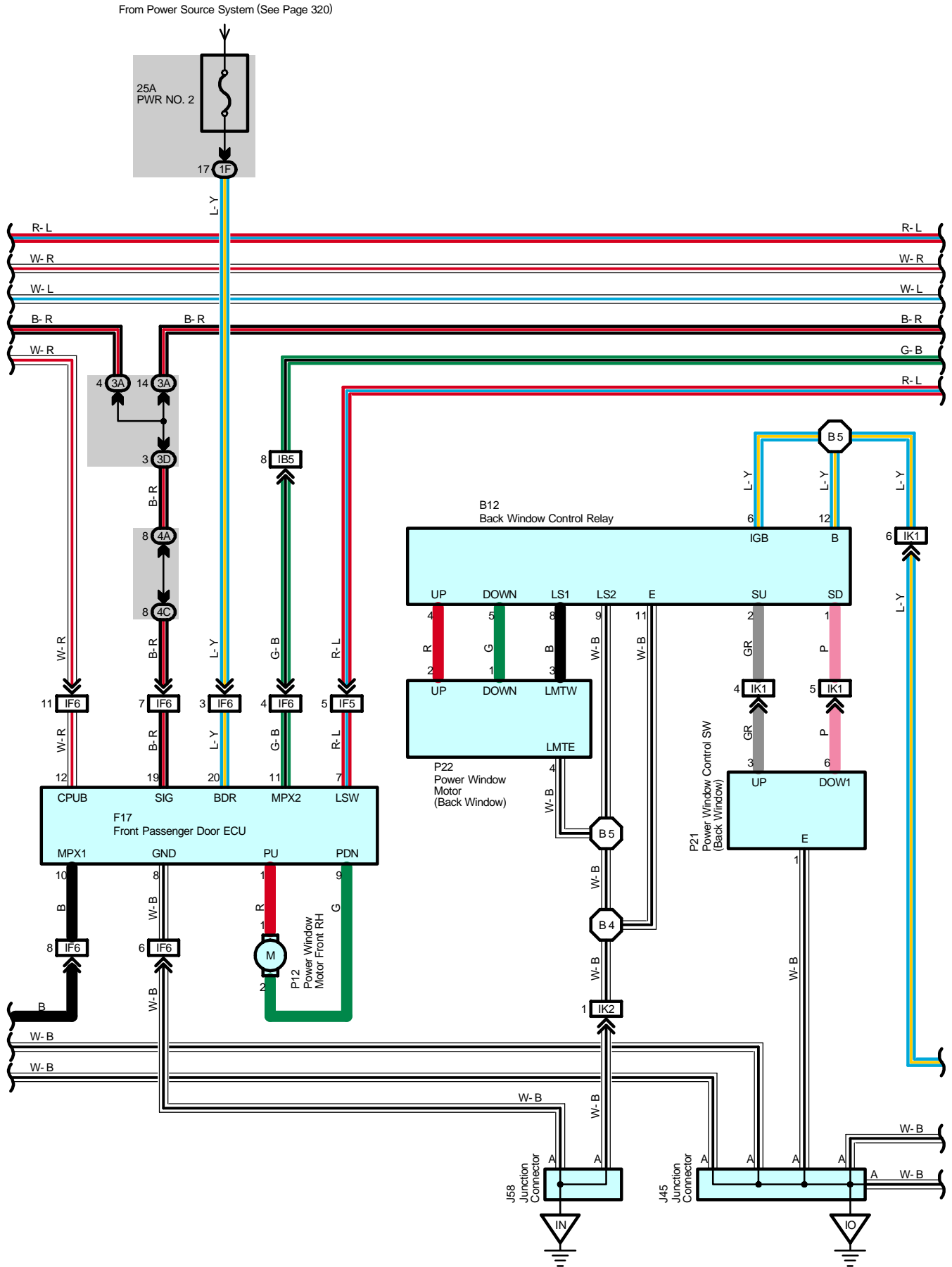
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B1	<a href="#">96</a>	Roof Wire	B6	<a href="#">96</a>	Floor No.2 Wire

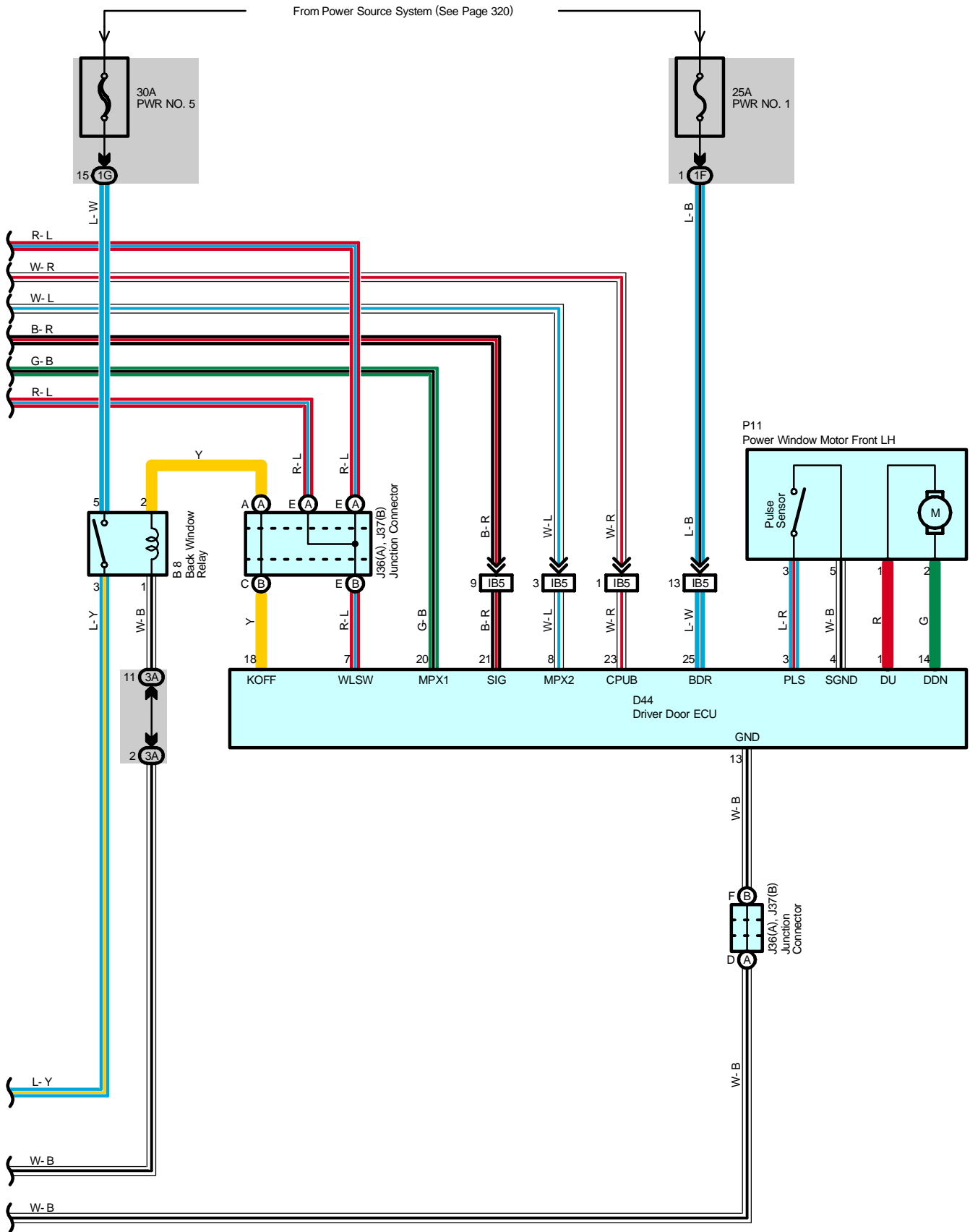
# Power Window (Double Cab)





# Power Window (Double Cab)





# Power Window (Double Cab)

## System Outline

The power window motor will operate when the power window SW, remote control SW, or the key-linked SW is operated.

### 1. Power Window SW Manual/Automatic Operation

When the ignition SW is turned ON, or during key-off operation stand-by mode, the power window can be operated by the power window SW.

### 2. Remote Control SW Manual/Automatic Operation

When the ignition SW is turned ON, or during key-off operation stand-by mode, the power window can be operated by the remote control SW. The front passenger, rear left, right windows can be operated according to the remote control signals from the DRIVER DOOR ECU.

### 3. Key-Off Operation

With all the doors closed, within 43 seconds after the ignition switch has been turned to OFF from ON, the power window can be operated. However, if the front door is opened, the power window cannot be operated.

## Service Hints

### B10 (B), B11 (C) Body ECU

- (B) 1-Ground : Approx. 12 volts with the ignition SW at ON position
- (B) 9-Ground : Always approx. 12 volts
- (C)25-Ground : Always approx. 12 volts
- (C)15-Ground : Always continuity

### D44 Driver Door ECU

- 21-Ground : Approx. 12 volts with the ignition SW at ON position
- 23-Ground : Always approx. 12 volts
- 25-Ground : Always approx. 12 volts
- 13-Ground : Always continuity

### F17 Front Passenger Door ECU

- 19-Ground : Approx. 12 volts with the ignition SW at ON position
- 12-Ground : Always approx. 12 volts
- 20-Ground : Always approx. 12 volts
- 8-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B8	66	F17	70	P11	71
B10	B 66	J36	A 68	P12	71
B11	C 66	J37	B 68	P21	69
B12	70	J38	A 68	P22	71
D16	70	J39	B 68	P25	71
D17	70	J45	68	P26	71
D44	70	J50	68	P27	71
F13	34, 64	J58	68	P28	71

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1F		
1G		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1L		
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2H		
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3D		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4C		



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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	<a href="#">92</a>	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IB5	<a href="#">92</a>	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF5	<a href="#">94</a>	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IF6		
IK1	<a href="#">94</a>	Floor Wire and Cowl Wire (Right Kick Panel)
IK2		
BL1	<a href="#">96</a>	Rear Door No.1 Wire LH and Floor No.2 Wire (Left Side of Center Pillar)
BM1	<a href="#">96</a>	Rear Door No.1 Wire RH and Floor Wire (Right Side of Center Pillar)

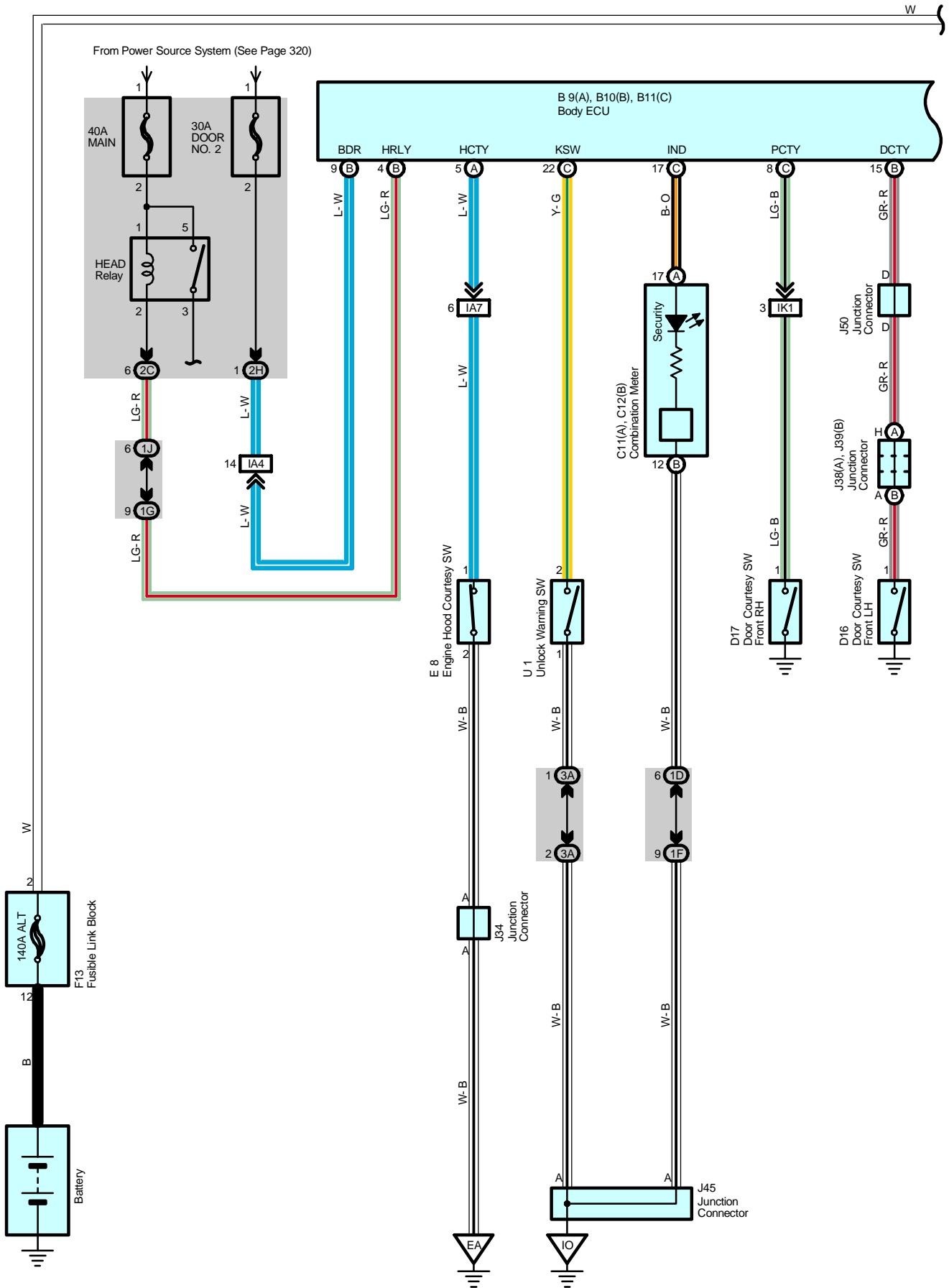
 : **Ground Points**

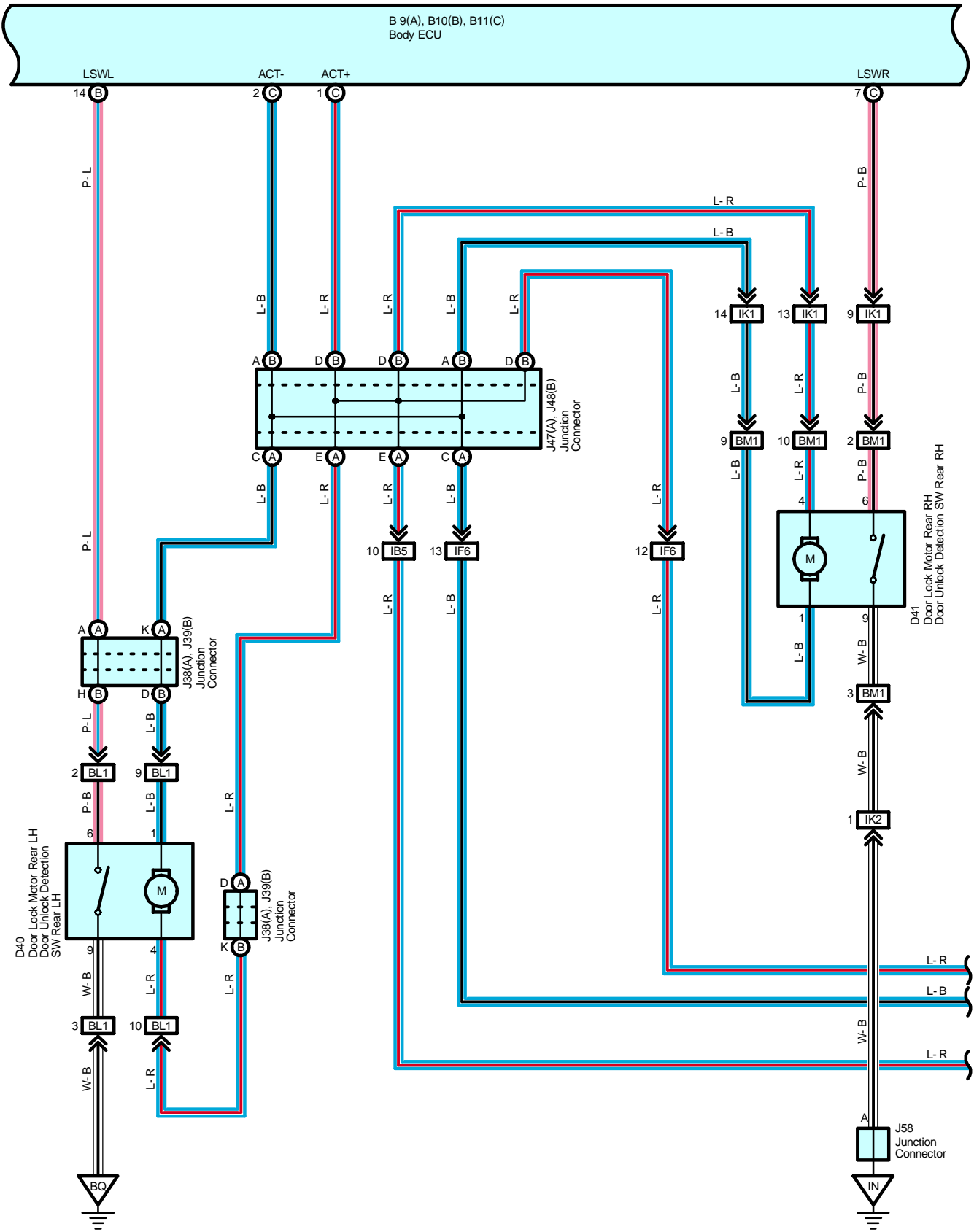
Code	See Page	Ground Points Location
IN	<a href="#">92</a>	Right Kick Panel
IO	<a href="#">92</a>	Left Kick Panel
BQ	<a href="#">96</a>	Left Side of Center Pillar

 : **Splice Points**

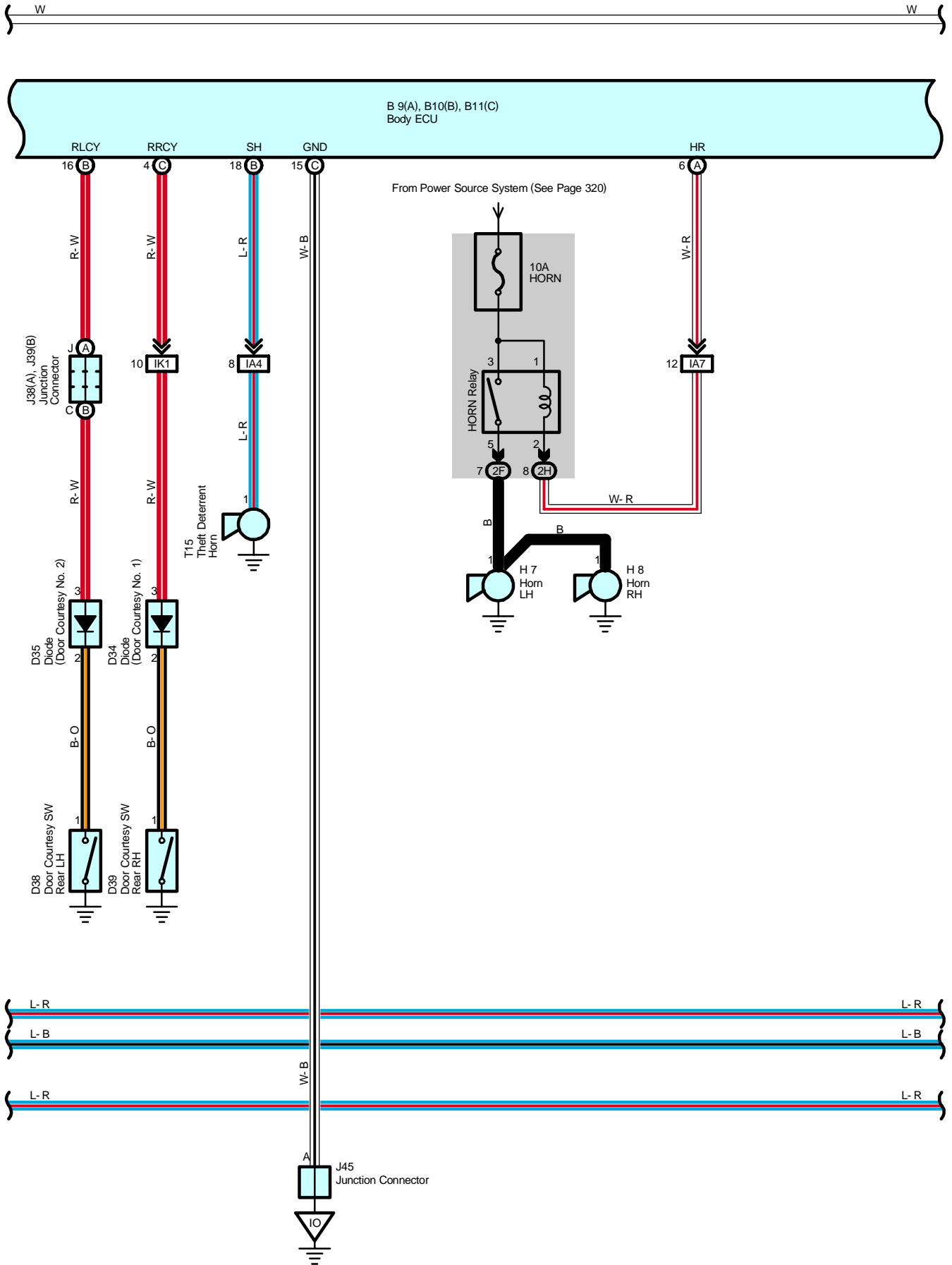
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B4	<a href="#">96</a>	Floor Wire	B5	<a href="#">96</a>	Floor Wire

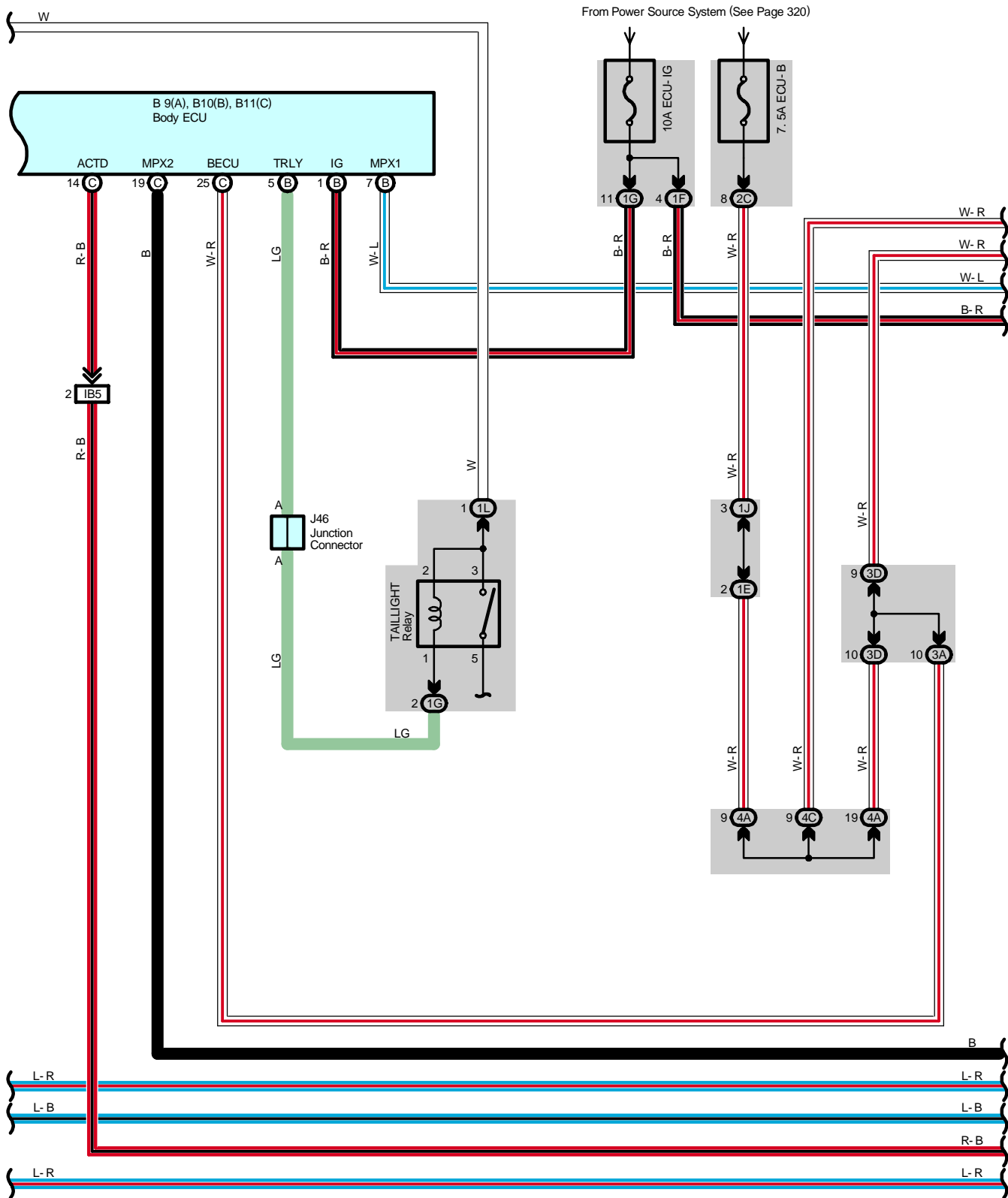
# Door Lock Control and Theft Deterrent (Double Cab)



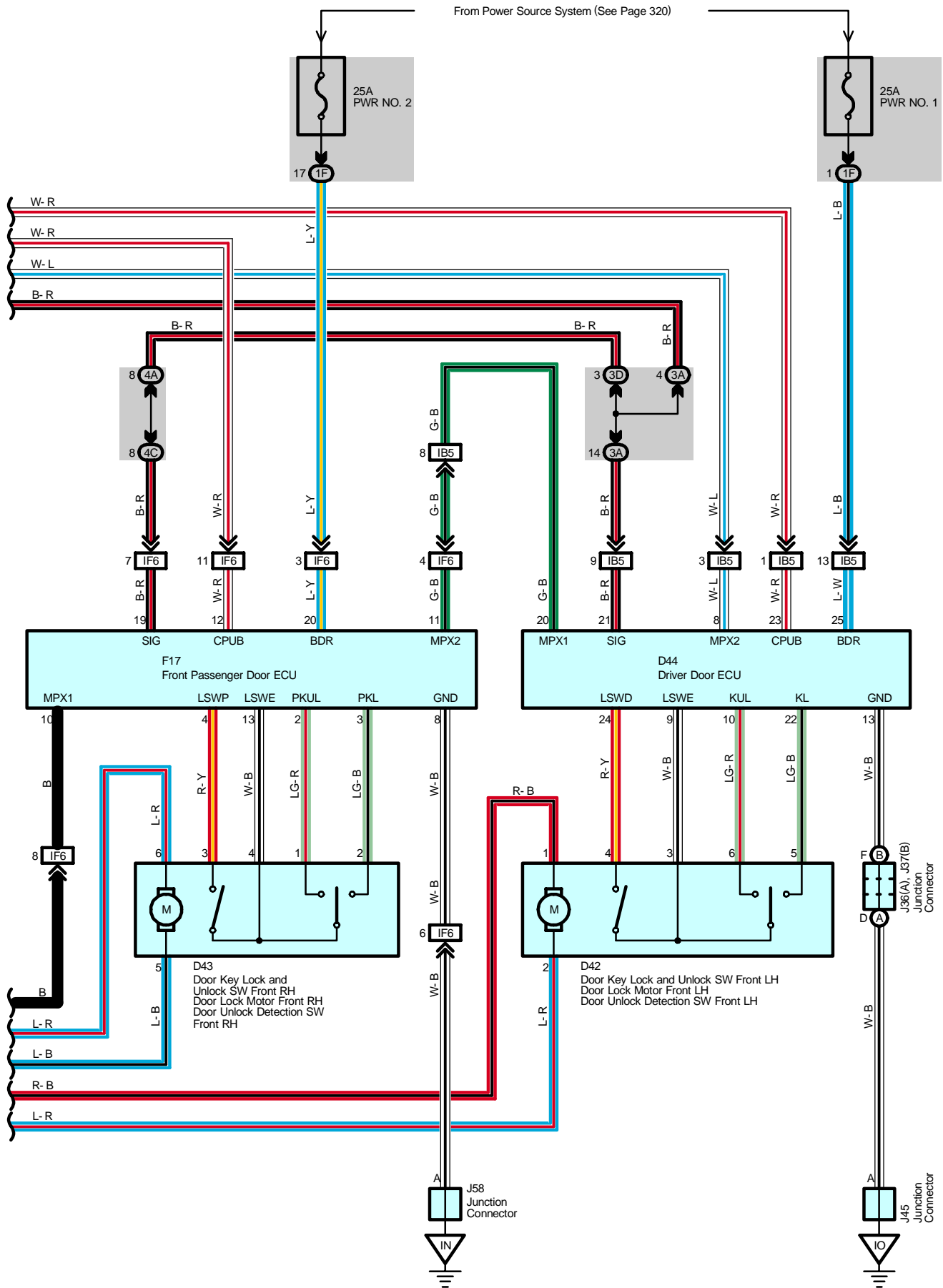


# Door Lock Control and Theft Deterrent (Double Cab)





# Door Lock Control and Theft Deterrent (Double Cab)



## System Outline

### 1. Manual Unlock Operation

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

### 2. Manual Lock Operation

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

### 3. Door Key Unlock Operation

\* Unlock operation from driver's side door

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

\* Unlock operation from front passenger's side door

When the front passenger's side door is unlocked using the ignition key, all the other doors are unlocked, too.

## Service Hints

### D42 Door Lock Motor, Door Key Lock and Unlock SW and Door Unlock Detection SW Front LH

2-Ground : Approx. 12 volts with the door lock motor at lock operate

1-Ground : Approx. 12 volts with the door lock motor at unlock operate

5-3 : Closed with the door lock cylinder locked with key

6-3 : Closed with the door lock cylinder unlocked with key

### D43 Door Lock Motor, Door Key Lock and Unlock SW and Door Unlock Detection SW Front RH

6-Ground : Approx. 12 volts with the door lock motor at lock operate

5-Ground : Approx. 12 volts with the door lock motor at unlock operate

2-4 : Closed with the door lock cylinder locked with key

1-4 : Closed with the door lock cylinder unlocked with key

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page		
B9	A	66	D41	70	J38	A	68
B10	B	66	D42	70	J39	B	68
B11	C	66	D43	70	J45		68
C11	A	66	D44	70	J46		68
C12	B	66	E8	64	J47	A	68
D16		70	F13	34, 64	J48	B	68
D17		70	F17	70	J50		68
D34		70	H7	64	J58		68
D35		70	H8	64	T15		65
D38		70	J34	65	U1		69
D39		70	J36	A			
D40		70	J37	B			

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F		
1G		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1L		
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2F		
2H		
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3D		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4C		

## Door Lock Control and Theft Deterrent (Double Cab)

### : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA7		
IB5	92	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF6	94	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IK1	94	Floor Wire and Cowl Wire (Right Kick Panel)
IK2		
BL1	96	Rear Door No.1 Wire LH and Floor No.2 Wire (Left Side of Center Pillar)
BM1	96	Rear Door No.1 Wire RH and Floor Wire (Right Side of Center Pillar)

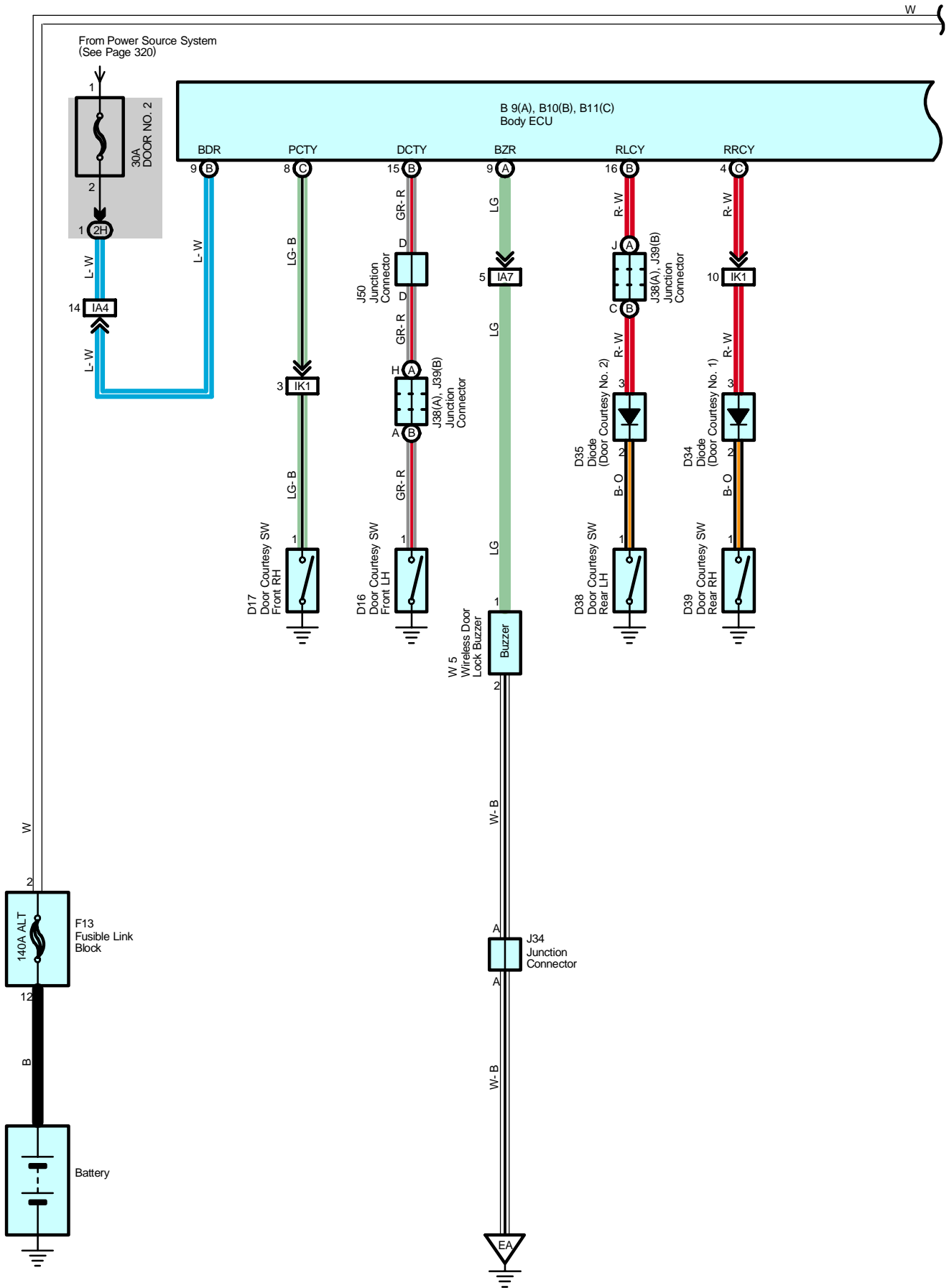
### : Ground Points

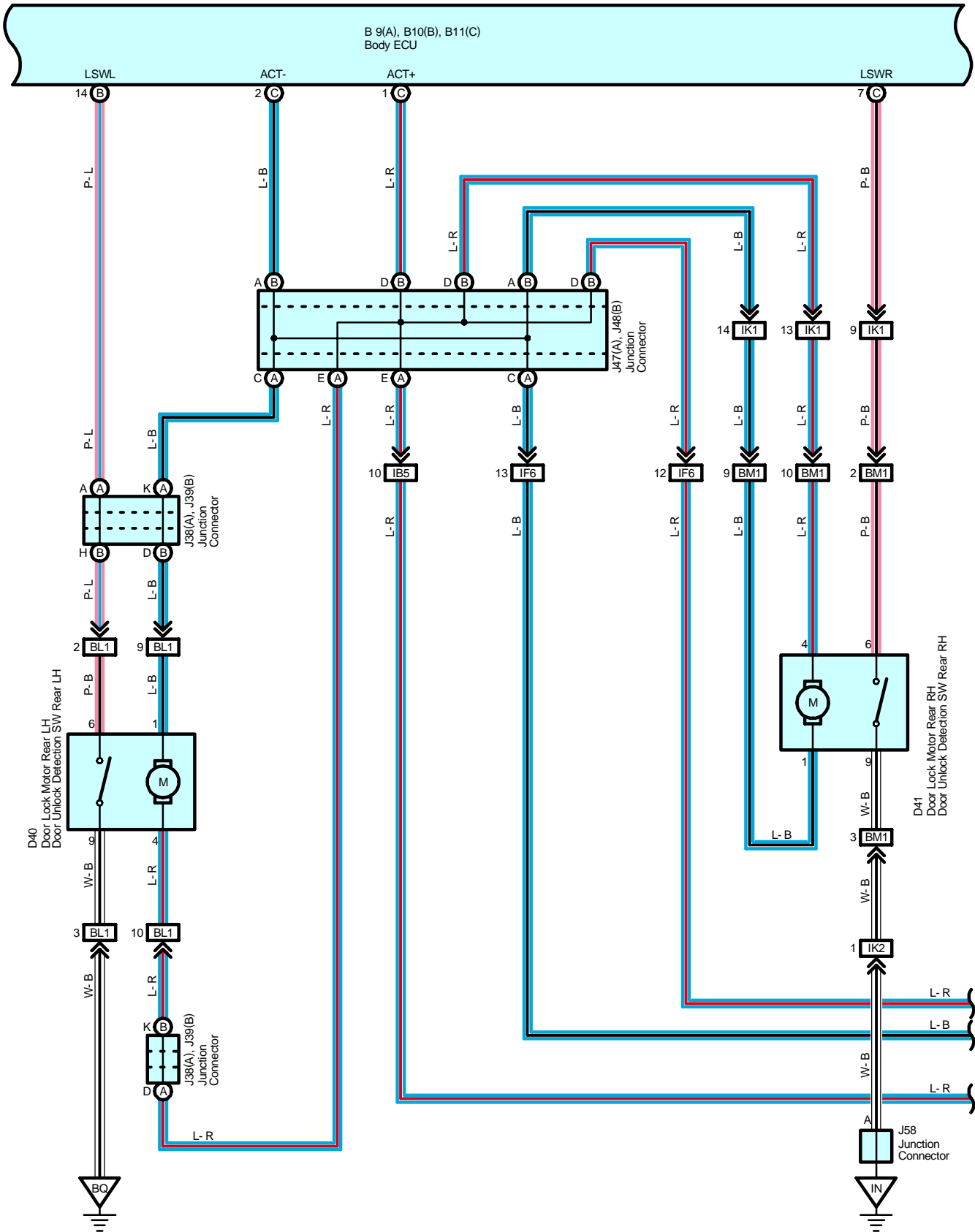
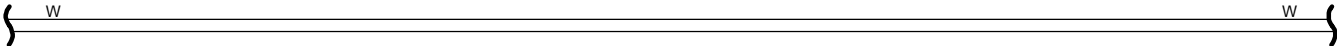
Code	See Page	Ground Points Location
EA	90	Front Left Fender Apron
IN	92	Right Kick Panel
IO	92	Left Kick Panel
BQ	96	Left Side of Center Pillar



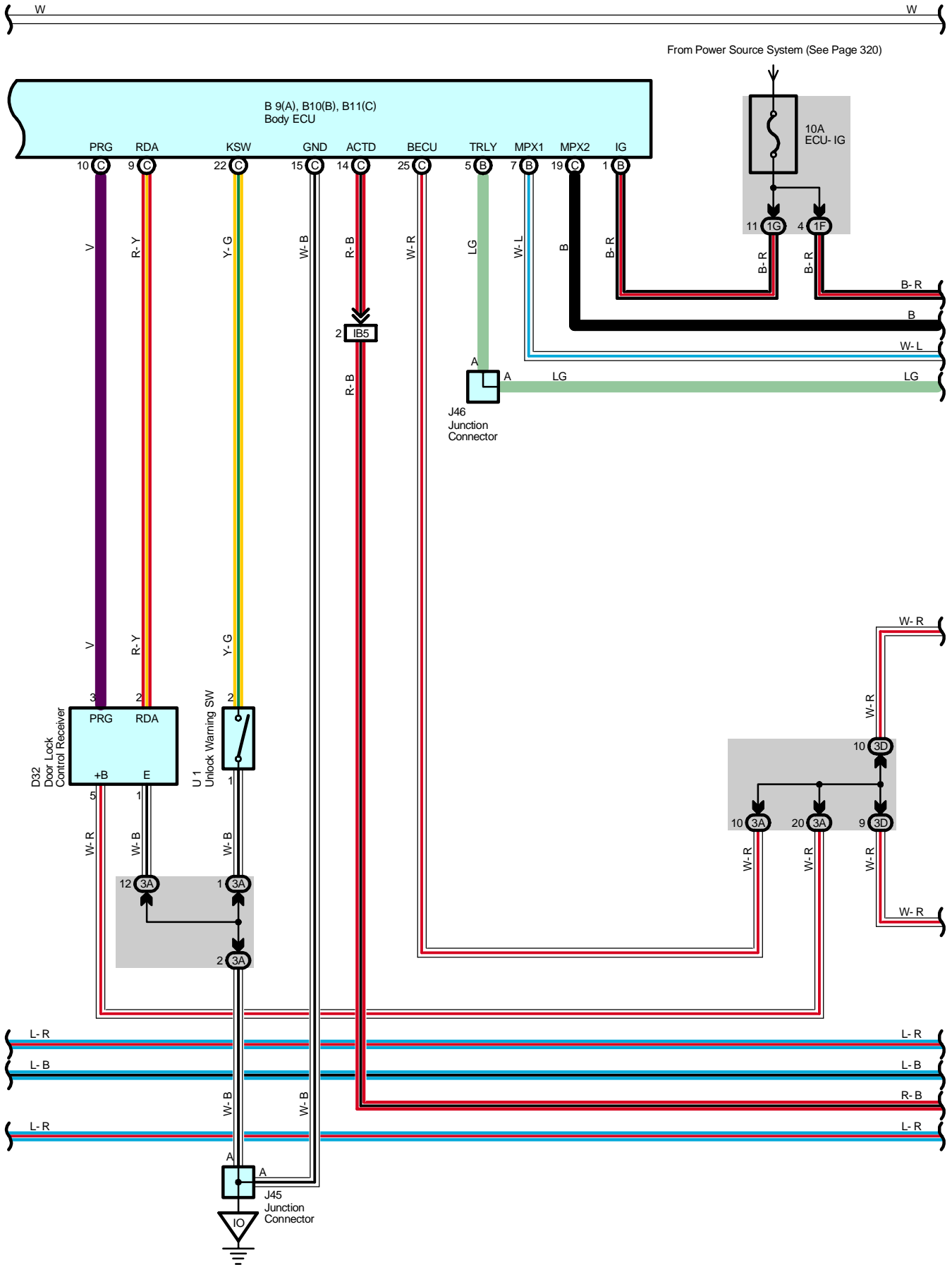


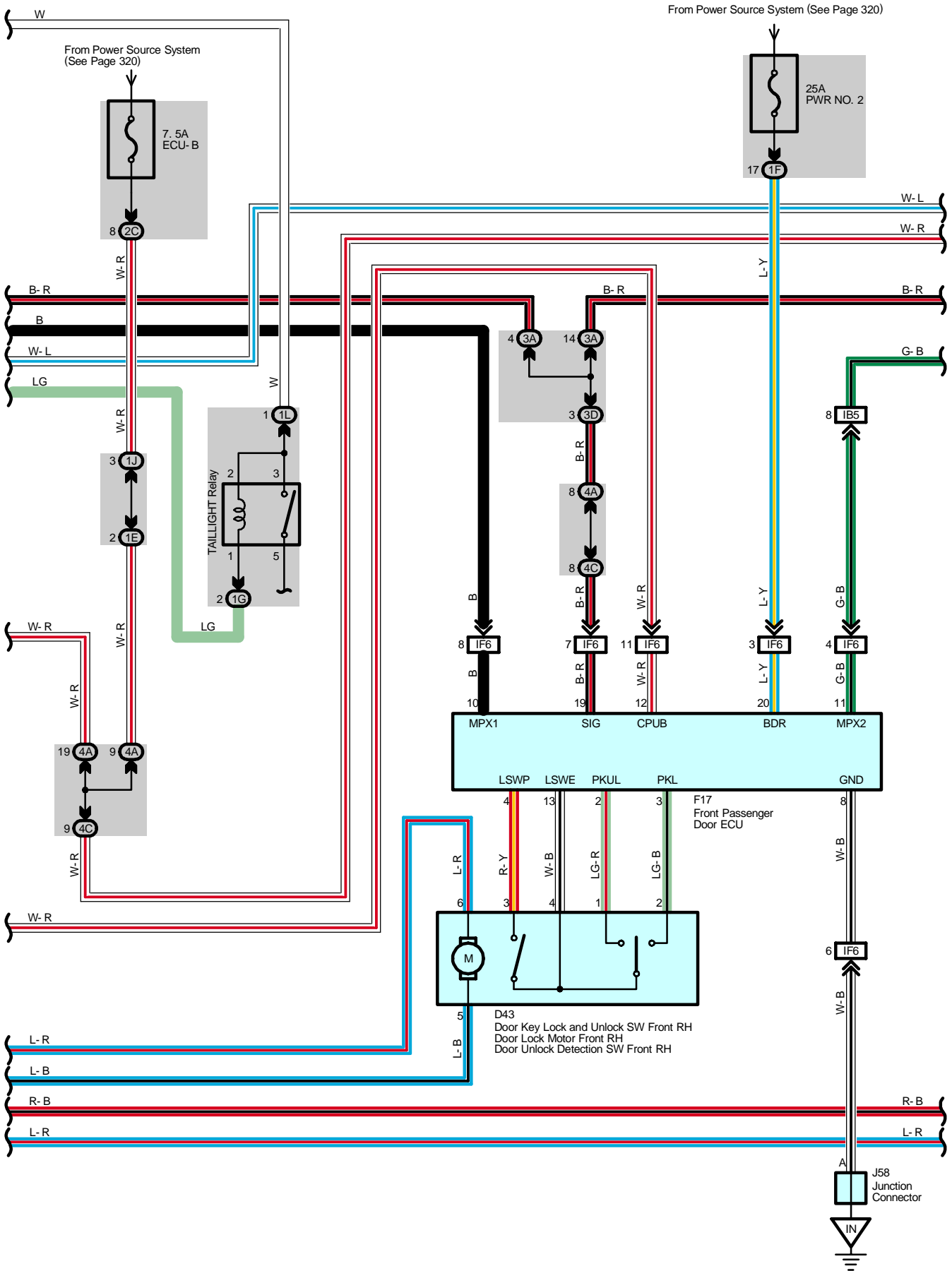
# Wireless Door Lock Control (Double Cab)



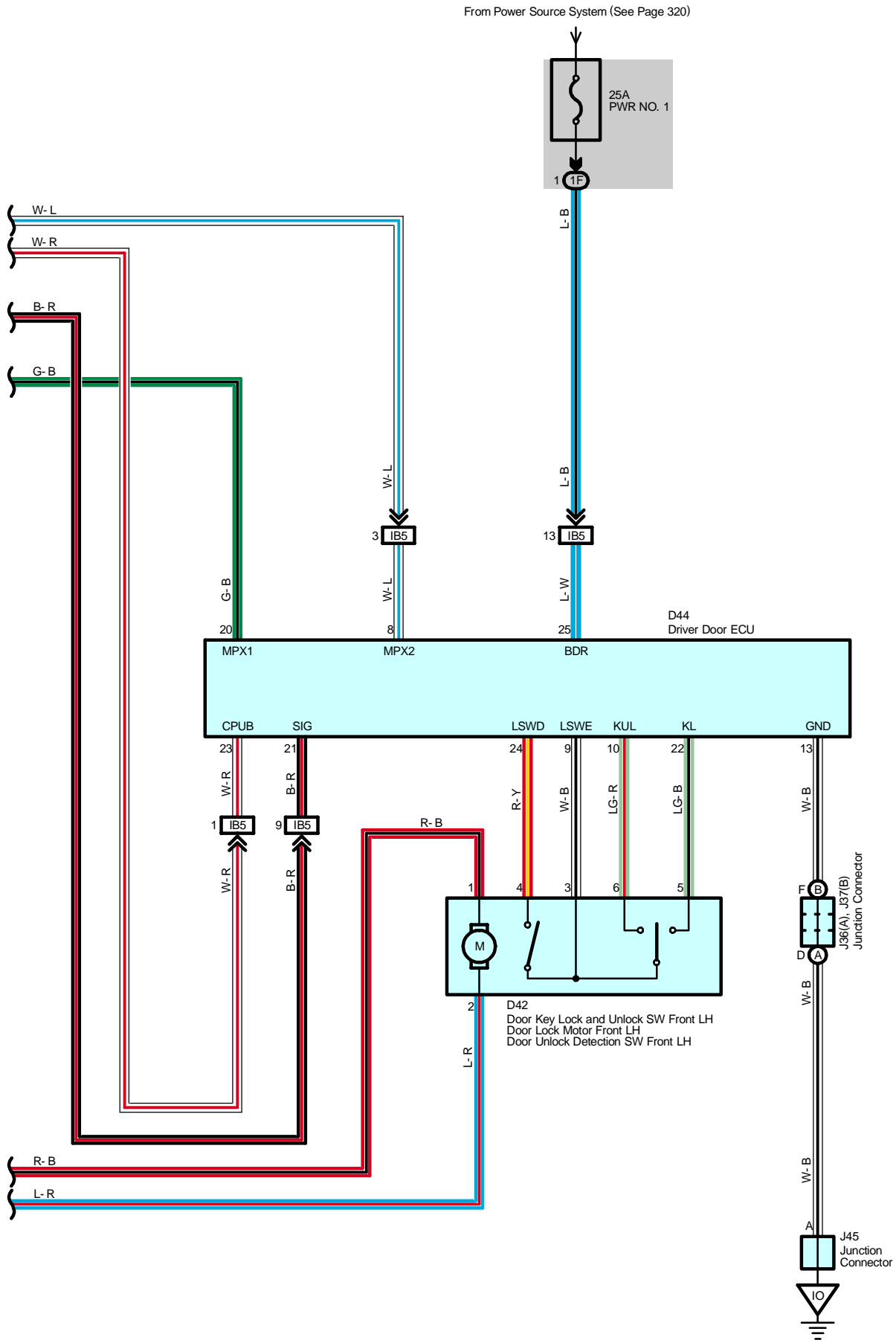


# Wireless Door Lock Control (Double Cab)





# Wireless Door Lock Control (Double Cab)



## System Outline

The current flows continuously from DOOR NO.2 fuse to body ECU TERMINAL BDR, from PWR NO.2 fuse to front passenger door ECU TERMINAL BDR, from PWR NO.1 fuse to driver door ECU TERMINAL BDR, and from ECU-B fuse to body ECU, front passenger ECU, driver door ECU, door control receiver.

### 1. Wireless Door Lock/Unlock Normal Operation:

Lock operation

All the doors are locked when the lock SW of the transmitter is operated.

Unlock operation

When the unlock SW of the transmitter is operated, the driver's door is unlocked, and if the SW is operated again within 3 seconds, all the doors are unlocked.

### 2. Automatic Lock Operation

When the doors are unlocked by operating the unlock SW of the transmitter, if no door is opened or the ignition key is not inserted in the key cylinder within 30 seconds, all the doors will be locked again.

### 3. Lock/Unlock Operation Audiovisual Effect Check

When the vehicle is locked by the transmitter, the parking light & taillight flashes once, and a buzzer sounds once. When the vehicle is unlocked by the transmitter, the parking light & taillight flashes twice, and a buzzer sounds twice.

When the unlock SW of the transmitter is operated while all the doors are locked, the doors will be unlocked and the room light will come on.

### 4. Output Repeat Function

If there is not change in the lock condition of the vehicle after the lock signal is output from the transmitter, the lock signal is output again.

## Service Hints

### D16, D17, D38, D39 Door Courtesies SW Front LH, RH, Rear LH, RH

1-Ground : Closed with the door open

### D42 Door Lock Motor, Door Key Lock and Unlock SW and Door Unlock Detection SW Front LH

2-Ground : Approx. 12 volts with the door lock motor at lock operate

1-Ground : Approx. 12 volts with the door lock motor at unlock operate

5-3 : Closed with the door lock cylinder locked with key

6-3 : Closed with the door lock cylinder unlocked with key

### D43 Door Lock Motor, Door Key Lock and Unlock SW and Door Unlock Detection SW Front RH

6-Ground : Approx. 12 volts with the door lock motor at lock operate

5-Ground : Approx. 12 volts with the door lock motor at unlock operate

2-4 : Closed with the door lock cylinder locked with key

1-4 : Closed with the door lock cylinder unlocked with key

### D40 Door Lock Motor and Door Unlock Detection SW Rear LH

4-Ground : Approx. 12 volts with the door lock motor at lock operate

1-Ground : Approx. 12 volts with the door lock motor at unlock operate

### D41 Door Lock Motor and Door Unlock Detection SW Rear RH

4-Ground : Approx. 12 volts with the door lock motor at lock operate

1-Ground : Approx. 12 volts with the door lock motor at unlock operate

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page		
B9	A	66	D40	70	J38	A	68
B10	B	66	D41	70	J39	B	68
B11	C	66	D42	70	J45		68
D16		70	D43	70	J46		68
D17		70	D44	70	J47	A	68
D32		67	F13	34, 64	J48	B	68
D34		70	F17	70	J50		68
D35		70	J34	65	J58		68
D38		70	J36	A	68	U1	69
D39		70	J37	B	68	W5	65

# Wireless Door Lock Control (Double Cab)

## : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1F		
1G		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1L		
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2H		
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3D		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4C		

## : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA7		
IB5	92	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF6	94	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IK1	94	Floor Wire and Cowl Wire (Right Kick Panel)
IK2		
BL1	96	Rear Door No.1 Wire LH and Floor No.2 Wire (Left Side of Center Pillar)
BM1	96	Rear Door No.1 Wire RH and Floor Wire (Right Side of Center Pillar)

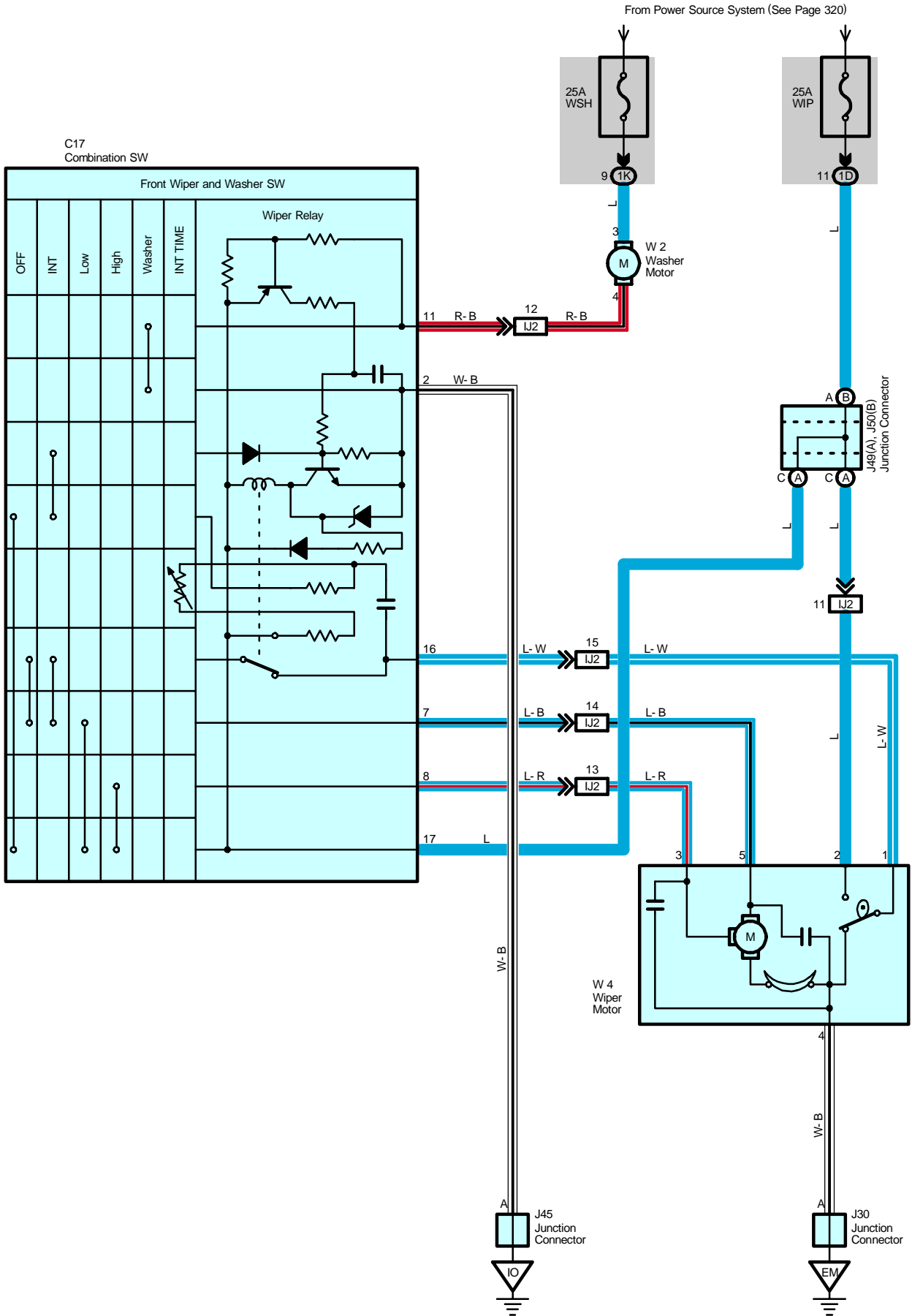
## : Ground Points

Code	See Page	Ground Points Location
EA	90	Front Left Fender Apron
IN	92	Right Kick Panel
IO	92	Left Kick Panel
BQ	96	Left Side of Center Pillar





# Wiper and Washer (Double Cab)



## System Outline

With the ignition SW turned on, current flows to TERMINAL 17 of the wiper and washer SW and TERMINAL 2 of the wiper motor through the WIP fuse. The current flows to TERMINAL 3 of the washer motor through the WSH 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 Interlocking Operation

With the washer SW pulled up, current flows from TERMINAL 3 of the washer motor to TERMINAL 4 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

### C17 Combination SW

- 2-Ground : Always continuity
- 17-Ground : Approx. 12 volts with the ignition SW at ON position
- 7-Ground : Approx. 12 volts with the wiper and washer SW at LOW position  
Approx. 12 volts every approx. 1.6 to 10.7 seconds intermittently with the wiper SW at INT position
- 16-Ground : Approx. 12 volts with the ignition SW on unless wiper motor at STOP position
- 8-Ground : Approx. 12 volts with the ignition SW on and wiper and washer SW at HIGH position
- 11-2 : Continuity with the washer SW on

### W4 Wiper Motor

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

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C17	66	J49	A 68	W4	65
J30	65	J50	B 68		
J45	68	W2	65		

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1K	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)

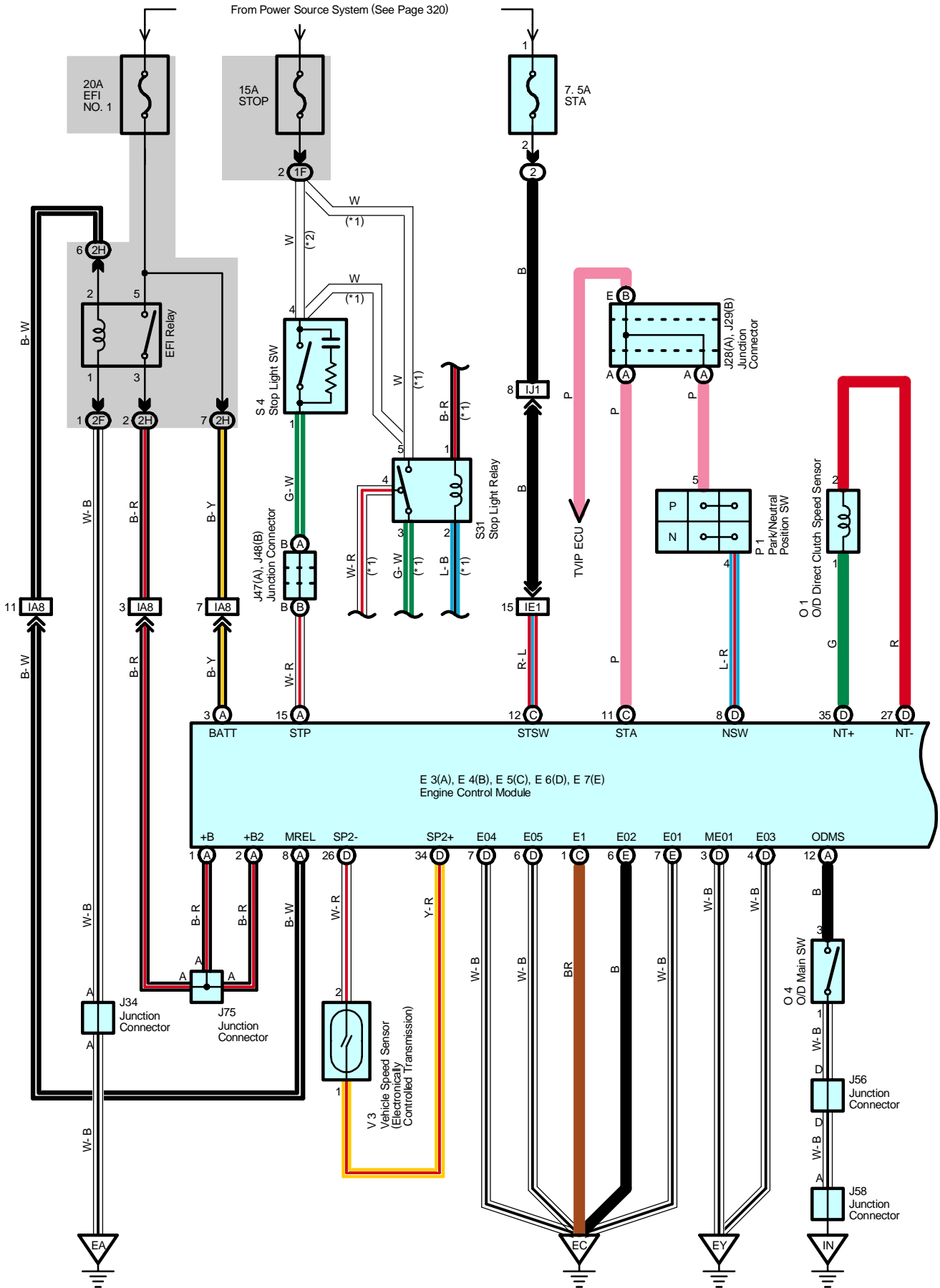
## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IJ2	94	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)

## ▽ : Ground Points

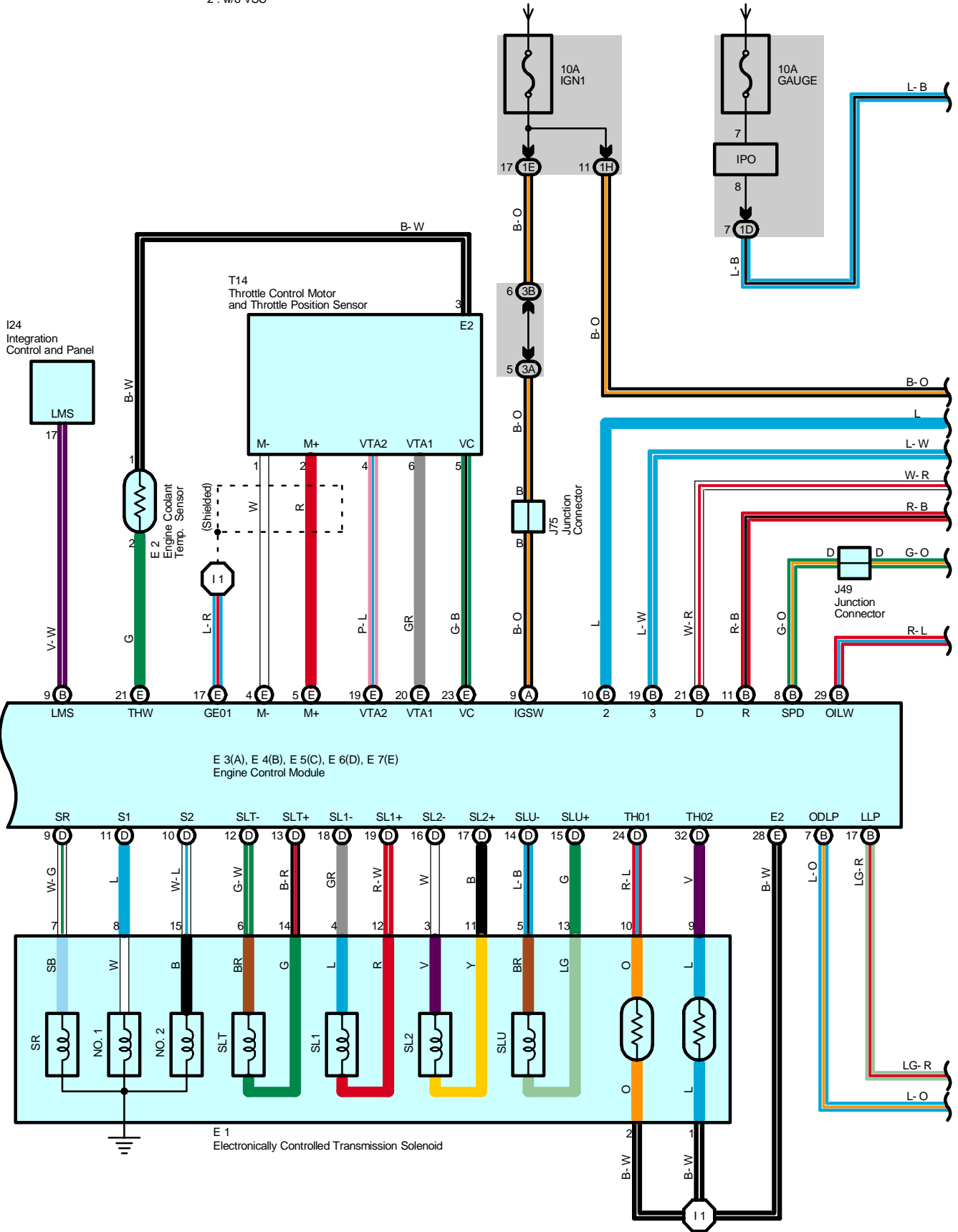
Code	See Page	Ground Points Location
EM	90	Radiator Side Support RH
IO	92	Left Kick Panel

# ECT and A/T Indicator (Double Cab)

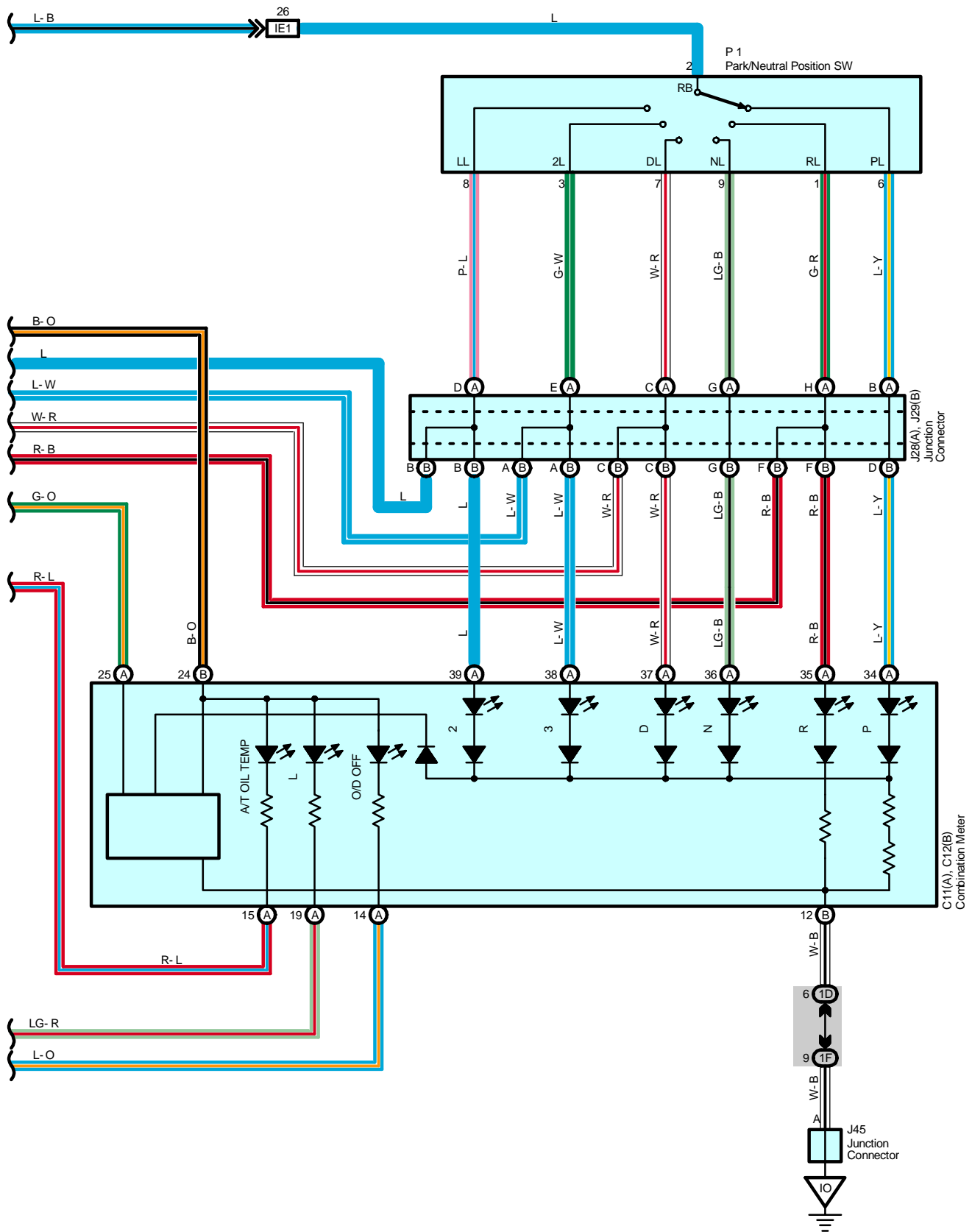


\* 1 : w/ VSC  
 \* 2 : w/o VSC

From Power Source System (See Page 320)



# ECT and A/T Indicator (Double Cab)



## System Outline

The electronically controlled transmission electrically controls the, throttle pressure, lock-up pressure, and accumulator pressure etc. through the solenoid valve.

The electronically controlled transmission is a system which precisely controls the gear shift timing and lock-up timing in response to the vehicle's driving conditions and the engine condition detected by various sensors. It makes smooth driving possible by shift selection of the gear which is the most appropriate to the driving conditions at that time, and by preventing downing, squat and gear shift shock when starting off.

### 1. Gear Shift Operation

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

### 2. Lock-Up Operation

When the engine control module decides based on each signal that the lock-up condition has been met, the current flows through TERMINAL SLU+ of the engine control module to TERMINAL 5 of the electronically controlled transmission solenoid to TERMINAL 13 to TERMINAL SLU- of the engine control module to GROUND.

### 3. Stop Light SW Circuit

If the brake pedal is depressed (Stop light SW on) when driving in lock-up position, a signal is input to TERMINAL STP of the engine control module. As a result, the engine control module cuts the current to the solenoid to release the lock-up.

### 4. Overdrive Circuit

#### \* O/D main SW on

When the O/D main SW is switched to ON position, a signal is input to TERMINAL ODMS of the engine control module, and enables shift change to the overdrive range, through the control of the engine control module.

#### \* O/D main SW off

When the O/D main SW is switched to OFF position, a signal is input to TERMINAL ODMS of the engine control module, and prohibits shift change to the overdrive range through the control of the engine control module. When in the overdrive range already, shift down is made.

# ECT and A/T Indicator (Double Cab)

## Service Hints

### E1 Electronically Controlled Transmission Solenoid

7, 8, 15-Ground : Approx. 13 Ω

### O4 O/D Main SW

3-1 : Open with O/D main SW at ON position  
 Closed with O/D main SW at OFF position

### S4 Stop Light SW

1-2 : Closed with brake pedal depressed

### E3(A), E4 (B), E5 (C), E6 (D), E7 (E) Engine Control Module

S1-E1 : 9-14 volts with vehicle not move and shift lever in D position

S2, SR-E1 : 0-1.5 volts with vehicle not move

STP-E1 : 7.5-14 volts with brake pedal depressed  
 : 0-1.5 volts with brake pedal released

THW-E1 : 0.2-1.0 volts with idling, engine coolant temp. 60°C (140°F)-120 °C (248°F)

VTA1, VTA2-E1 : 0.4-1.0 volts with ignition SW on and throttle valve fully closed  
 : 3.2-4.8 volts with ignition SW on and throttle valve fully open

VC-E1 : 4.5-5.5 volts with ignition SW at ON or ST position

ODMS-E1 : 9-14 volts with O/D main SW turned on  
 : 0-3 volts with O/D main SW turned off

SPD-E1 : Pulse generation with vehicle moving  
 2-E1 : 7.5-14 volts with shift lever at 2 position  
 : 0-1.5 volts with shift lever at except 2 position

L-E1 : 7.5-14 volts with shift lever at L position  
 : 0-1.5 volts with shift lever at except L position

+B-E1 : 9-14 volts with ignition SW at ON or ST position

BATT-E1 : Always 9-14 volts

### P1 Park/Neutral Position SW

2-6 : Closed with shift lever in P position

2-1 : Closed with shift lever in R position

2-9 : Closed with shift lever in N position

2-7 : Closed with shift lever in D position

2-3 : Closed with shift lever in 2 position

2-8 : Closed with shift lever in L position

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C11	A 66	I24	67	J58	68
C12	B 66	J28	A 68	J75	68
E1	64	J29	B 68	O1	65
E2	64	J34	65	O4	69
E3	A 67	J45	68	P1	65
E4	B 67	J47	A 68	S4	69
E5	C 67	J48	B 68	S31	69
E6	D 67	J49	68	T14	65
E7	E 67	J56	68	V3	65

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	38	Engine Room R/B No.2 (Engine Compartment Left)



 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F		
1H		
2F	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2H		
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3B		

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA8	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IE1	94	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ1	94	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)

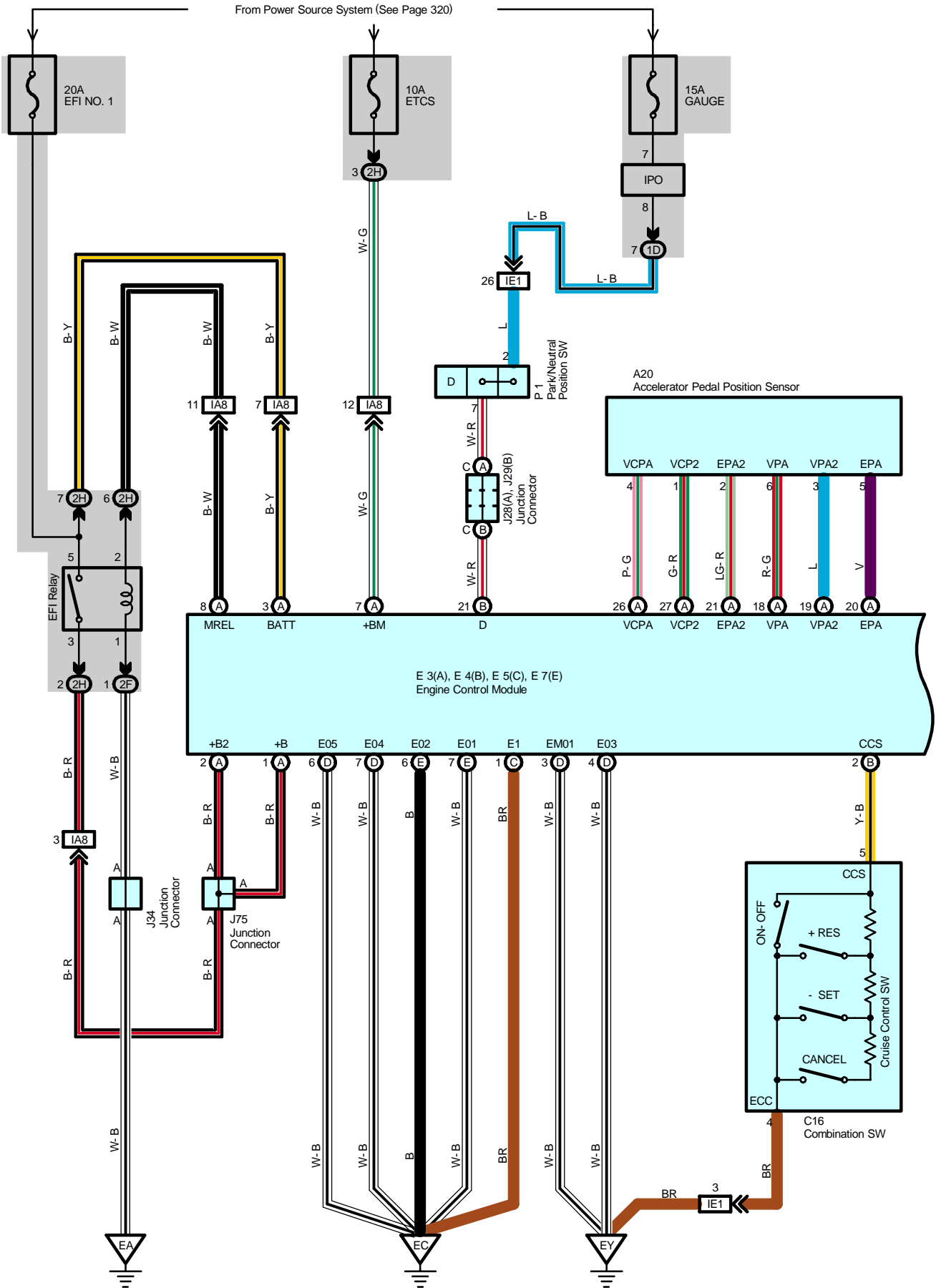
 : **Ground Points**

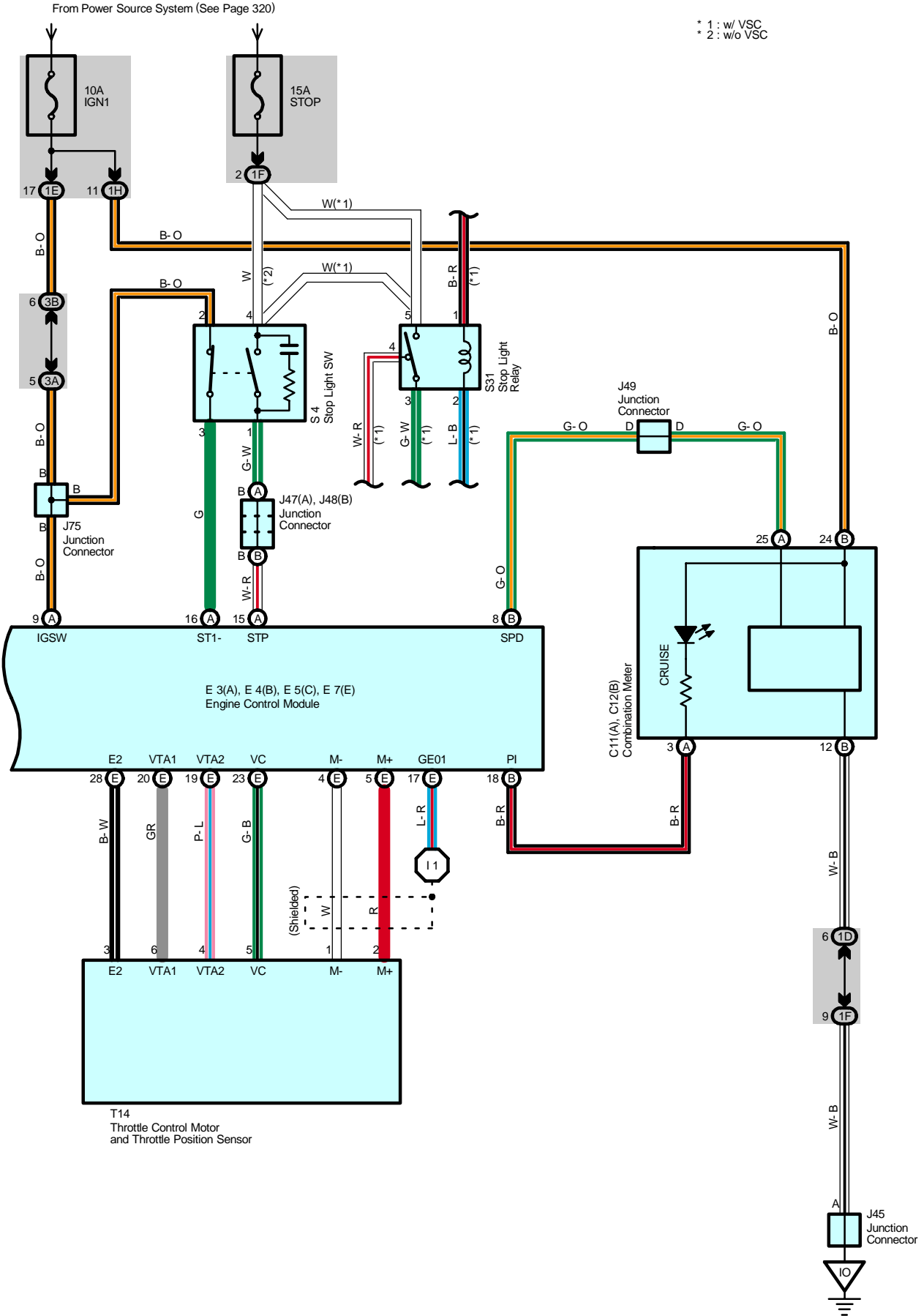
Code	See Page	Ground Points Location
EA	90	Front Left Fender Apron
EC	90	Rear Bank of Left Cylinder Head
EY	90	Front Left Side of Cylinder Head
IN	92	Right Kick Panel
IO	92	Left Kick Panel

 : **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I1	94	Engine Wire			

# Cruise Control (Double Cab)





# Cruise Control (Double Cab)

## System Outline

The cruise control system is a constant vehicle speed controller which controls the opening angle of the engine throttle valve by the SW, and allows driving at a constant speed without depressing the accelerator pedal.

### 1. Set Control

When the - SET SW is operated while traveling with the ON-OFF SW on, the speed when the - SET SW is operated to off is memorized, and the vehicle speed is controlled at that speed.

### 2. Coast Control

When the - SET SW is operated to on, the cruise control opening angle requirement is turned to 0 to decrease the vehicle speed, and the speed when the - SET SW is operated to off is memorized, and the vehicle speed is controlled at that speed. Furthermore, every time the - SET SW is operated momentarily (Approx. 0.5 sec.) to on, the memorized vehicle speed is decreased by approx. 1.6 km/h (1.0 mph).

### 3. Accel Control

When the + RES SW is operated to on, the throttle motor rotates the throttle valve to open direction to increase the vehicle speed, and the speed when the + RES SW is operated to off is memorized, and the vehicle speed is controlled at that speed.

Furthermore, every time the + RES SW is operated momentarily (Approx. 0.5 sec.) to on, the memorized vehicle speed is increased by approx. 1.6 km/h (1.0 mph).

### 4. Manual Cancel Mechanism

If any of the following signals are input during cruise control traveling, the current to the motor flows in the direction to close the throttle valve, and cancel the cruise control.

- (1) Stop lamp SW is on (Brake pedal is depressed)
- (2) The CANCEL SW of the control SW is on
- (3) ON-OFF SW is off
- (4) Gear is shifted from D position to other positions than D.

### 5. Resume Control

After canceling the cruise control (Except when the ON-OFF SW is off) if the vehicle speed is above the minimum speed limit (Approx. 40km/h, 25mph), operating the + RES SW to on from off will cause the system to accelerate and resume to the vehicle speed before manual cancellation.

### 6. Overdrive Function

The overdrive may be cut on an uphill grade, while traveling with the cruise control.

After the overdrive is cut, when the throttle opening information indicates the hill climbing is finished after the overdrive is canceled, the vehicle returns to overdrive mode again as the overdrive return timer is completed, and if the system determines that the uphill grade has finished, the overdrive will resume after the overdrive timer operation.

### 7. Auto Cancel Operation

If any of the following conditions are detected, the control is canceled.

- (1) Disconnection and/or short in the stop light SW
- (2) Malfunction in the vehicle speed signal
- (3) Malfunction in the electronic throttle parts
- (4) Malfunction in the stop light SW input circuit
- (5) Malfunction in the cancel circuit
- (6) When the vehicle speed gets slower than the low speed limit.
- (7) The actual vehicle speed becomes -16 km/h (10 mph) slower than the set speed

## Service Hints

### E3 (A), E4 (B), E5 (C), E7 (E) Engine Control Module

IGSW-E1 : 9.0-14.0 volts with ignition SW at ON or ST position

BATT-E1 : Always 9.0-14.0 volts

STP-E1 : 9.0-14.0 volts with brake pedal depressed  
: Below 1.5 volts with brake pedal released

### C16 Combination SW

5-4 : Approx. 1540Ω with CANCEL SW on

Approx. 240Ω with + RES SW on

Approx. 630Ω with - SET SW on

 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page		
A20	<a href="#">66</a>	E7	E	<a href="#">67</a>	J49	<a href="#">68</a>	
C11	A	<a href="#">66</a>	J28	A	<a href="#">68</a>	J75	<a href="#">68</a>
C12	B	<a href="#">66</a>	J29	B	<a href="#">68</a>	P1	<a href="#">65</a>
C16	<a href="#">66</a>	J34	<a href="#">65</a>	S4	<a href="#">69</a>		
E3	A	<a href="#">67</a>	J45	<a href="#">68</a>	S31	<a href="#">69</a>	
E4	B	<a href="#">67</a>	J47	A	<a href="#">68</a>	T14	<a href="#">65</a>
E5	C	<a href="#">67</a>	J48	B	<a href="#">68</a>		

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	<a href="#">45</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F		
1H		
2F	<a href="#">41</a>	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2H		
3A	<a href="#">48</a>	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3B		

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA8	<a href="#">92</a>	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IE1	<a href="#">94</a>	Engine Wire and Cowl Wire (Right Side of Instrument Panel)

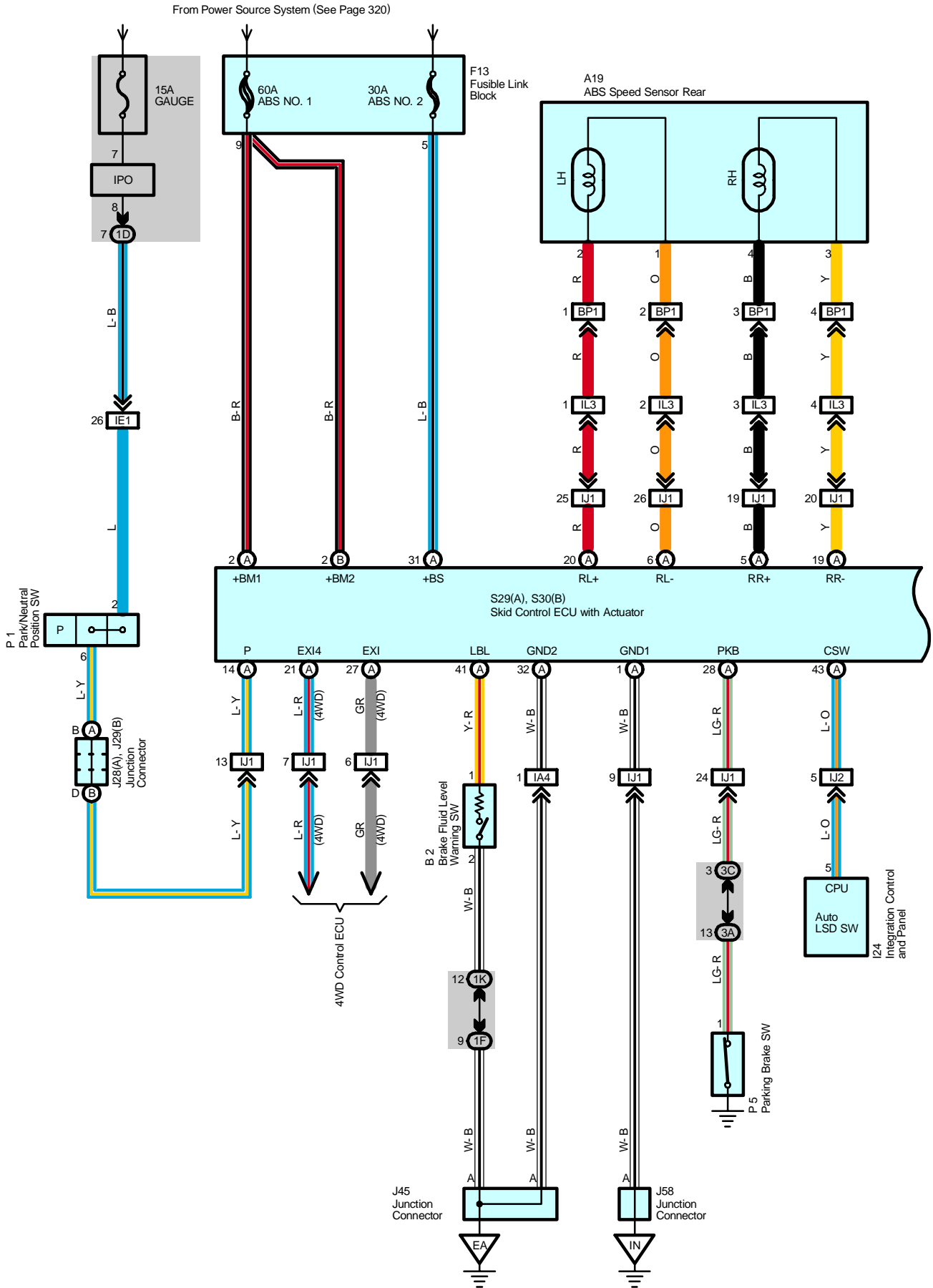
 : **Ground Points**

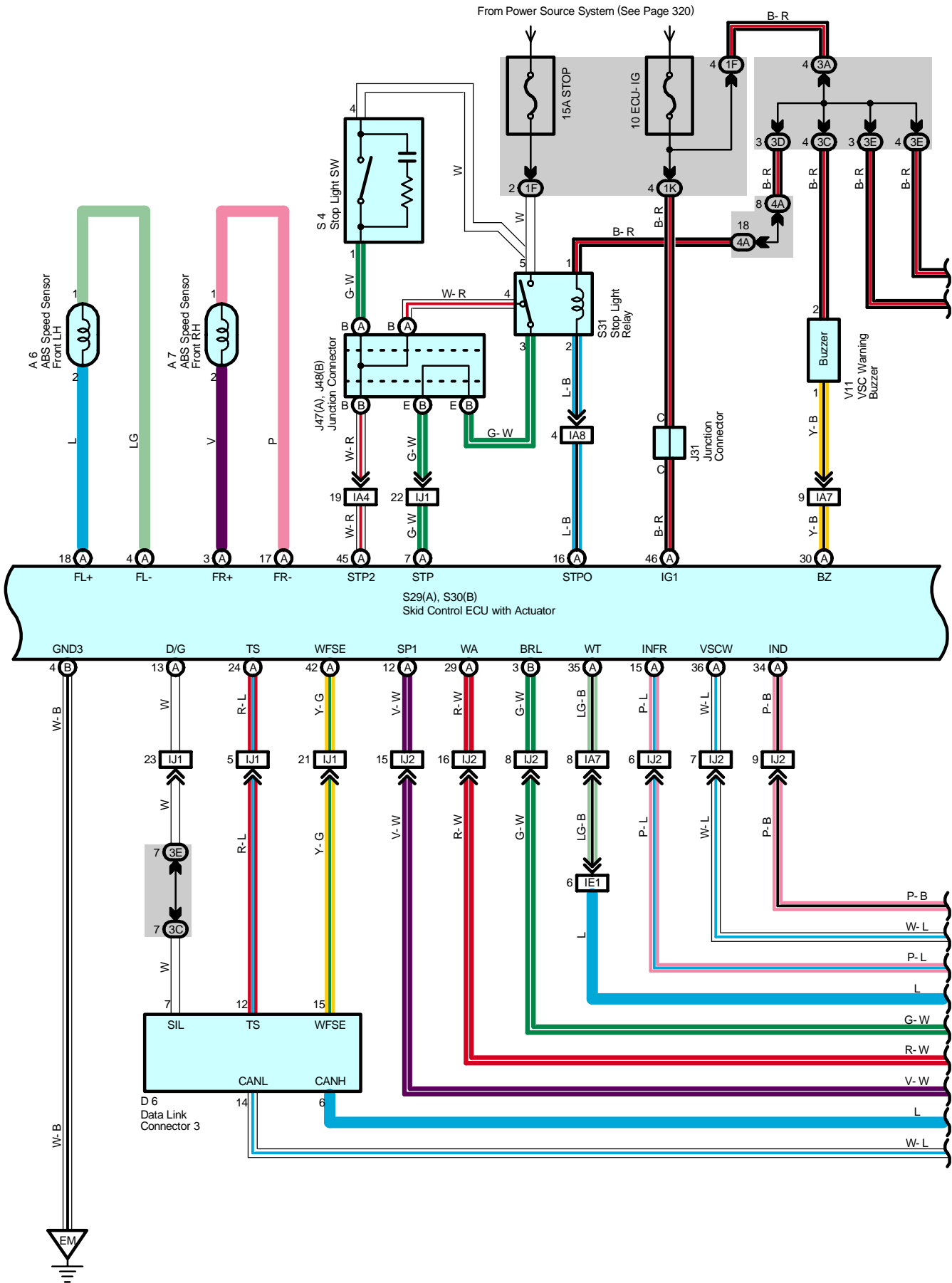
Code	See Page	Ground Points Location
EA	<a href="#">90</a>	Front Left Fender Apron
EC	<a href="#">90</a>	Rear Bank of Left Cylinder Head
EY	<a href="#">90</a>	Front Left Side of Cylinder Head
IO	<a href="#">92</a>	Left Kick Panel

 : **Splice Points**

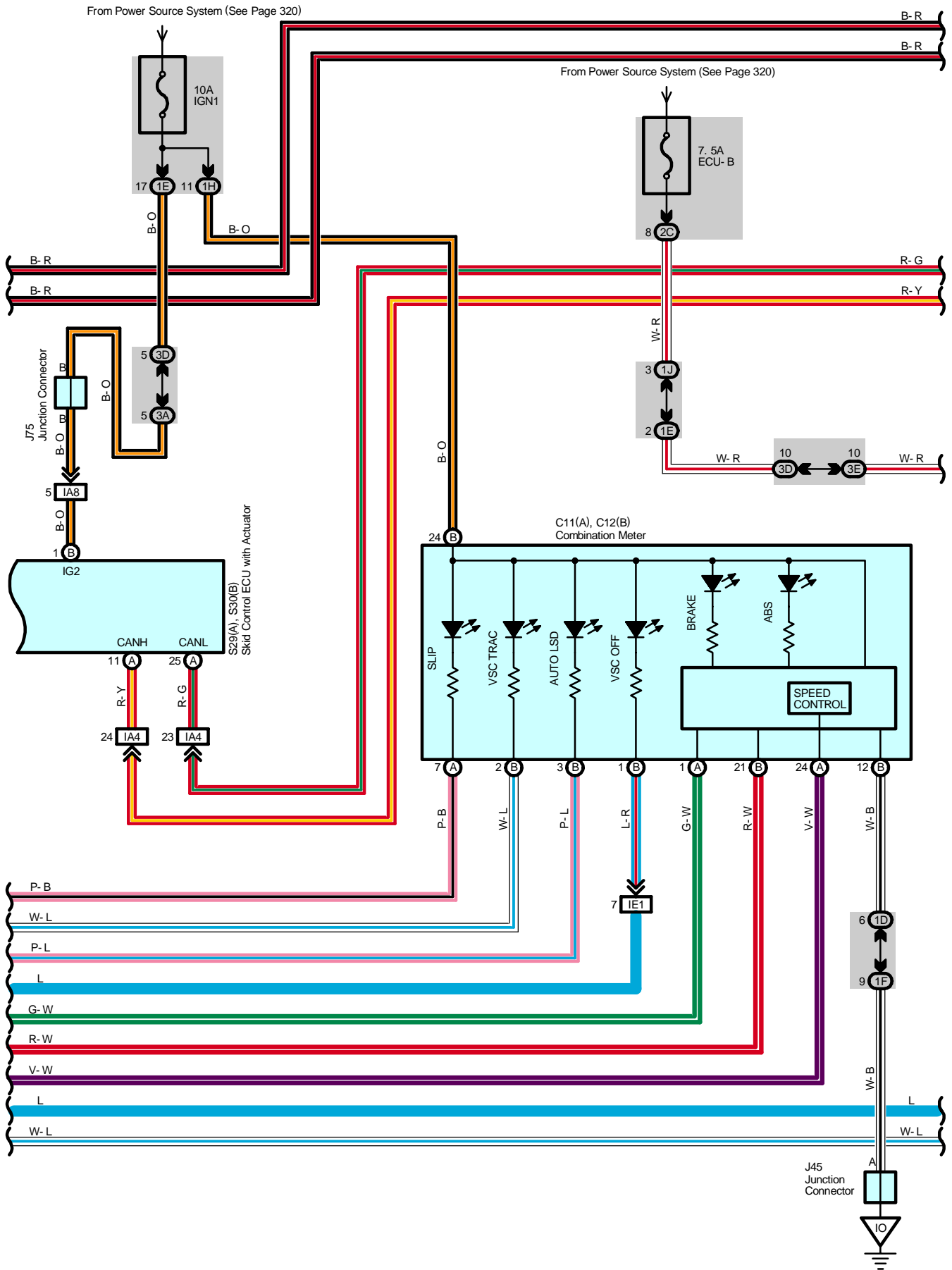
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I1	<a href="#">94</a>	Engine Wire			

# VSC (Double Cab)

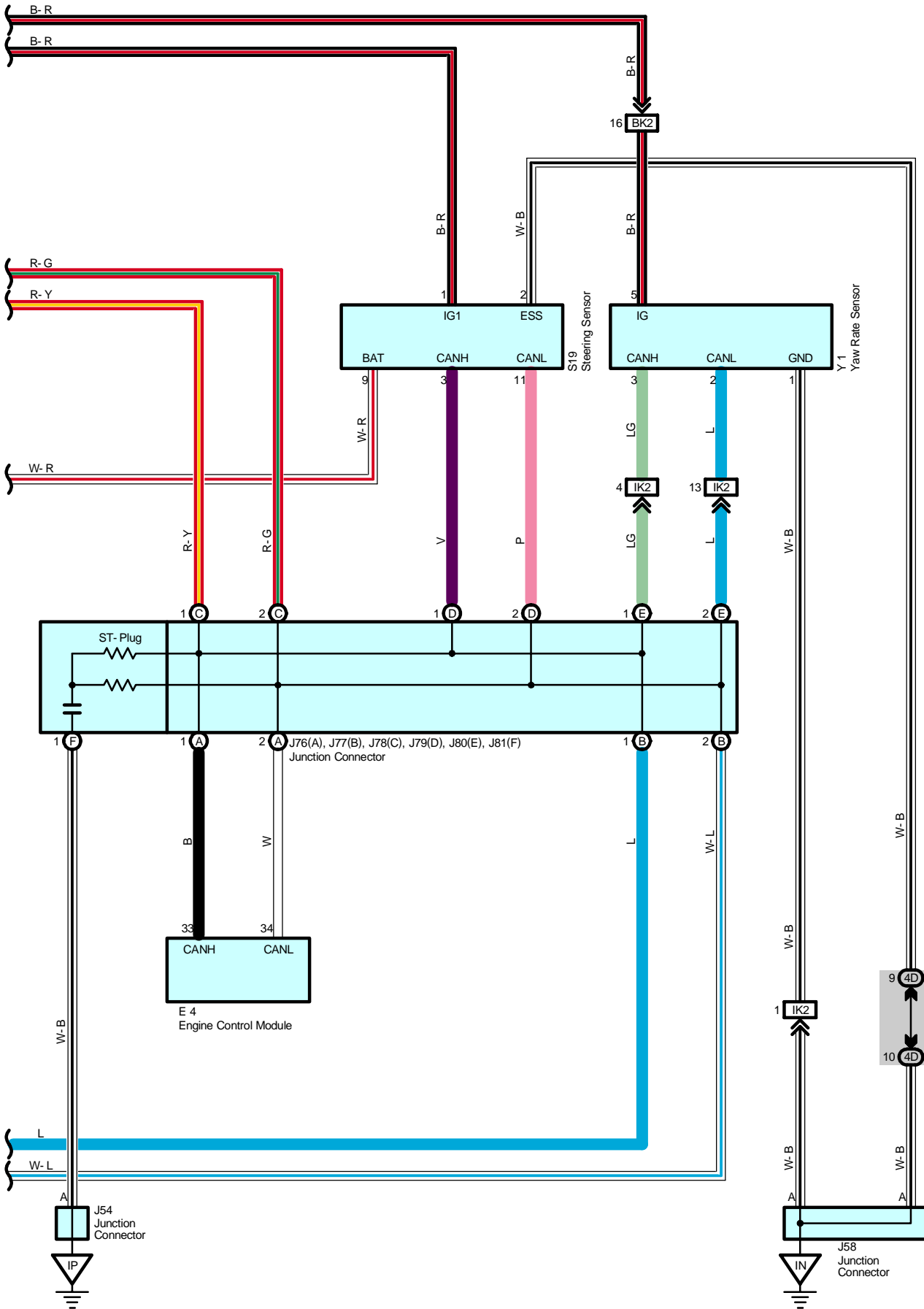




# VSC (Double Cab)







# VSC (Double Cab)

## System Outline

### 1. ABS Operation

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

### 2. Traction Control Operation

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

### 3. VSC Operation

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

To reduce large over-steering :

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

To reduce large under-steering :

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

Traction control SW

The traction control SW is used to stop the TRAC function. After the engine is started, the TRAC system is stopped (turned off) and the VSC OFF indicator light lights up. When the traction control SW is pressed again, the TRAC system enters the stand-by mode. If the engine is stopped and restarted, the TRAC system enters the stand-by mode regardless of the traction control SW.

### 4. Mutual System Control

To efficiently operate the VSC system at its optimal level, the VSC system and other control systems are mutually controlled while the VSC system is being operated.

Engine throttle control

The engine power does not interfere with the VSC brake control by controlling the opening of the throttle and reducing the engine output.

Engine control and electronically controlled transmission control

The strong braking force does not interfere with the braking force control of the VSC system by turning off the accel. and reducing changes in the driving torque at shift-down.

VSC system operation indication

The Slip indicator light flashes and the buzzer sounds intermittently to warn the driver that the current road is slippery, while the VSC system is being operated.

### 5. Fail Safe Function

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

## Service Hints

### S29 (A), S30 (B) Skid Control ECU with Actuator

(A)46-Ground : Approx. 12 volts with ignition SW at ON position

(A)1, (A) 32, (B) 4-Ground : Always continuity

 : Parts Location

Code	See Page	Code	See Page	Code	See Page
A6	64	J31	65	J81   F	68
A7	64	J45	68	P1	65
A19	70	J47   A	68	P5	69
B2	64	J48   B	68	S4	69
C11   A	66	J54	68	S19	69
C12   B	66	J58	68	S29   A	65
D6	67	J75	68	S30   B	65
E4	67	J76   A	68	S31	69
F13	34, 64	J77   B	68	V11	69
I24	67	J78   C	68	Y1	69
J28   A	68	J79   D	68		
J29   B	68	J80   E	68		

 : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F		
1H		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1K		
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3C		
3D		
3E		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4D		

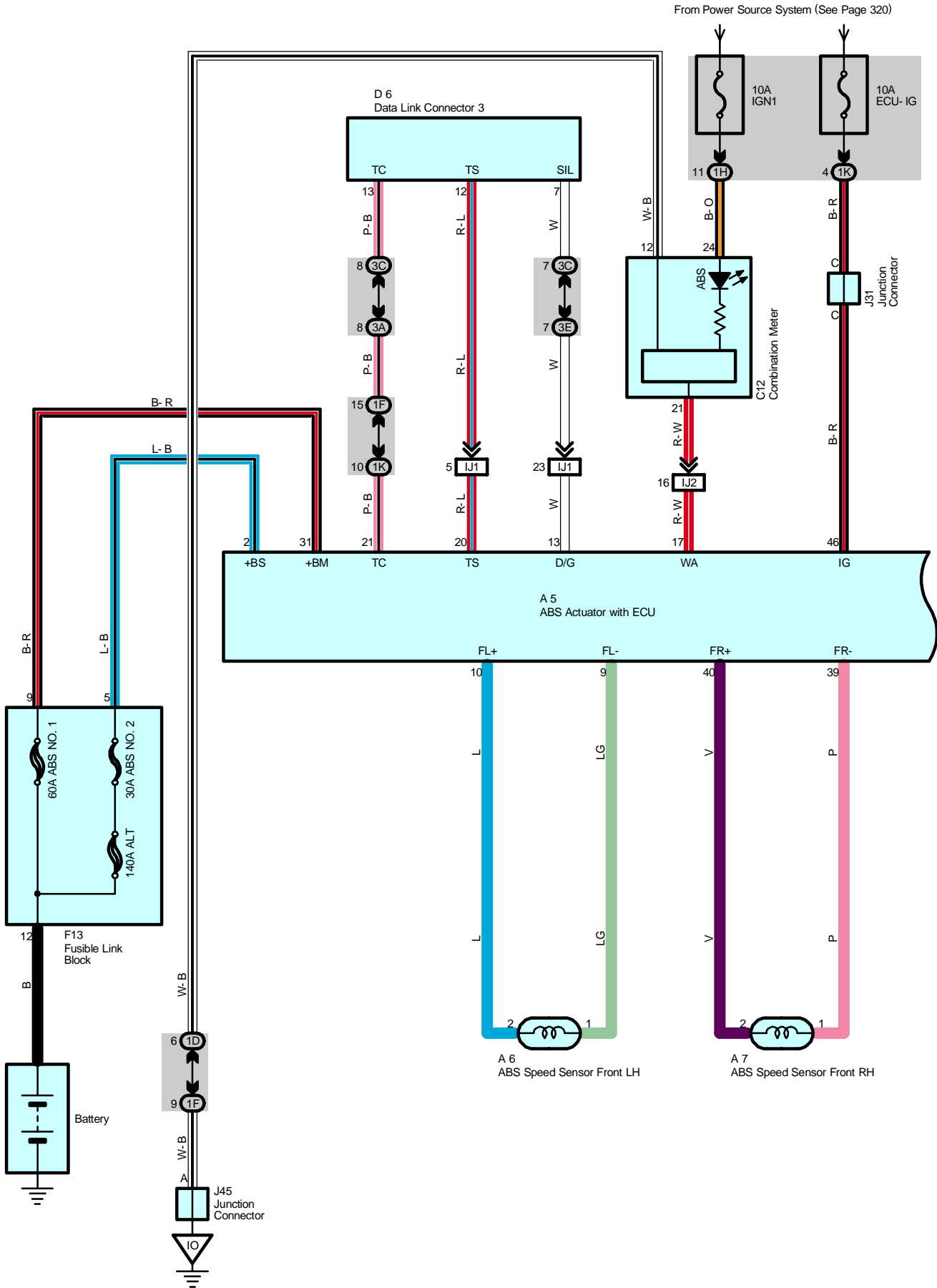
 : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA7		
IA8		
IE1	94	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ1	94	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)
IJ2		
IK2	94	Floor Wire and Cowl Wire (Right Kick Panel)
IL3	94	Floor No.2 Wire and Cowl Wire (Instrument Panel Brace RH)
BK2	96	Frame Wire and Frame No.3 Wire (Near the License Plate Light)
BP1	96	Frame Wire and Floor No.2 Wire (Under the Driver's Seat)

 : Ground Points

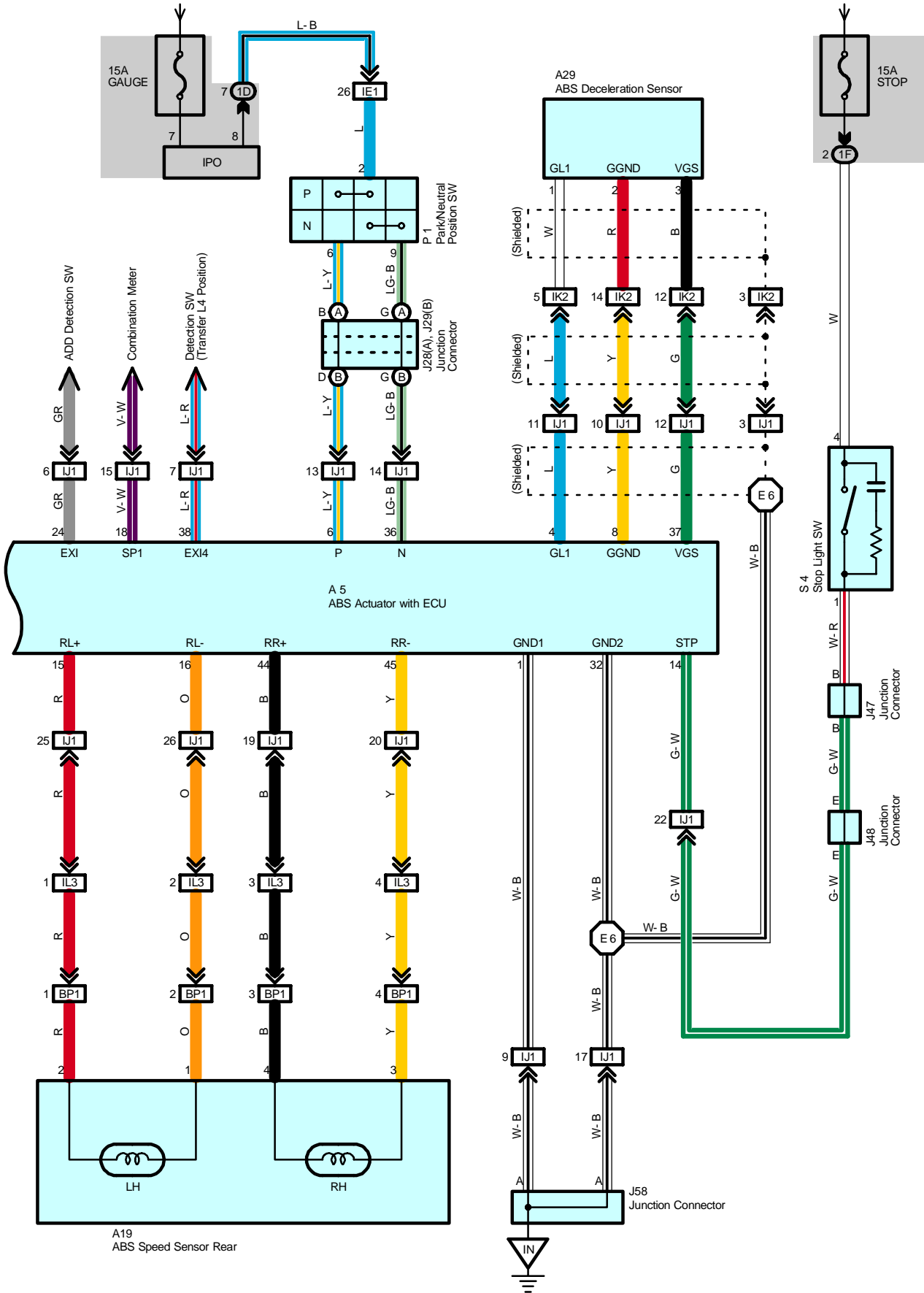
Code	See Page	Ground Points Location
EA	90	Front Left Fender Apron
EM	90	Radiator Side Support RH
IN	92	Right Kick Panel
IO	92	Left Kick Panel
IP	92	Instrument Panel Brace LH

# ABS (Double Cab)



From Power Source System (See Page 320)

From Power Source System (See Page 320)



# ABS (Double Cab)

## 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.

### 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

### A6, A7 ABS Speed Sensor Front LH, RH

1-2 : 0.92-1.22 k $\Omega$  (20°C, 68°F)

### A19 ABS Speed Sensor Rear

1-2 : 0.89-1.29 k $\Omega$  (20°C, 68°F)

3-4 : 0.89-1.29 k $\Omega$  (20°C, 68°F)

### A5 ABS Actuator with ECU

46-Ground : 10-14 volts with ignition SW at ON or ST position

14-Ground : 10-14 volts with stop light SW on (Brake pedal depressed)

1-Ground : Always continuity

### S4 Stop Light SW

2-1 : Closed with brake pedal depressed

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A5	64	D6	67	J47	68
A6	64	F13	34, 64	J48	68
A7	64	J28	A	J58	68
A19	70	J29	B	P1	65
A29	66	J31	65	S4	69
C12	66	J45	68		

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1F		
1H		
1K	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3C		
3E		

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	94	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ1	94	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)
IJ2		
IK2	94	Floor Wire and Cowl Wire (Right Kick Panel)
IL3	94	Floor No.2 Wire and Cowl Wire (Instrument Panel Brace RH)
BP1	96	Frame Wire and Floor No.2 Wire (Under the Driver's Seat)

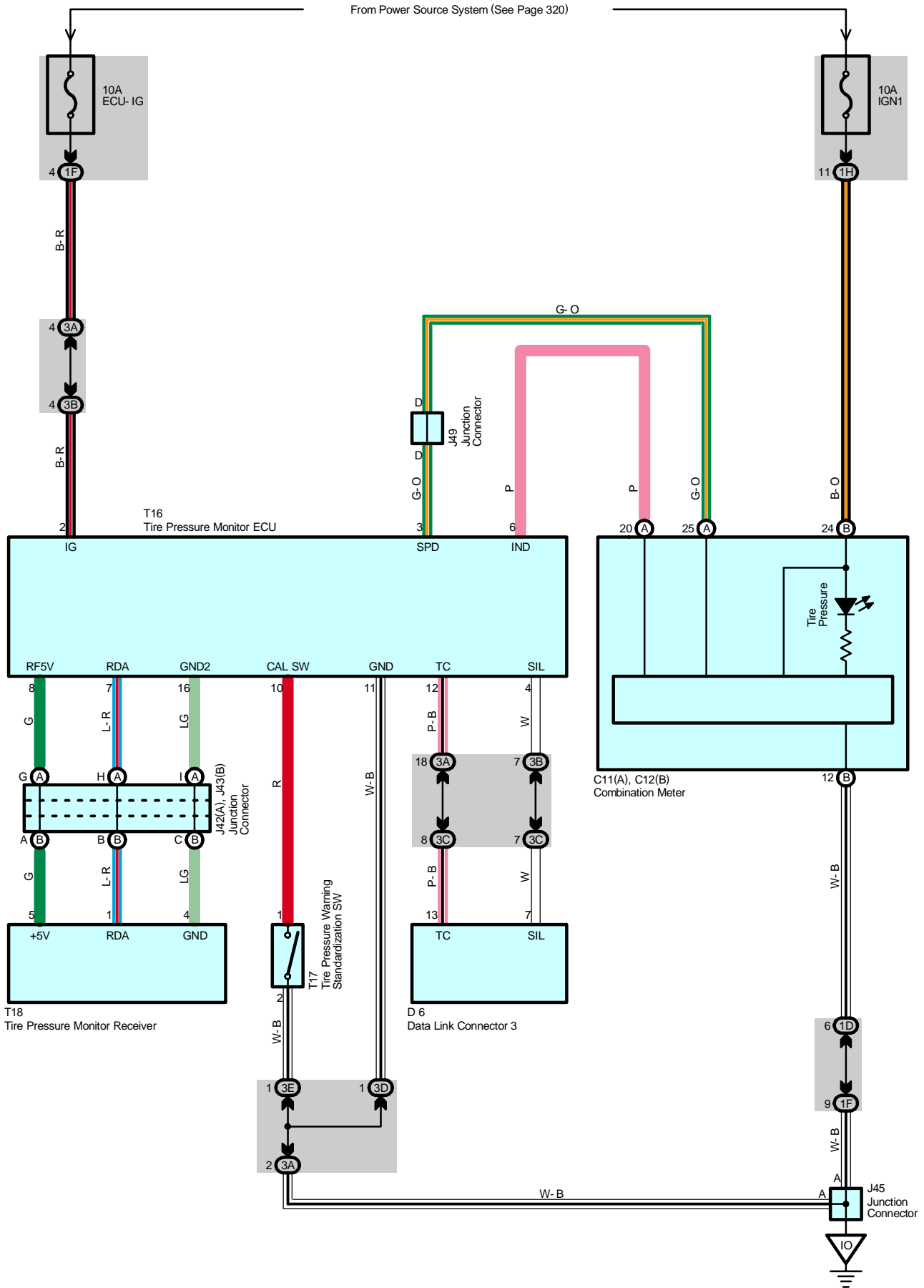
 : **Ground Points**

Code	See Page	Ground Points Location
IN	92	Right Kick Panel
IO	92	Left Kick Panel

 : **Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E6	90	Cowl Wire			

# Tire Pressure Warning System (Double Cab)





### System Outline

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

Press the tire pressure warning standardization SW for 3 seconds with the ignition SW at ON position after the tire pressure is adjusted to the specified value. It will lead the tire pressure monitor ECU to control and warn the pressure according to the specified value.

Warnings when the tire pressure is low

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

### Service Hints

#### T16 Tire Pressure Monitor ECU

2-Ground : Approx. 12 volts with ignition SW at ON position

11-Ground : Always continuity

### ○ : Parts Location

Code		See Page	Code		See Page	Code		See Page
C11	A	66	J43	B	68	T17	69	
C12	B	66	J45		68	T18	71	
D6		67	J49		68			
J42	A	68	T16		69			

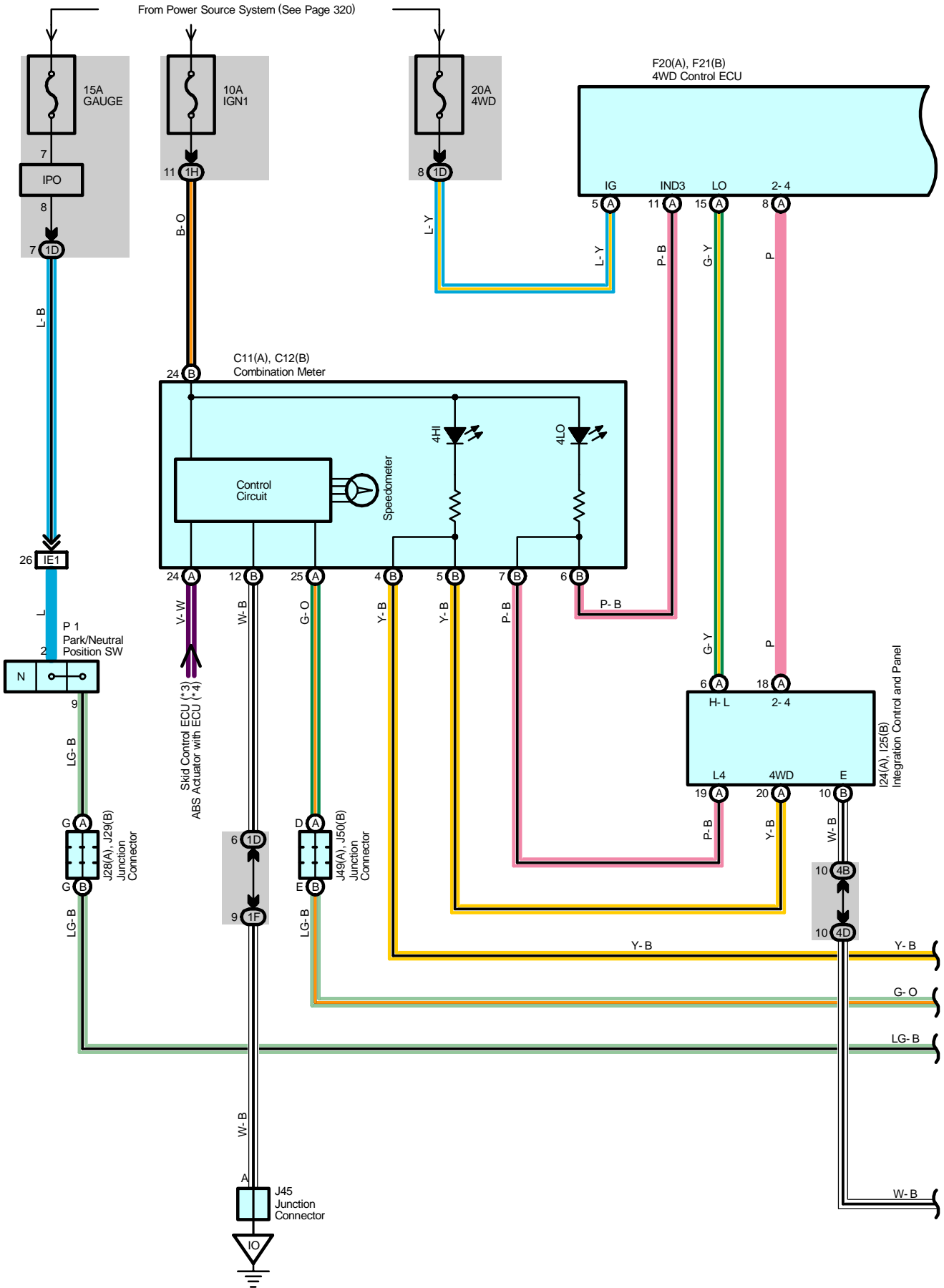
### ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1F		
1H		
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3B		
3C		
3D		
3E		

### ▽ : Ground Points

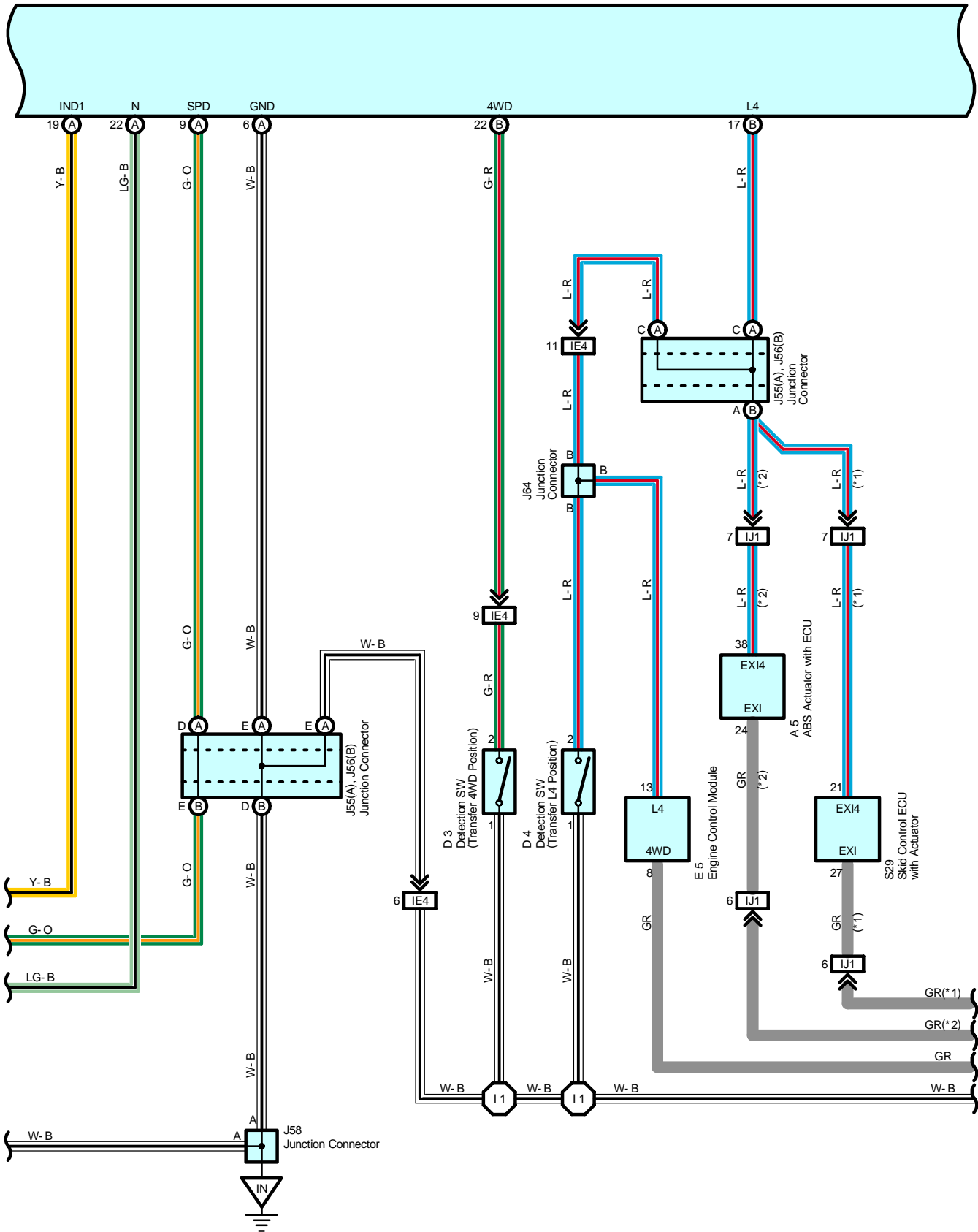
Code	See Page	Ground Points Location
IO	92	Left Kick Panel

# 4WD (Double Cab)



\* 1 : w/ VSC  
 \* 2 : w/o VSC

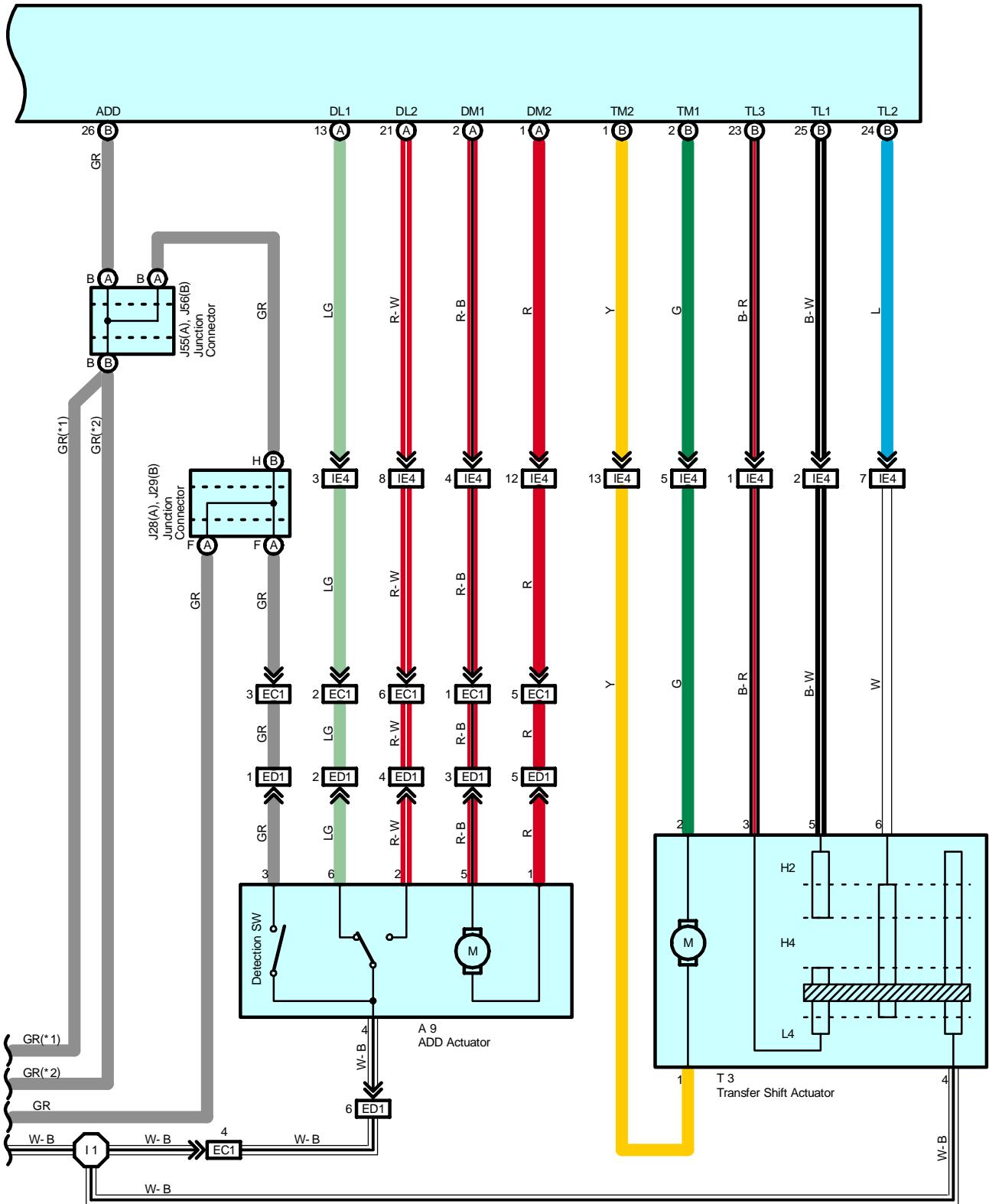
F20(A), F21(B)  
 4WD Control ECU



# 4WD (Double Cab)

\* 1 : w/ VSC  
 \* 2 : w/o VSC

F20(A), F21(B)  
 4WD Control ECU



## System Outline

In the conventional system, the 2-4 select SW and the transfer shift lever was used to shift the mode between H-L. In this system, the transfer shift lever is not used, and the H-L mode shift can be done by the transfer shift actuator.

The mode can be changed by the touch select 2-4 SW and touch select high-low in the integration control and panel.

The shift range is controlled according to the vehicle speed sensor and Park/Neutral position SW, and the indicator light is turned ON to inform the driver if any of the following conditions are detected:

- \* The shift is not completed even though 3 seconds have elapsed after transfer operation.
- \* The vehicle speed is above approximately 100 km/h (63 mph) when shifting from H2 to H4.
- \* The vehicle speed is below approximately 5 km/h (3 mph) or the A/T shift lever is in a position other than N position, when shifting from H4 to L4 or visa versa, and from L4 to H2.

### Transfer Operation

#### H2 to H4

When the touch select 2-4 SW in the integration control and panel is turned ON, a signal is input into TERMINAL (A) 8 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 2 to transfer shift actuator TERMINAL 2 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (B) 1 to GROUND, and the transfer shifts to 4WD (H4 position.)

When the system shifts to 4WD, the detection SW (Transfer 4WD position) is turned ON, and the current flows from 4WD control ECU TERMINAL (A) 2 to ADD actuator TERMINAL 5 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (A) 1 to GROUND, and the ADD actuator is activated, and the ADD is connected. When the ADD is connected, the detection SW (ADD position SW) is turned ON, and the 4HI Indicator light comes ON.

#### H4 to H2

When the touch select 2-4 SW in the integration control and panel is turned OFF, a signal is input into TERMINAL (A) 8 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 1 to transfer shift actuator TERMINAL 1 to motor to TERMINAL 2 to 4WD control ECU TERMINAL (B) 2 to GROUND, and the transfer shifts to 2WD (H2 position.)

When the system shifts to 2WD, the detection SW (Transfer 4WD position) is turned OFF, and the current flows from 4WD control ECU TERMINAL (A) 1 to ADD actuator TERMINAL 1 to motor to TERMINAL 5 to 4WD control ECU TERMINAL (A) 2 to GROUND, and the ADD actuator is activated, and the ADD is disconnected. When the ADD is disconnected, the detection SW (ADD position SW) is turned OFF, and the 4HI indicator Light turns OFF.

#### H4 to L4

When the touch select high-low SW in the integration control and panel is turned ON, a signal is input into TERMINAL (A) 15 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 2 to transfer shift actuator TERMINAL 2 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (B) 1 to GROUND, and the transfer shifts to 4WD LO position (L4 position.)

The 4HI Indicator is turned OFF and the 4LO indicator is turned ON.

#### L4 to H4

When the touch select high-low SW in the integration control and panel is turned OFF, a signal is input into TERMINAL (A) 15 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 1 to transfer shift actuator TERMINAL 1 to motor to TERMINAL 2 to 4WD control ECU TERMINAL (B) 2 to GROUND, and the transfer shifts to 4WD HI position (H4 Position.)

The 4HI indicator is turned ON and the 4LO indicator is turned OFF.

The shift is not completed even though 3 seconds have elapsed after transfer operation.

- \* The vehicle speed is above approximately 100 km/h (63 mph) when shifting from H2 to H4.
- \* The vehicle speed is below approximately 5 km/h (3 mph) or the A/T Shift Lever is in a position other than N position, when shifting from H4 to L4 or visa versa, and from L4 to H2.

#### L4 to H2

When the touch select 2-4 SW in the integration control and panel is turned OFF, a signal is input into TERMINAL (A) 8 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 1 to transfer shift actuator TERMINAL 1 to motor to TERMINAL 2 to 4WD control ECU TERMINAL (B) 2 to GROUND, and the detection SW (Transfer L4 position) is turned OFF.

Furthermore, the motor rotates to shift the transfer to 2WD (H2 position.)

When the system shifts to 2WD, the detection SW (Transfer 4WD position) is turned OFF, and the current flows from 4WD control ECU TERMINAL (A) 1 to ADD actuator TERMINAL 1 to motor to TERMINAL 5 to 4WD control ECU TERMINAL (A) 2 to GROUND, and the ADD actuator is activated, and the ADD is disconnected. When the ADD is disconnected, the detection SW (ADD position SW) is turned OFF, and the 4LO indicator light turns OFF.

# 4WD (Double Cab)

## H2 to L4

When the touch select 2-4 SW in the integration control and panel is turned ON, and the touch select high-low SW is turned ON, a signal is input into TERMINAL (A) 8 of the 4WD control ECU.

The 4WD control ECU is activated by this, and the current flows from the 4WD control ECU TERMINAL (B) 2 to transfer shift actuator TERMINAL 2 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (B) 1 to GROUND, and the transfer shifts to 4WD (H4 position.)

When the system shifts to 4WD, the detection SW (Transfer 4WD position) is turned ON, and the current flows from 4WD control ECU TERMINAL (A) 2 to ADD actuator TERMINAL 5 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (A) 1 to GROUND, and the ADD actuator is activated, and the ADD is connected. Then a signal is input into TERMINAL (A) 15 of the 4WD control ECU and the 4WD control ECU is activated by this, so the current flows from the 4WD control ECU TERMINAL (B) 2 to transfer shift actuator TERMINAL 2 to motor to TERMINAL 1 to 4WD control ECU TERMINAL (B) 1 to GROUND. The transfer shifts to 4WD LO position (L4 position), and the 4LO indicator light comes ON.

### Service Hints

#### F20 (A) 4WD Control ECU

- (A) 5-Ground : Approx. 12 volts with ignition SW at ON or ST position
- (A) 6-Ground : Always continuity
- (A) 9-Ground : 4 pulses with 1 rotation
- (A) 8-Ground : 2 volts or less with touch select 2-4 SW on
- (A)17-Ground : 2 volts or less with detection SW (Transfer L4 position) on and transfer shift lever at L4 position

#### I24 (A), I25 (B) Integration Control and Panel

- (A) 5-(B) 1 : Closed with touch select 2-4 SW on

#### P1 Park/Neutral Position SW

- 2-9 : Closed with A/T shift lever at N position

### ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page		
A5	64	F21	B	67	J55	A	68
A9	64	I24	A	67	J56	B	68
C11	A	66	I25	B	67	J58	68
C12	B	66	J28	A	68	J64	68
D3	64	J29	B	68	P1	65	
D4	64	J45	68	S29	65		
E5	67	J49	A	68	T3	65	
F20	A	67	J50	B	68		

### ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1F		
1H		
4B	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4D		

### □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EC1	90	Engine No.2 Wire and Engine Wire (Near the Starter)
ED1	90	Engine No.2 Wire and Differential Wire (Near the Transmission)
IE1	94	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IE4		
IJ1	94	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)



**: Ground Points**

Code	See Page	Ground Points Location
IN	<a href="#">92</a>	Right Kick Panel
IO	<a href="#">92</a>	Left Kick Panel



**: Splice Points**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I1	<a href="#">94</a>	Engine Wire			



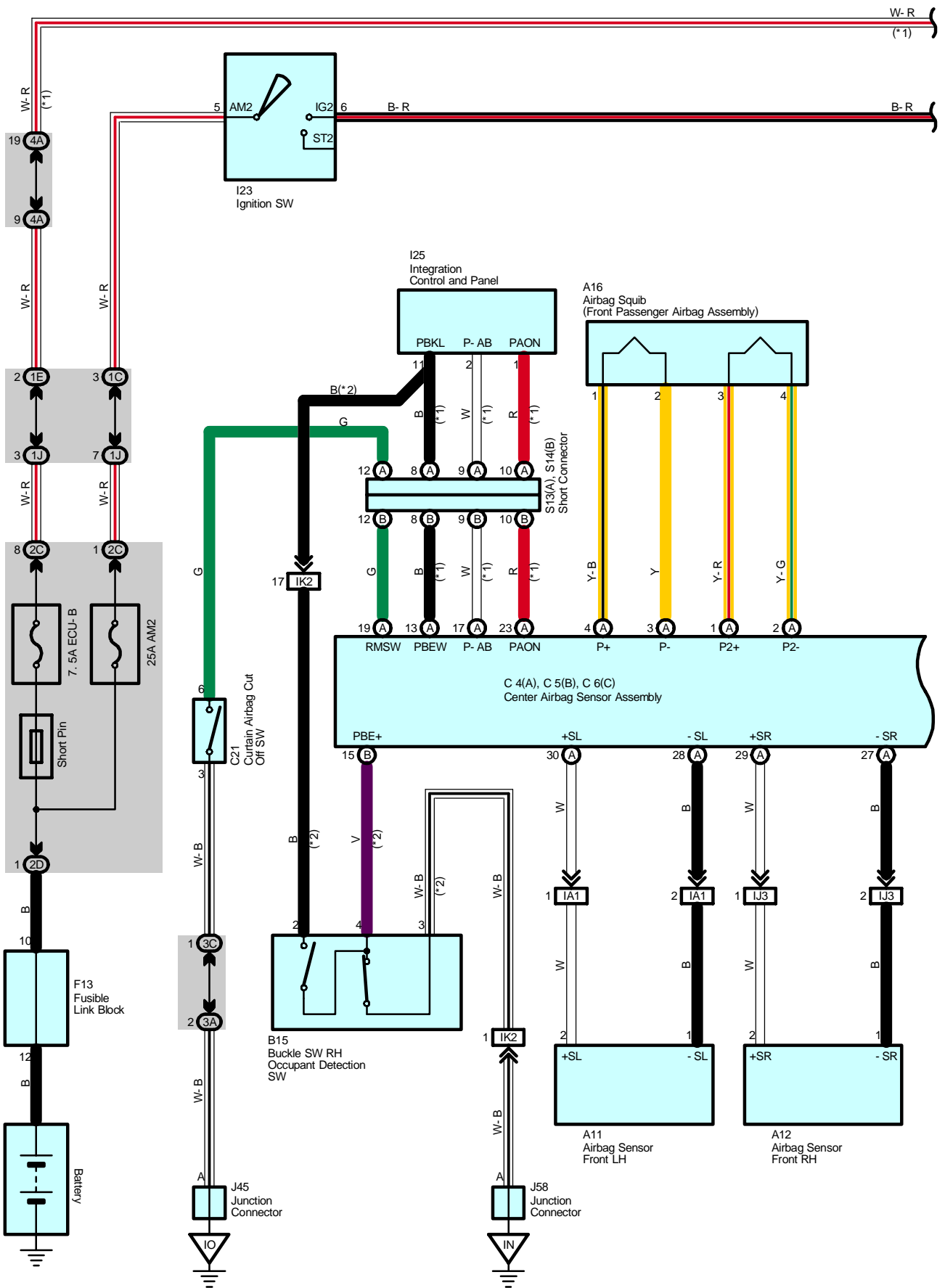


NOTICE: When inspecting or repairing the SRS, perform service in accordance with the following precautionary instructions and the procedure, and precautions in the Repair Manual applicable for the model year.

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

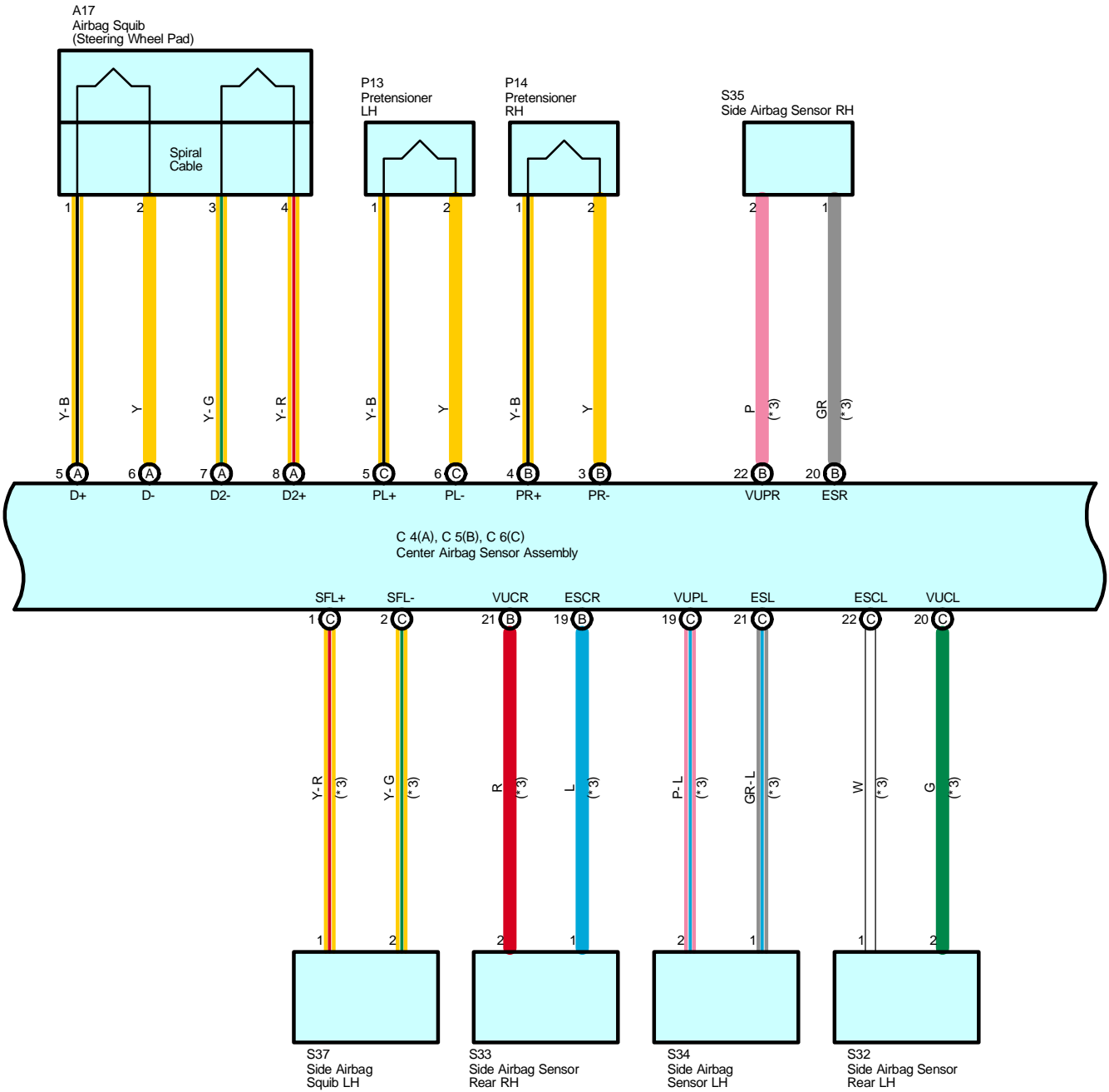
- \* Steering wheel pad
- \* Front passenger airbag assembly
- \* Side airbag assembly
- \* Curtain shield airbag assembly
- \* Seat belt pretensioner
- \* Center airbag sensor assembly
- \* Front airbag sensor assembly
- \* Side airbag sensor assembly
- \* Rear airbag sensor assembly

# SRS (Double Cab)

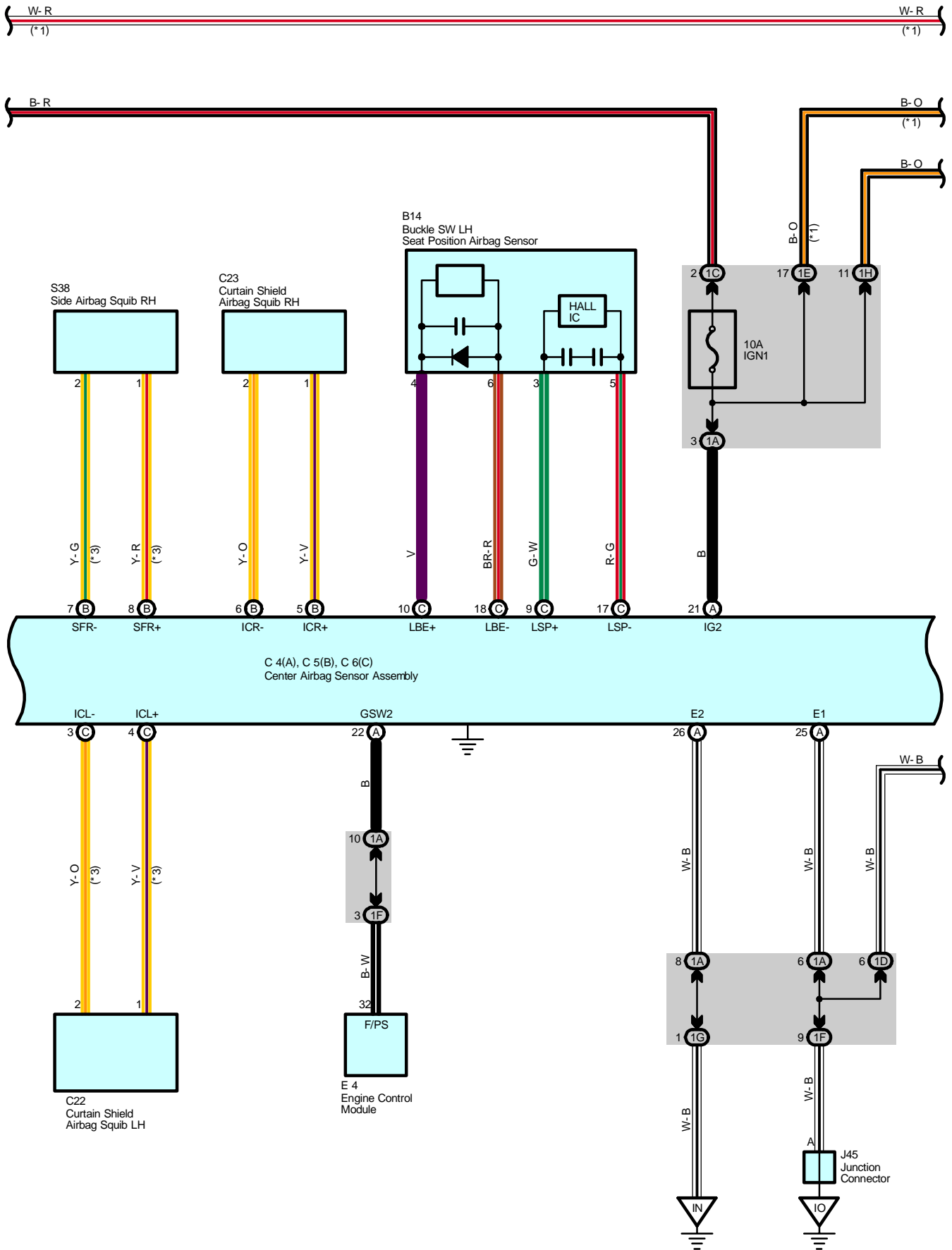


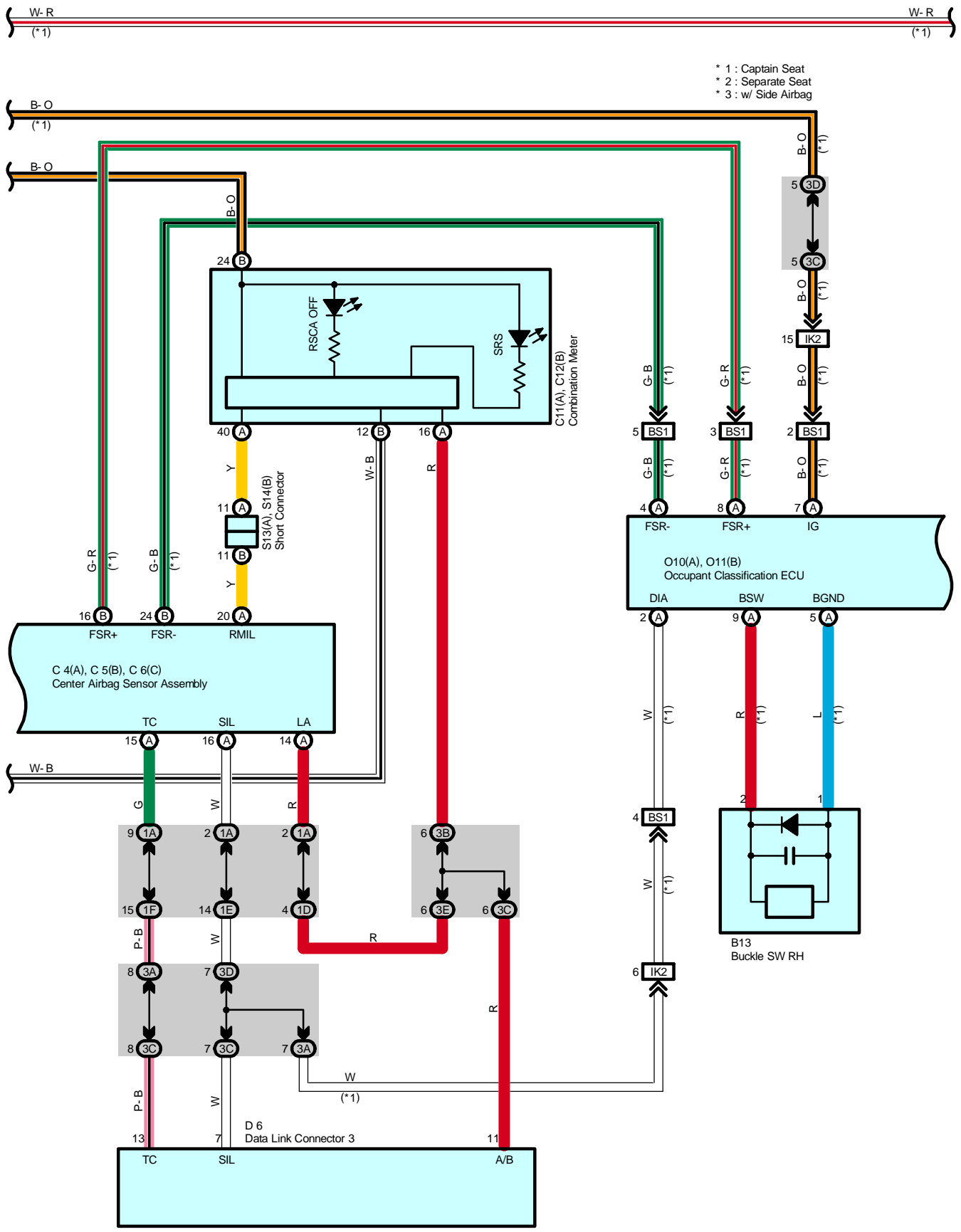


- \* 1 : Captain Seat
- \* 2 : Separate Seat
- \* 3 : w/ Side Airbag

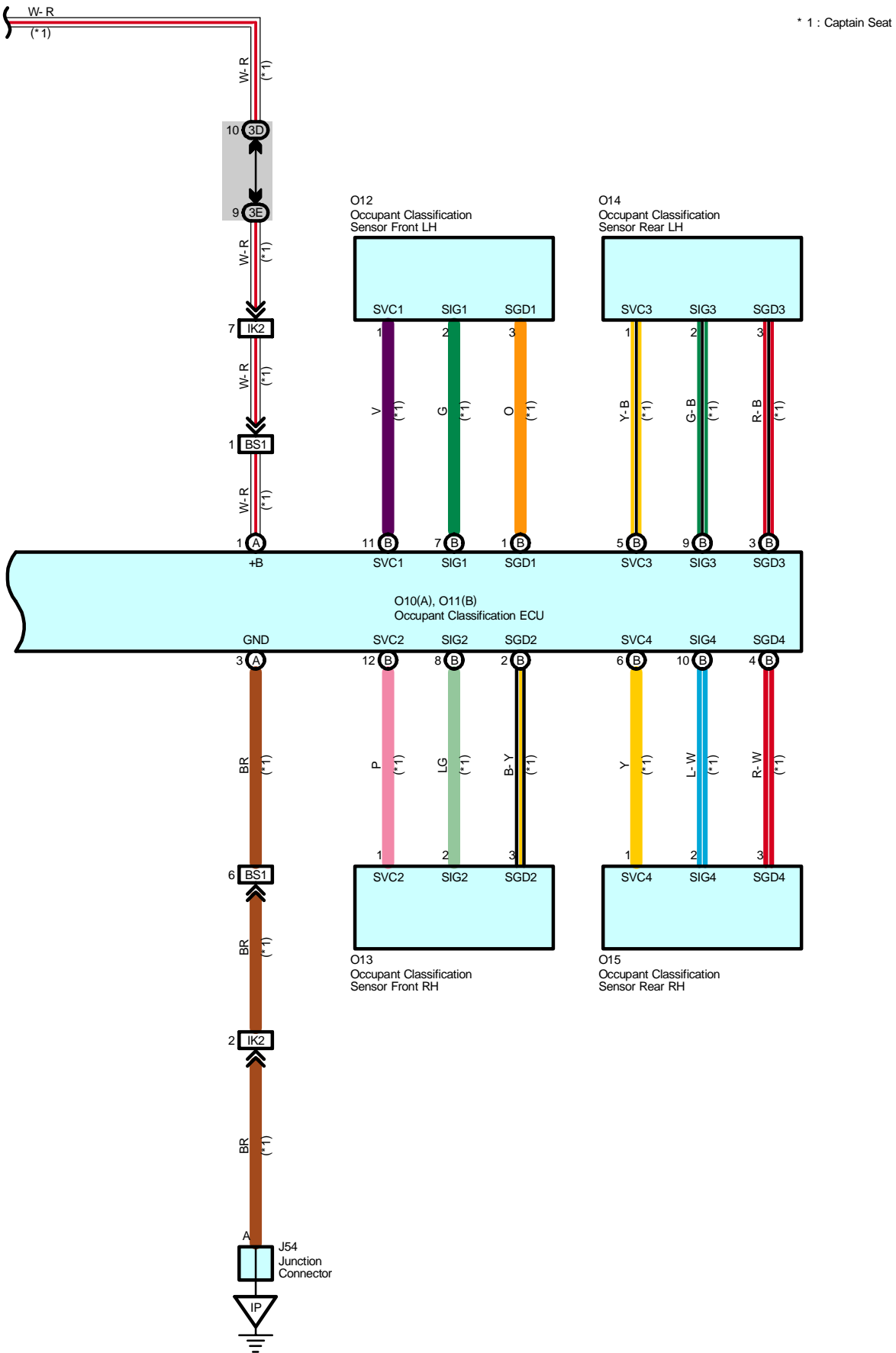


# SRS (Double Cab)





# SRS (Double Cab)



## System Outline

The SRS is a driver protection device which has a supplemental role to the seat belts.

When the ignition SW on, the current from the IGN1 fuse flows to TERMINAL (A) 21 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 IGN1 fuse flows to TERMINAL (A) 21 of the center airbag sensor assembly.

This current flows to TERMINALS (A) 4, (A) 5, (B) 4, (B) 5, (C) 4, (C) 5 to TERMINAL 1 of the airbag squib and Pretensioners to TERMINAL 2 to TERMINALS (A) 3, (A) 6, (B) 3, (B) 6, (C) 3, (C) 6 of the center airbag sensor assembly. Furthermore, the current flows to TERMINAL (A) 25 or (A) 26 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 IGN1 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.

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A11	64	C23	70	O15	72
A12	64	D6	67	P13	71
A16	66	E4	67	P14	71
A17	66	F13	34, 64	S13	A 69
B13	72	I23	67	S14	B 69
B14	70	I25	67	S32	71
B15	70	J45	68	S33	71
C4	A 66	J54	68	S34	71
C5	B 66	J58	68	S35	71
C6	C 66	O10	A 72	S37	71 (Separate Seat)
C11	A 66	O11	B 72		72 (Captain Seat)
C12	B 66	O12	72	S38	71 (Separate Seat)
C21	66	O13	72		72 (Captain Seat)
C22	70	O14	72		

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1C		
1D		
1E		
1F		
1G		
1H		
1J		
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2D		
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3B		
3C		
3D		
3E		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)

## SRS (Double Cab)

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 : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	<a href="#">92</a>	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IJ3	<a href="#">94</a>	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)
IK2	<a href="#">94</a>	Floor Wire and Cowl Wire (Right Kick Panel)
BS1	<a href="#">98</a>	Seat No.1 Wire and Floor Wire (Under the Front Passenger's Seat)

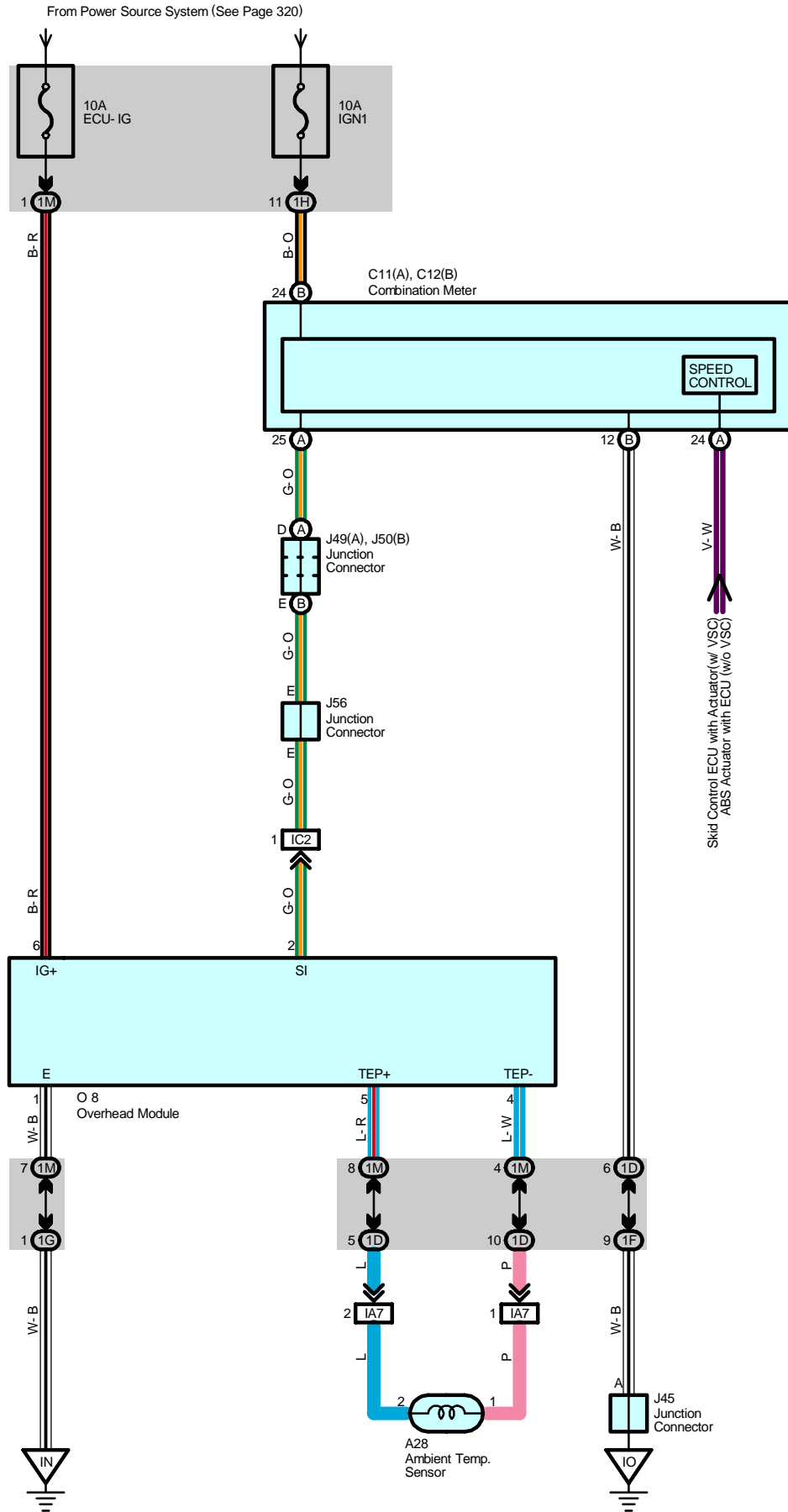
 : Ground Points

Code	See Page	Ground Points Location
IN	<a href="#">92</a>	Right Kick Panel
IO	<a href="#">92</a>	Left Kick Panel
IP	<a href="#">92</a>	Instrument Panel Brace LH





# Accessory Meter and Garage Door Opener (Double Cab)



### Service Hints

#### O8 Overhead Module

6-Ground : Approx. 12 volts with the ignition SW at ON position

1-Ground : Always continuity

#### : Parts Location

Code		See Page	Code		See Page	Code		See Page
A28		64	J45		68	J56		68
C11	A	66	J49	A	68	O8		70
C12	B	66	J50	B	68			

#### : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1F		
1G		
1H		
1M	45	Roof Wire and Driver Side J/B (Lower Finish Panel)

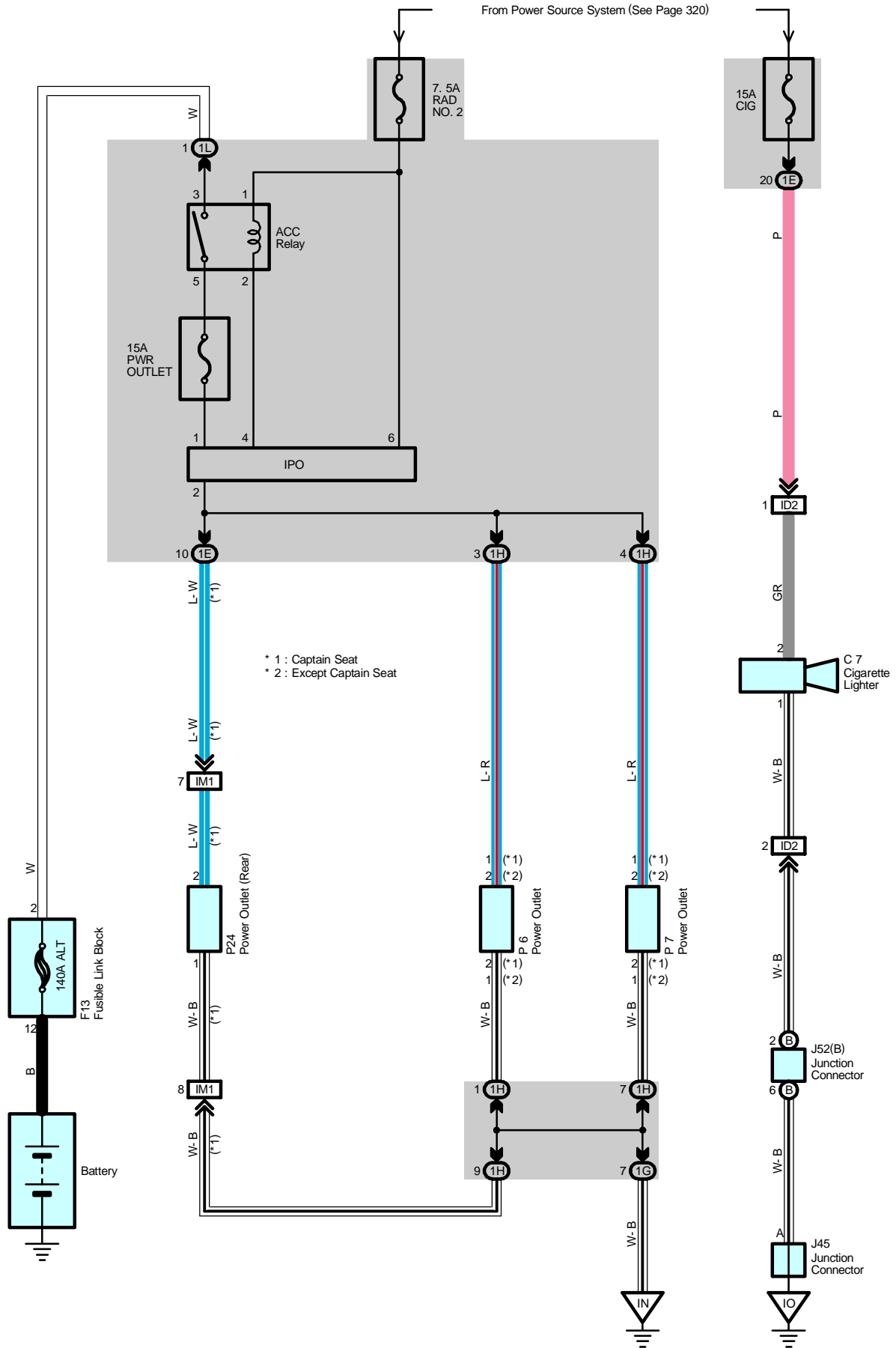
#### : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA7	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IC2	92	Cowl Wire and Roof Wire (Left Side of Instrument Panel)

#### : Ground Points

Code	See Page	Ground Points Location
IN	92	Right Kick Panel
IO	92	Left Kick Panel

# Cigarette Lighter and Power Outlet - 12V (Double Cab)



## Service Hints

### C7 Cigarette Lighter

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

1-Ground : Always continuity

### P6, P7 Power Outlet (Captain Seat)

1-Ground : Approx. 12 volts with the ignition SW at ON or ACC position

2-Ground : Always continuity

### P6, P7 Power Outlet (Except Captain Seat)

1-Ground : Approx. 12 volts with the ignition SW at ON or ACC position

2-Ground : Always continuity

### P24 Power Outlet (Rear)

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

1-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page	
C7	<a href="#">66</a>	J52	B	<a href="#">68</a>	P24	<a href="#">69</a>
F13	<a href="#">34, 64</a>	P6		<a href="#">69</a>		
J45	<a href="#">68</a>	P7		<a href="#">69</a>		

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	<a href="#">45</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1G		
1H		
1L	<a href="#">45</a>	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)

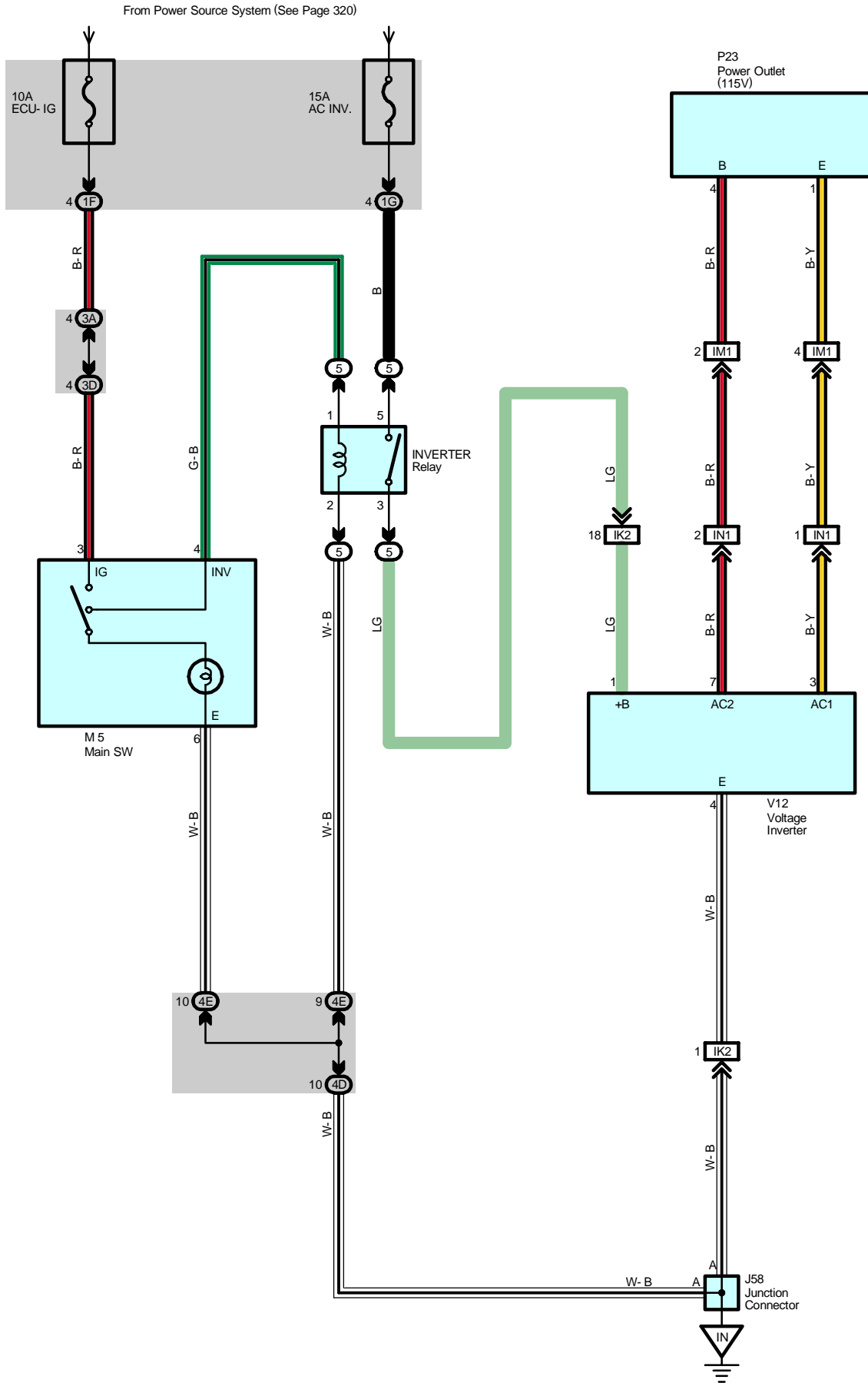
## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
ID2	<a href="#">92</a>	Cigarette Lighter Wire and Cowl Wire (Instrument Panel Brace LH)
IM1	<a href="#">92</a>	Console Box Wire and Cowl Wire (Rear Console)

## ▽ : Ground Points

Code	See Page	Ground Points Location
IN	<a href="#">92</a>	Right Kick Panel
IO	<a href="#">92</a>	Left Kick Panel

# Power Outlet - 115V (Double Cab)



**Service Hints****INVERTER Relay**

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

 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
J58	<a href="#">68</a>	P23	<a href="#">69</a>		
M5	<a href="#">69</a>	V12	<a href="#">71</a>		

 : **Relay Blocks**

Code	See Page	Relay Blocks (Relay Block Location)
5	<a href="#">39</a>	Driver Side R/B (Under the Instrument Panel J/B)

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	<a href="#">45</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1G		
3A	<a href="#">48</a>	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3D		
4D	<a href="#">50</a>	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4E		

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

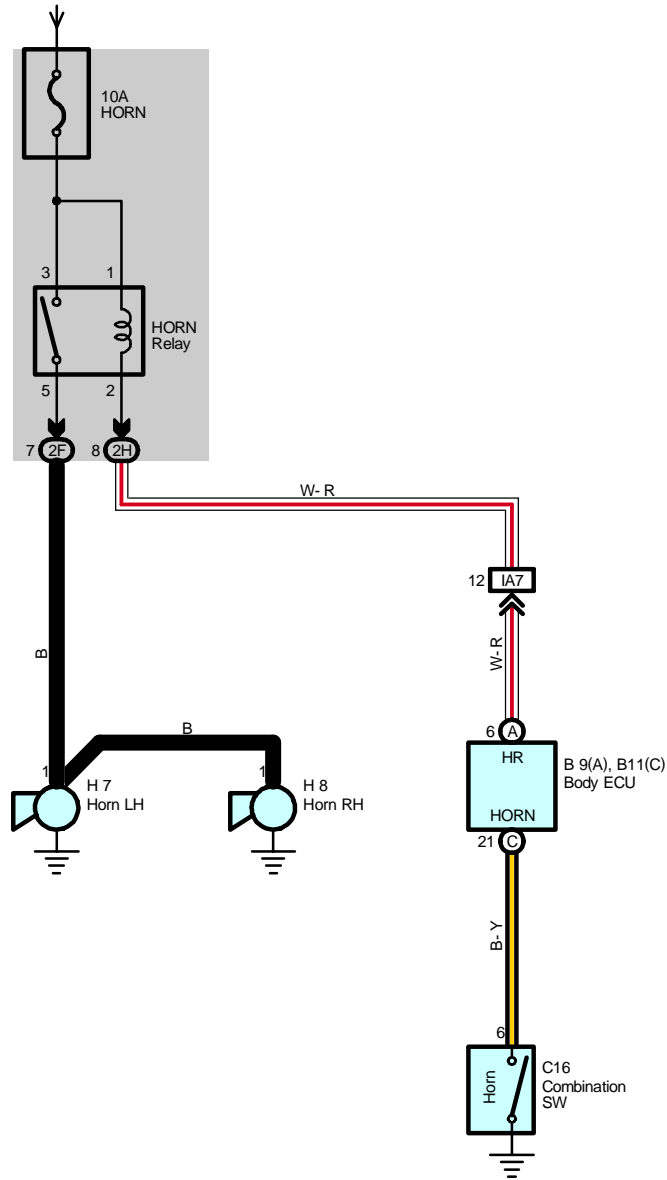
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IK2	<a href="#">94</a>	Floor Wire and Cowl Wire (Right Kick Panel)
IM1	<a href="#">92</a>	Console Box Wire and Cowl Wire (Rear Console)
IN1	<a href="#">92</a>	Cowl Wire and Floor Wire (Rear Console)

 : **Ground Points**

Code	See Page	Ground Points Location
IN	<a href="#">92</a>	Right Kick Panel

# Horn (Double Cab)

From Power Source System (See Page 320)





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**Service Hints****C16 Combination SW**

6-Ground : Continuity with the horn SW on

**○ : Parts Location**

Code		See Page	Code		See Page	Code		See Page
B9	A	66	C16	66	H8	64		
B11	C	66	H7	64				

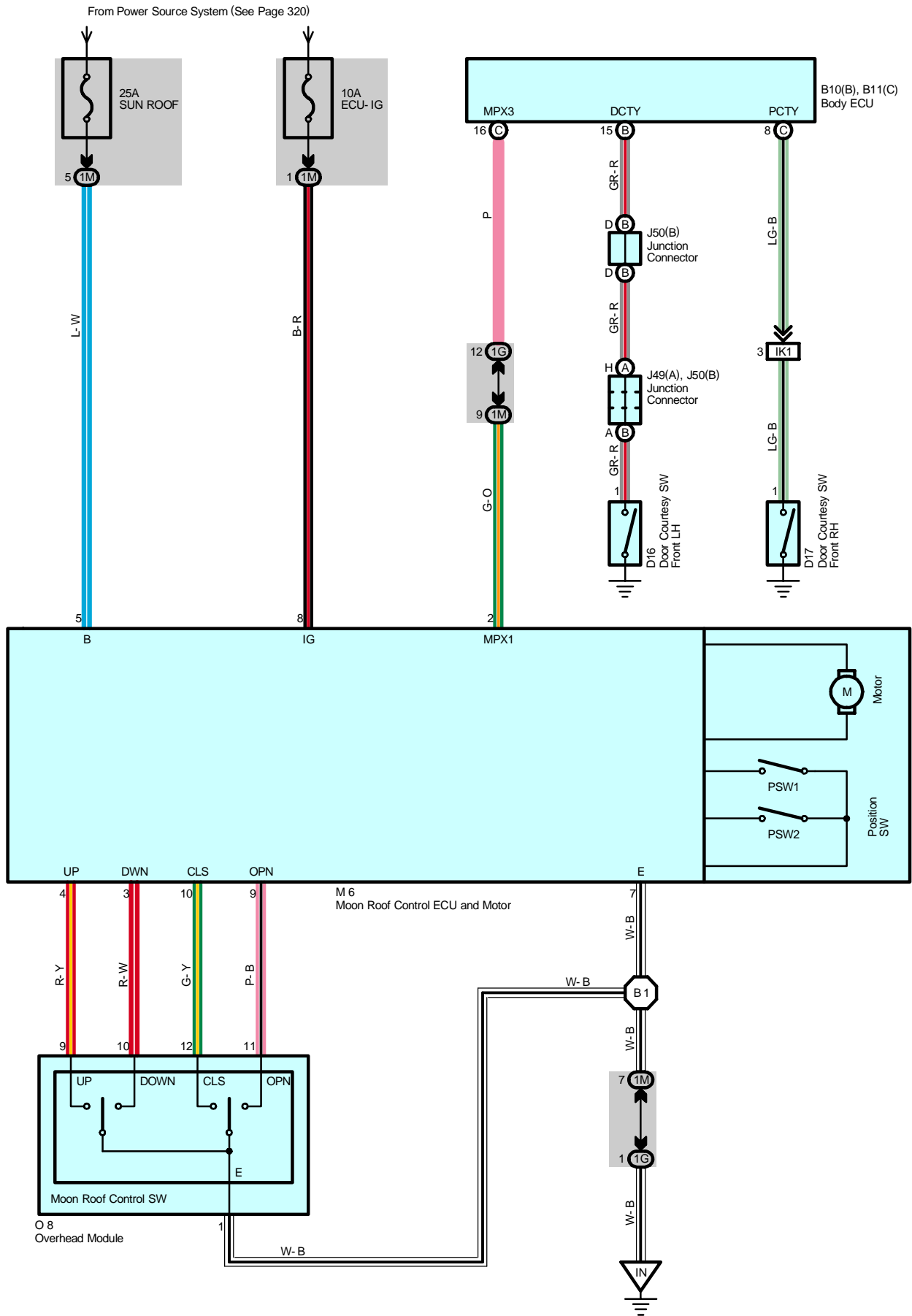
**○ : Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
2F	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2H		

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

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA7	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)

# Moon Roof (Double Cab)



## System Outline

The moon roof can be operated by the moon roof control SW, when the ignition SW is at ON position or during the key-off operation.

### 1. Jam Protection Function

During close or tilt down operation, if the system detects a load, the motor rotates in the opposite direction.

### 2. Key-Off Operation

With all the doors closed, within 43 seconds after the ignition switch has been turned to OFF from ON, the moon roof can be operated. However, if the front door is opened, the moon roof cannot be operated.

## Service Hints

### M6 Moon Roof Control ECU and Motor

5-Ground : Always approx. 12 volts

8-Ground : Approx. 12 volts with the ignition SW at ON position

: Approx. 12 volts with the key off moon roof operation

7-Ground : Always continuity

### O8 Overhead Module

9-1 : Closed with the moon roof control SW at UP position

10-1 : Closed with the moon roof control SW at DOWN position

11-1 : Closed with the moon roof control SW at OPEN position

12-1 : Closed with the moon roof control SW at CLOSE position

1-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page		
B10	B	66	D17	70	M6	70	
B11	C	66	J49	A	68	O8	70
D16		70	J50	B	68		

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1M	45	Roof Wire and Driver Side J/B (Lower Finish Panel)

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IK1	94	Floor Wire and Cowl Wire (Right Kick Panel)

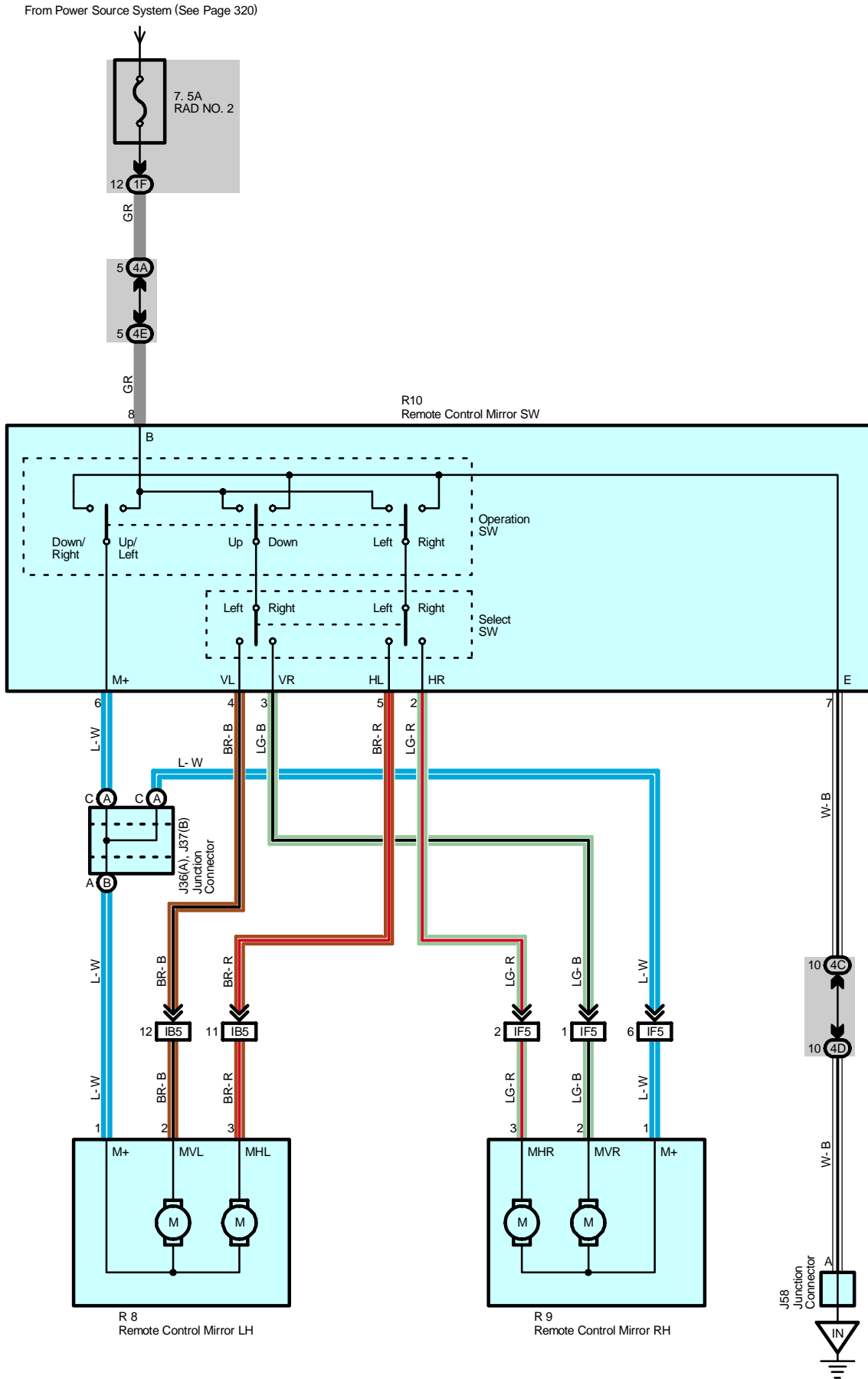
## ▽ : Ground Points

Code	See Page	Ground Points Location
IN	92	Right Kick Panel

## ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B1	96	Roof Wire			

# Remote Control Mirror (Double Cab)



## Service Hints

### R10 Remote Control Mirror SW

8-6 : Continuity with the operation SW at UP or LEFT position

6-7 : Continuity with the operation SW at DOWN or RIGHT position

8-Ground : Approx. 12 volts with the ignition SW at ACC or ON position

7-Ground : Always continuity

### : Parts Location

Code		See Page	Code	See Page	Code	See Page
J36	A	68	J58	68	R9	71
J37	B	68	R8	71	R10	69

### : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4C		
4D		
4E		

### : Connector Joining Wire Harness and Wire Harness

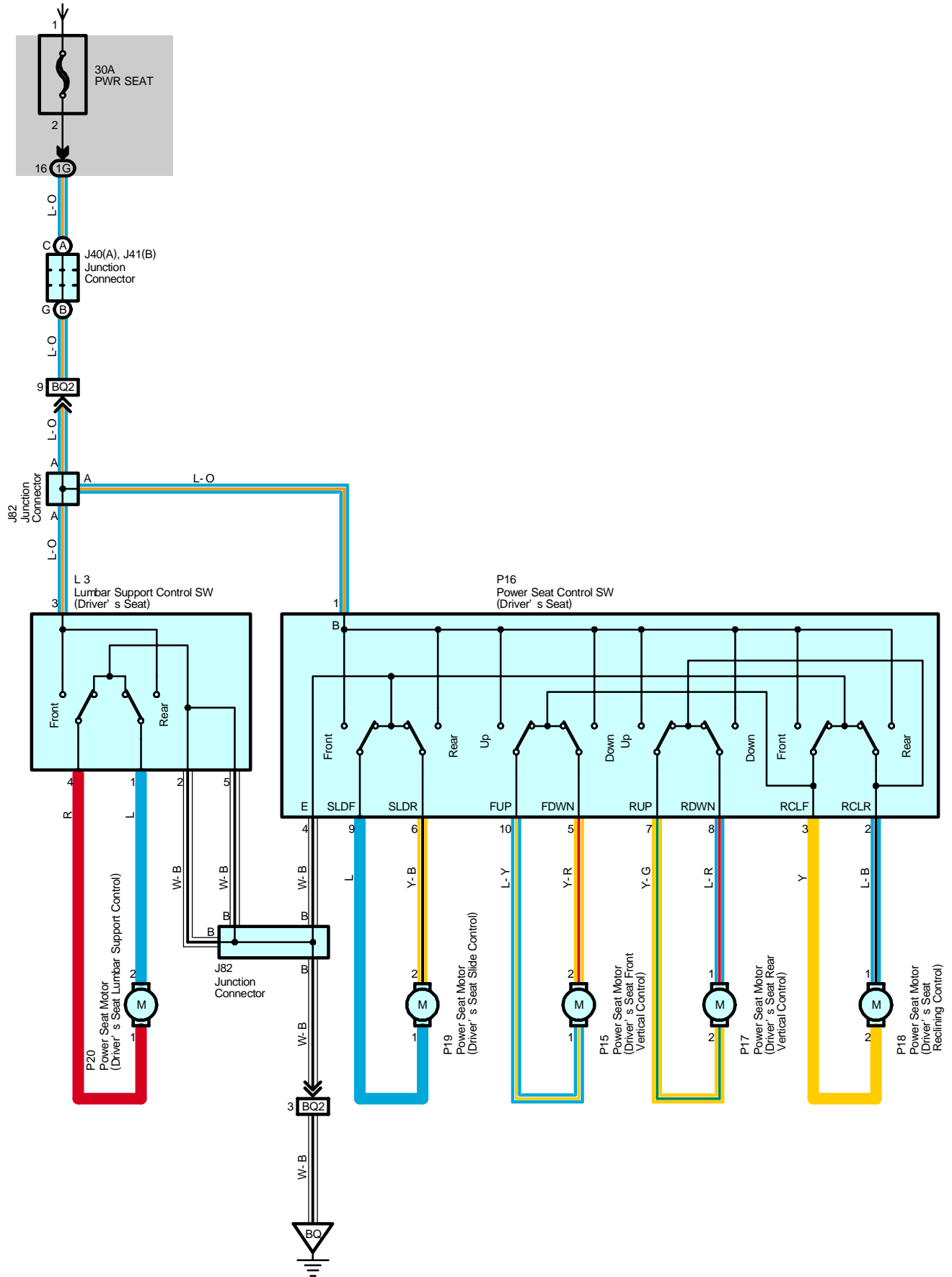
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB5	92	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF5	94	Front Door RH Wire and Cowl Wire (Right Kick Panel)

### : Ground Points

Code	See Page	Ground Points Location
IN	92	Right Kick Panel

# Power Seat (Double Cab)

From Power Source System (See Page 320)



## Service Hints

### P16 Power Seat Control SW (Driver's Seat)

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

### : Parts Location

Code		See Page	Code	See Page	Code	See Page
J40	A	<a href="#">68</a>	P15	<a href="#">72</a>	P19	<a href="#">72</a>
J41	B	<a href="#">68</a>	P16	<a href="#">72</a>	P20	<a href="#">72</a>
J82		<a href="#">72</a>	P17	<a href="#">72</a>		
L3		<a href="#">72</a>	P18	<a href="#">72</a>		

### : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	<a href="#">45</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)

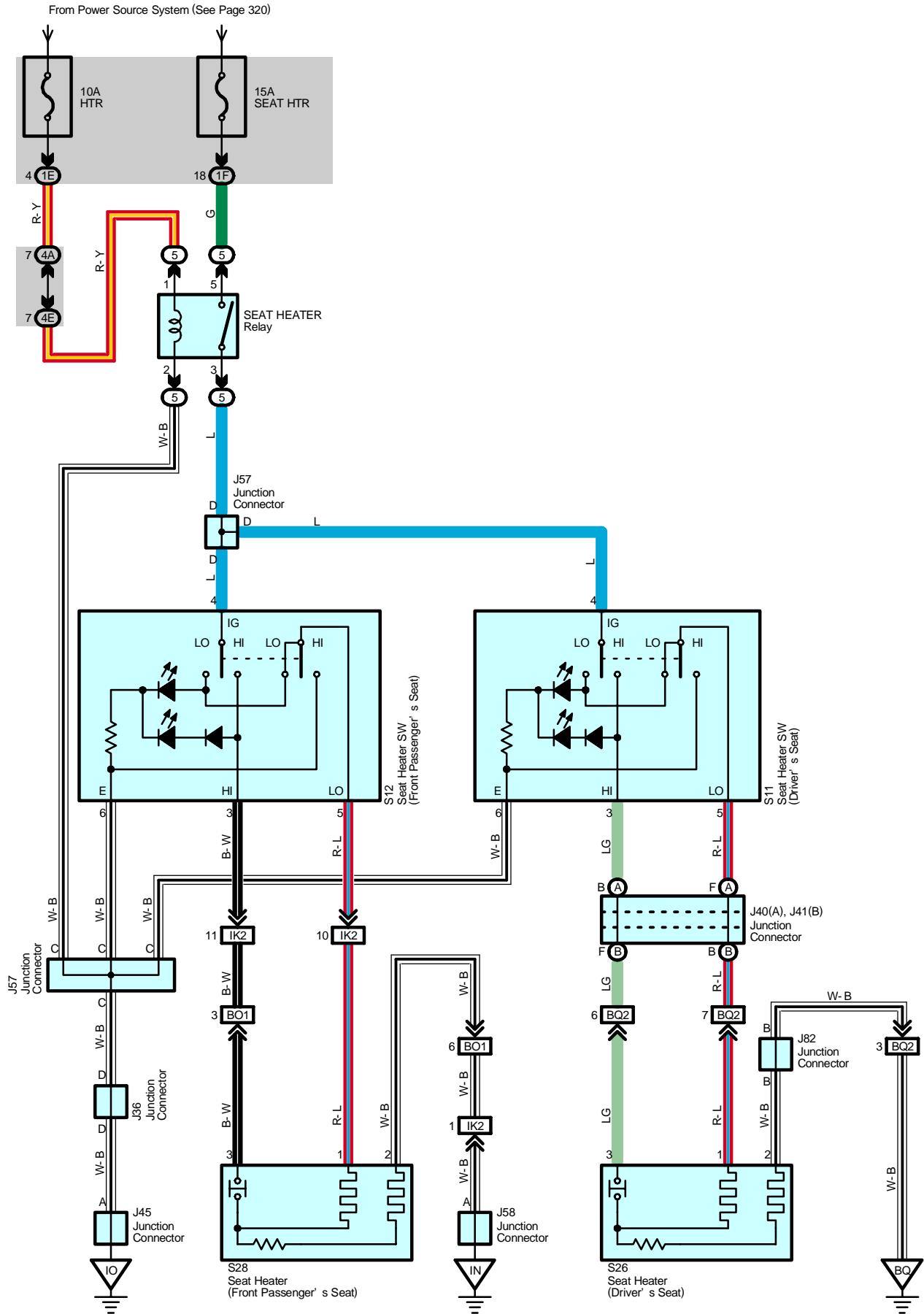
### : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
BQ2	<a href="#">98</a>	Floor No.2 Wire and Seat No.2 Wire (Under the Driver's Seat)

### : Ground Points

Code	See Page	Ground Points Location
BQ	<a href="#">96</a>	Left Side of Center Pillar

# Seat Heater (Double Cab)





### Service Hints

#### S11, S12 Seat Heater SW (Driver's Seat), (Front Passenger's Seat)

4-Ground : Approx. 12 volts with the ignition SW at ON position

6-Ground : Always continuity

#### : Parts Location

Code		See Page	Code		See Page	Code		See Page
J36		68	J57		68	S12		69
J40	A	68	J58		68	S26		72
J41	B	68	J82		68	S28		72
J45		68	S11		69			

#### : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
5	39	Driver Side R/B (Under the Instrument Panel J/B)

#### : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1F		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4E		

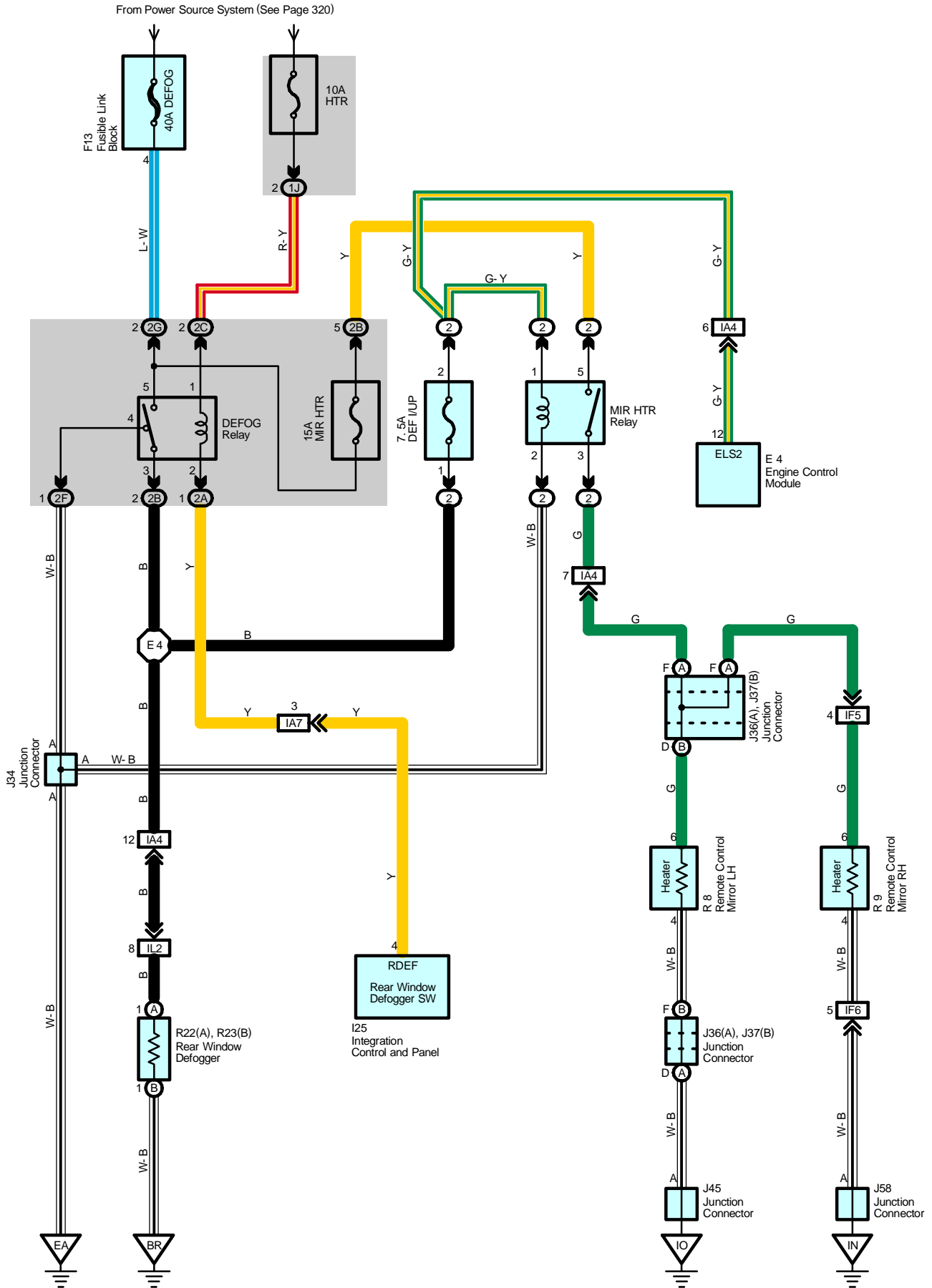
#### : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IK2	94	Floor Wire and Cowl Wire (Right Kick Panel)
BO1	98	Floor Wire and Seat No.1 Wire (Under the Front Passenger's Seat)
BQ2	98	Floor No.2 Wire and Seat No.2 Wire (Under the Driver's Seat)

#### : Ground Points

Code	See Page	Ground Points Location
IN	92	Right Kick Panel
IO	92	Left Kick Panel
BQ	96	Left Side of Center Pillar

# Rear Window Defogger and Mirror Heater (Double Cab)



## Service Hints

### DEFOG Relay

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

### MIR HTR Relay

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

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page		
E4	67	J36	A	68	R8	71	
F13	34, 64	J37	B	68	R9	71	
I25	67	J45		68	R22	A	71
J34	65	J58		68	R23	B	71

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	38	Engine Room R/B No.2 (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
2A	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2C		
2F		
2G		

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA7		
IF5	94	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IF6		
IL2	92	Floor No.2 Wire and Cowl Wire (Right Kick Panel)

## ▽ : Ground Points

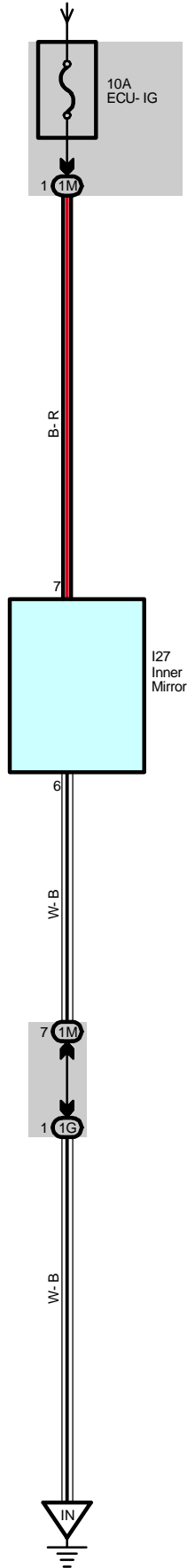
Code	See Page	Ground Points Location
EA	90	Front Left Fender Apron
IN	92	Right Kick Panel
IO	92	Left Kick Panel
BR	96	Back Panel Left

## ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E4	90	Engine Room Main Wire			

# Automatic Glare-Resistant EC Mirror (Double Cab)

From Power Source System (See Page 320)



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**Service Hints****I27 Inner Mirror**

7-Ground : Approx. 12 volts with the ignition SW at ON or ST position

6-Ground : Always continuity

 : **Parts Location**

Code	See Page	Code	See Page	Code	See Page
I27	<a href="#">70</a>				

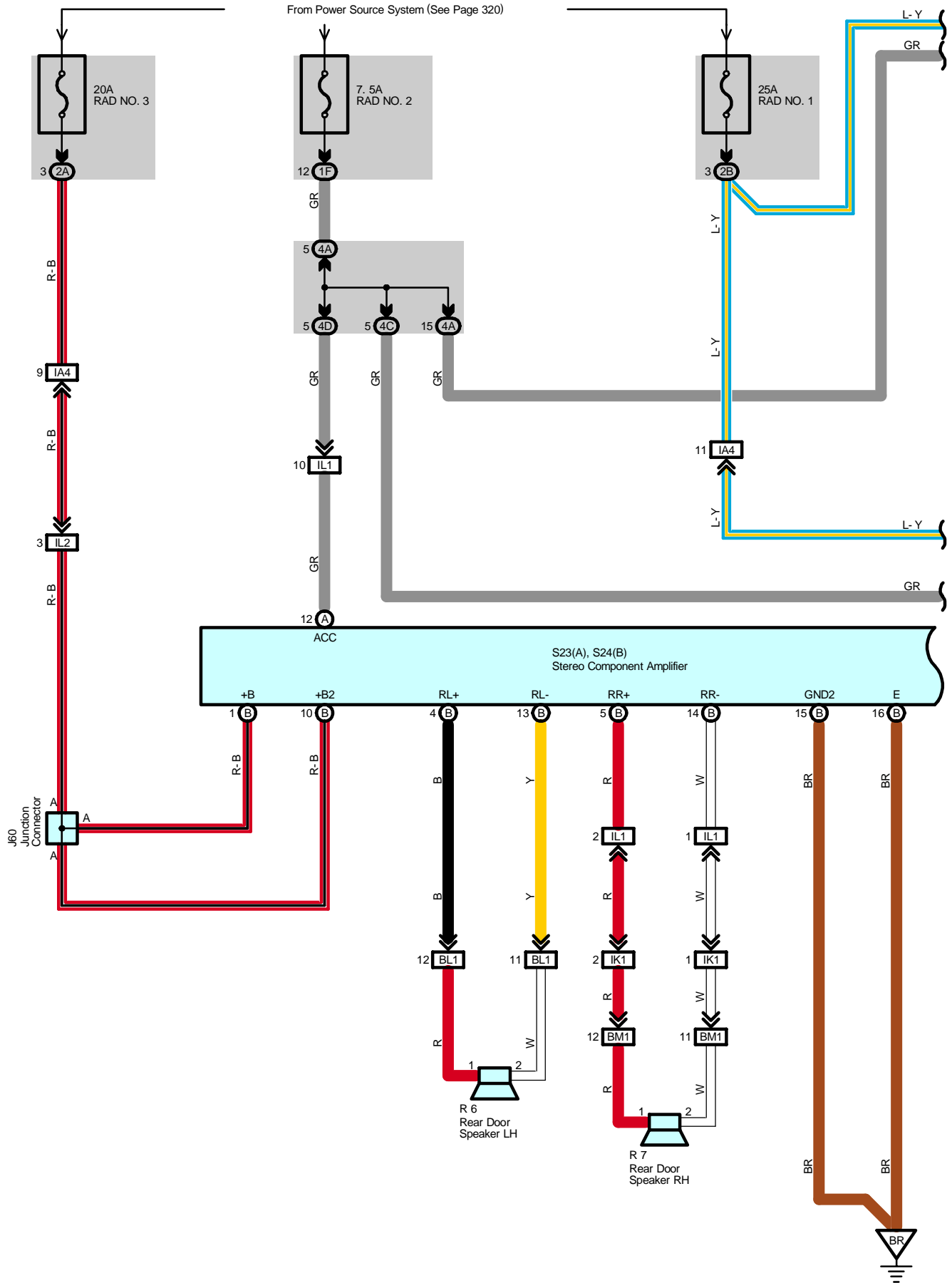
 : **Junction Block and Wire Harness Connector**

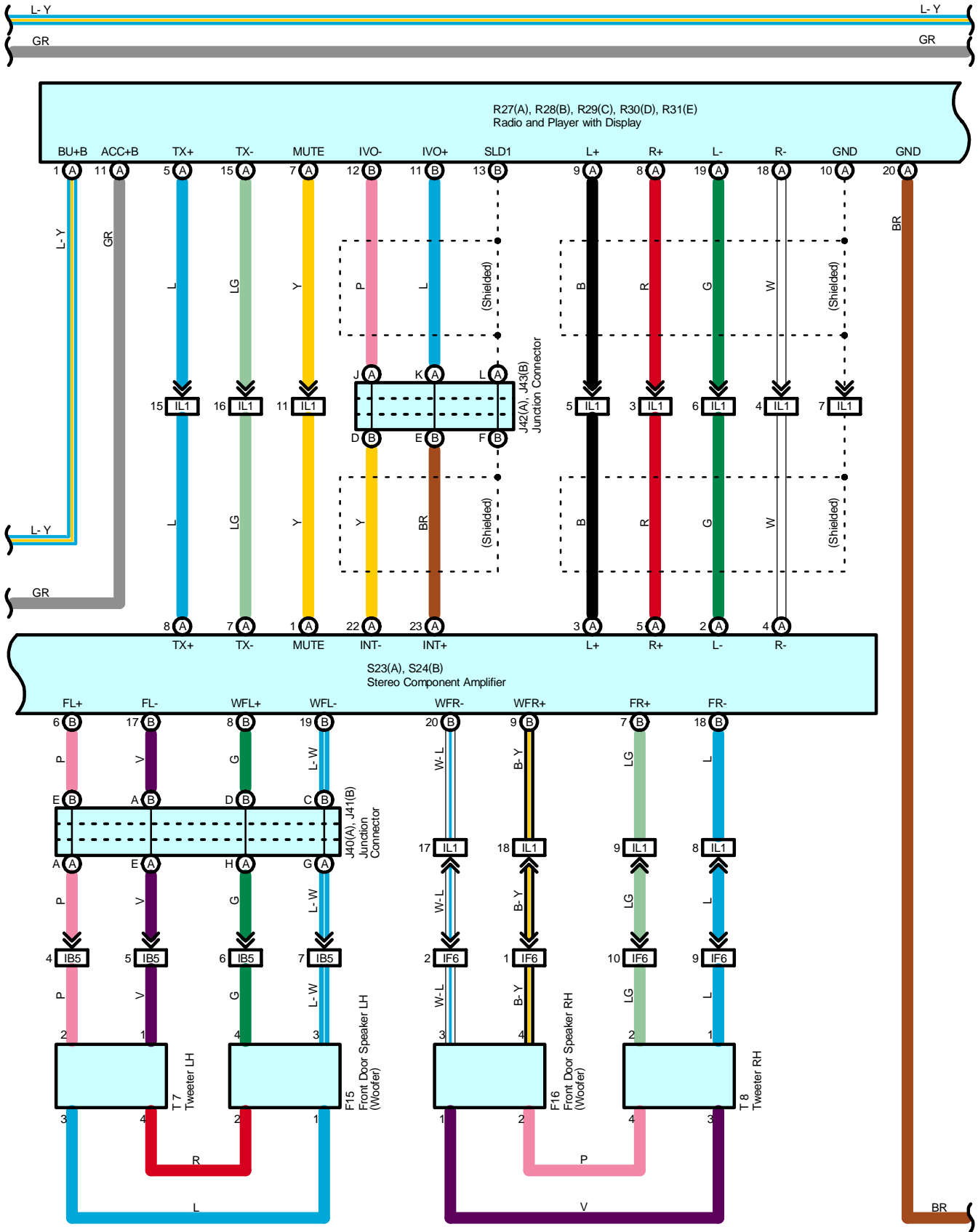
Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	<a href="#">45</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1M	<a href="#">45</a>	Roof Wire and Driver Side J/B (Lower Finish Panel)

 : **Ground Points**

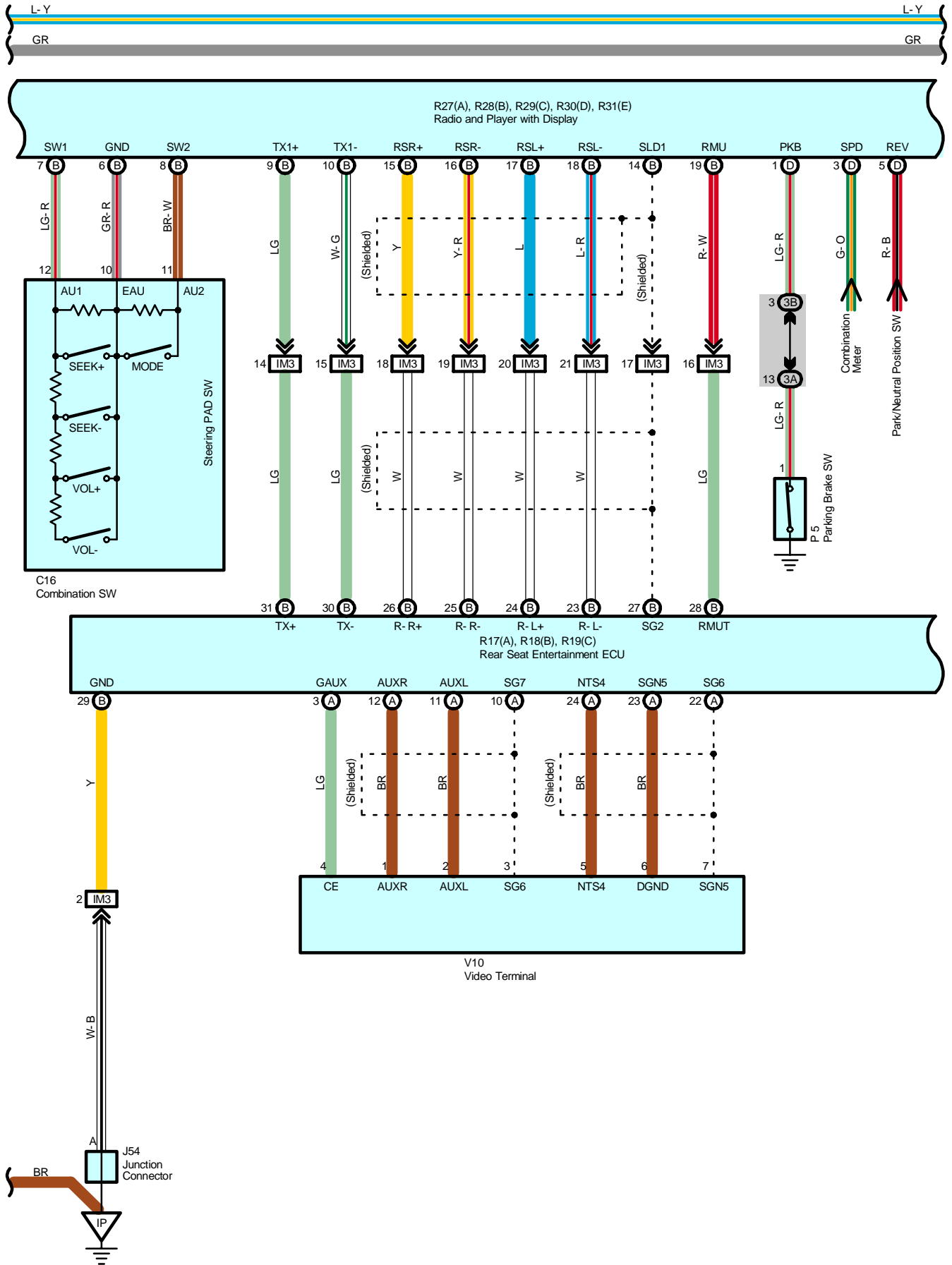
Code	See Page	Ground Points Location
IN	<a href="#">92</a>	Right Kick Panel

# Navigation and Audio System with RSES (Double Cab)

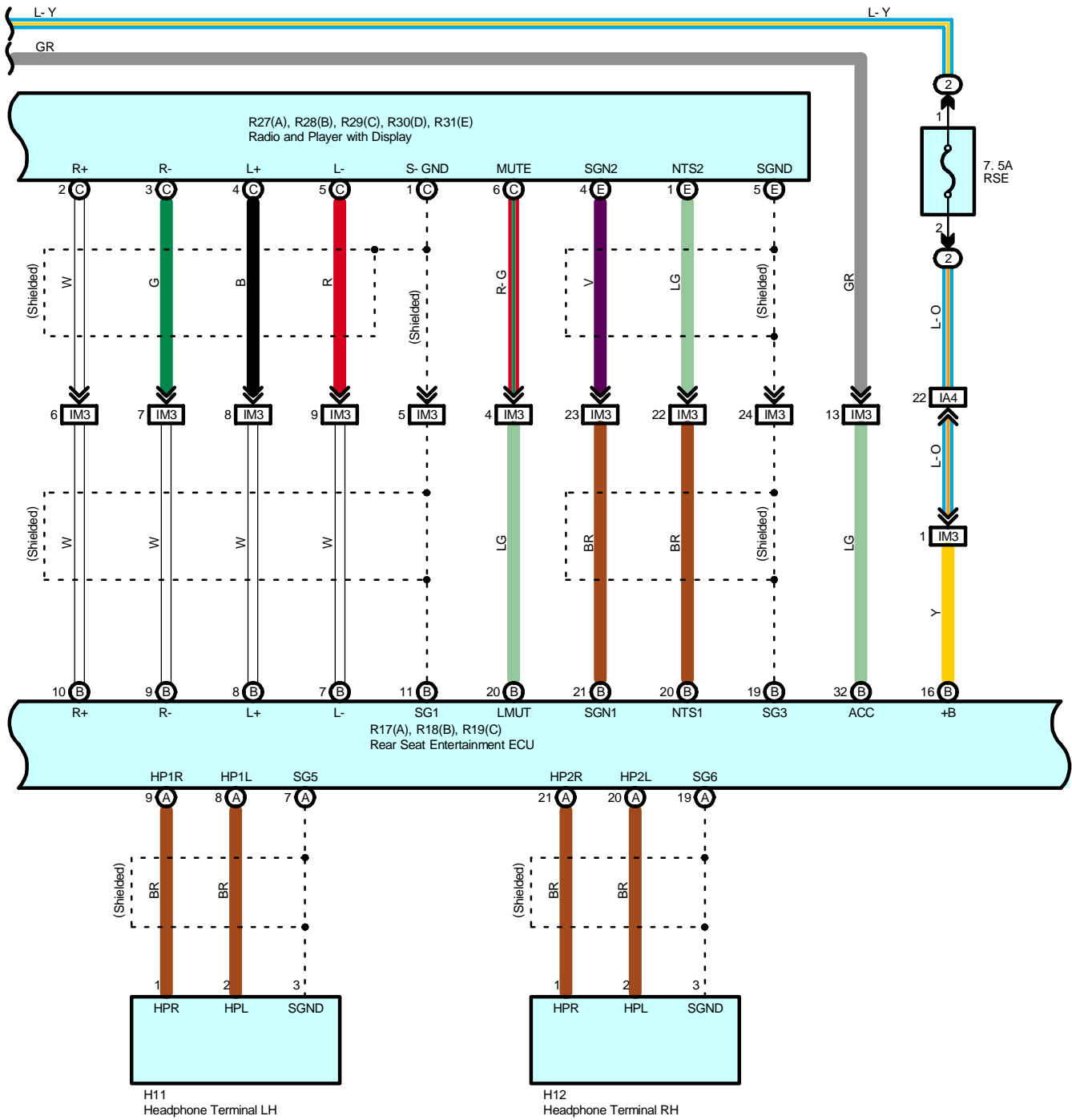




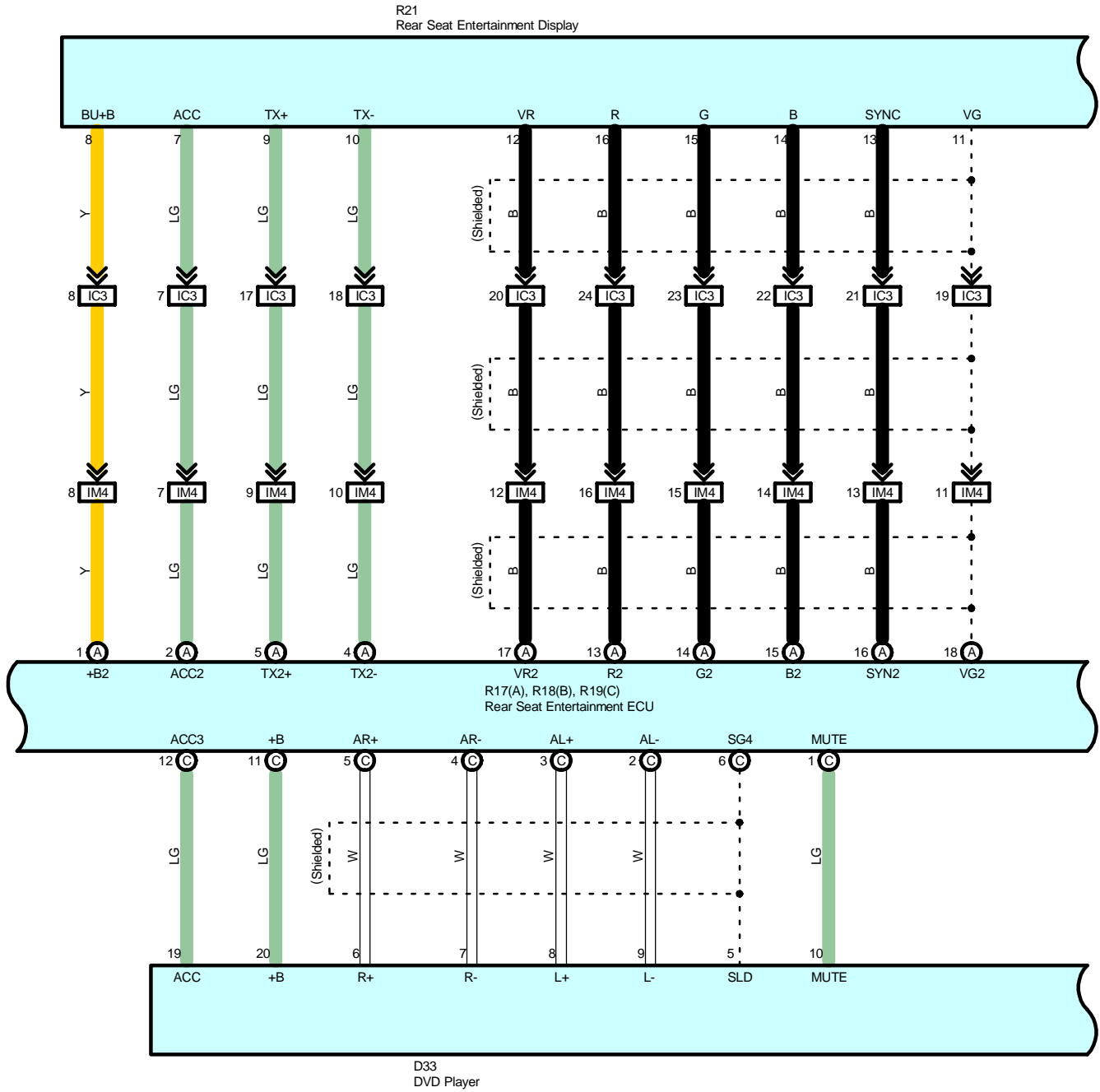
# Navigation and Audio System with RSES (Double Cab)

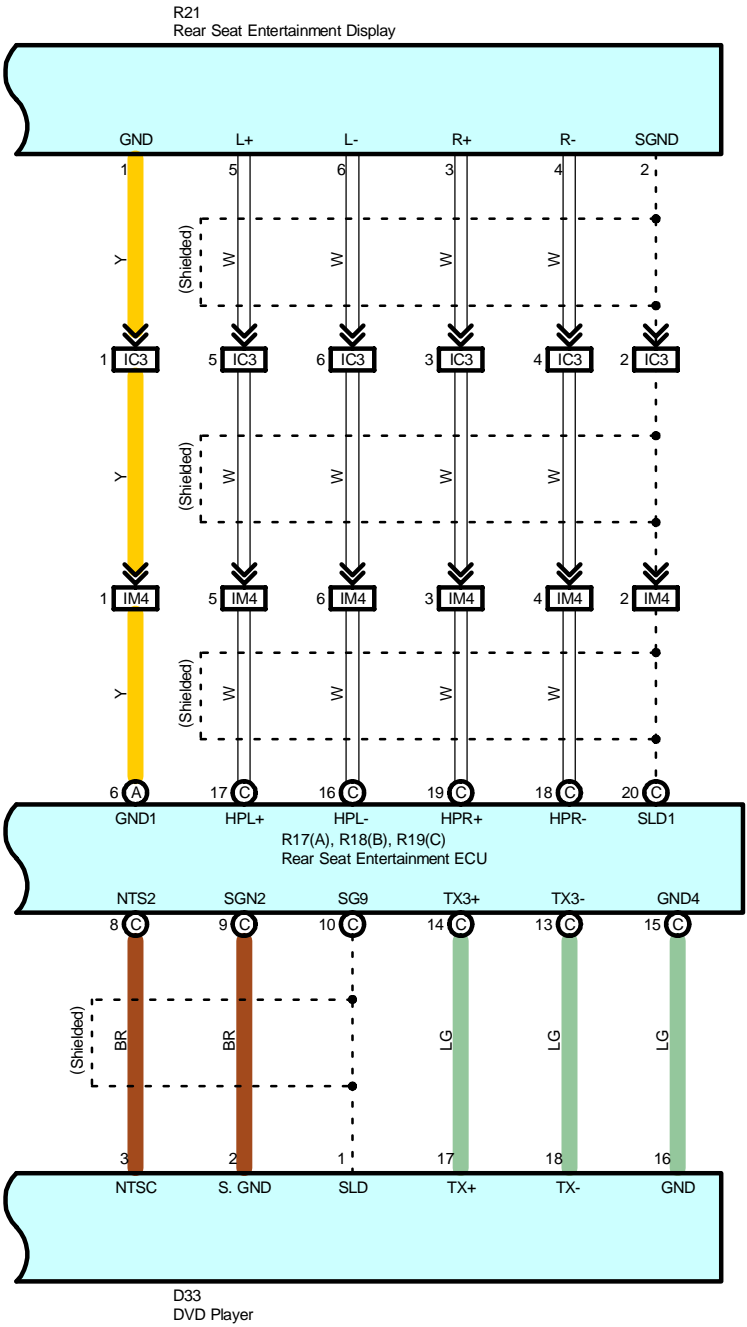






# Navigation and Audio System with RSES (Double Cab)





# Navigation and Audio System with RSES (Double Cab)

## Service Hints

### S23 (A), S24 (B) Stereo Component Amplifier

(B) 1, (B) 10-Ground : Always approx. 12 volts

(A)12-Ground : Approx. 12 volts with the ignition SW at ON or ACC position and acc cut relay not operated

(B) 15, (B) 16-Ground : Always continuity

### R27 (A) Radio and Player with Display

(A) 1-Ground : Always approx. 12 volts

(A)11-Ground : Approx. 12 volts with the ignition SW at ON or ACC position and acc cut relay not operated

(A)20-Ground : Always continuity

### R17 (A) Rear Seat Entertainment ECU

(B)16-Ground : Always approx. 12 volts

(B)29-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C16	66	J54	68	R28	B 69
D33	67	J60	70	R29	C 69
F15	70	P5	69	R30	D 69
F16	70	R6	71	R31	E 69
H11	67	R7	71	S23	A 71
H12	67	R17	A 69	S24	B 71
J40	A 68	R18	B 69	T7	71
J41	B 68	R19	C 69	T8	71
J42	A 68	R21	71	V10	69
J43	B 68	R27	A 69		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	38	Engine Room R/B No.2 (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
2A	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3B		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4C		
4D		

## □ : Connector Joining Wire Harness and Wire Harness

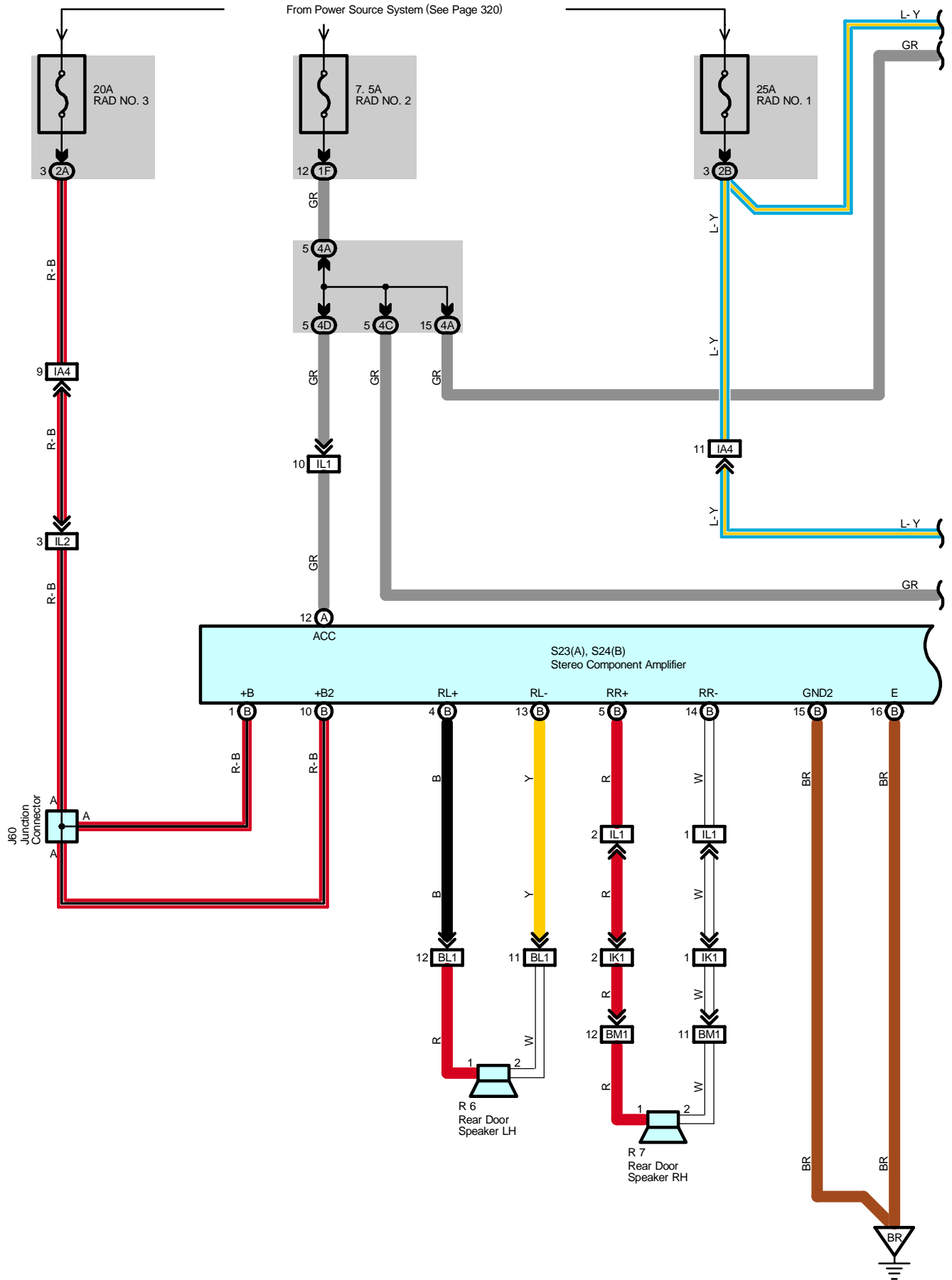
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IB5	92	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC3	92	Cowl Wire and Roof Wire (Left Side of Instrument Panel)
IF6	94	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IK1	94	Floor Wire and Cowl Wire (Right Kick Panel)
IL1	94	Floor No.2 Wire and Cowl Wire (Instrument Panel Brace RH)
IL2	92	Floor No.2 Wire and Cowl Wire (Right Kick Panel)
IM3	92	Console Box Wire and Cowl Wire (Rear Console)
IM4		
BL1	96	Rear Door No.1 Wire LH and Floor No.2 Wire (Left Side of Center Pillar)
BM1	96	Rear Door No.1 Wire RH and Floor Wire (Right Side of Center Pillar)

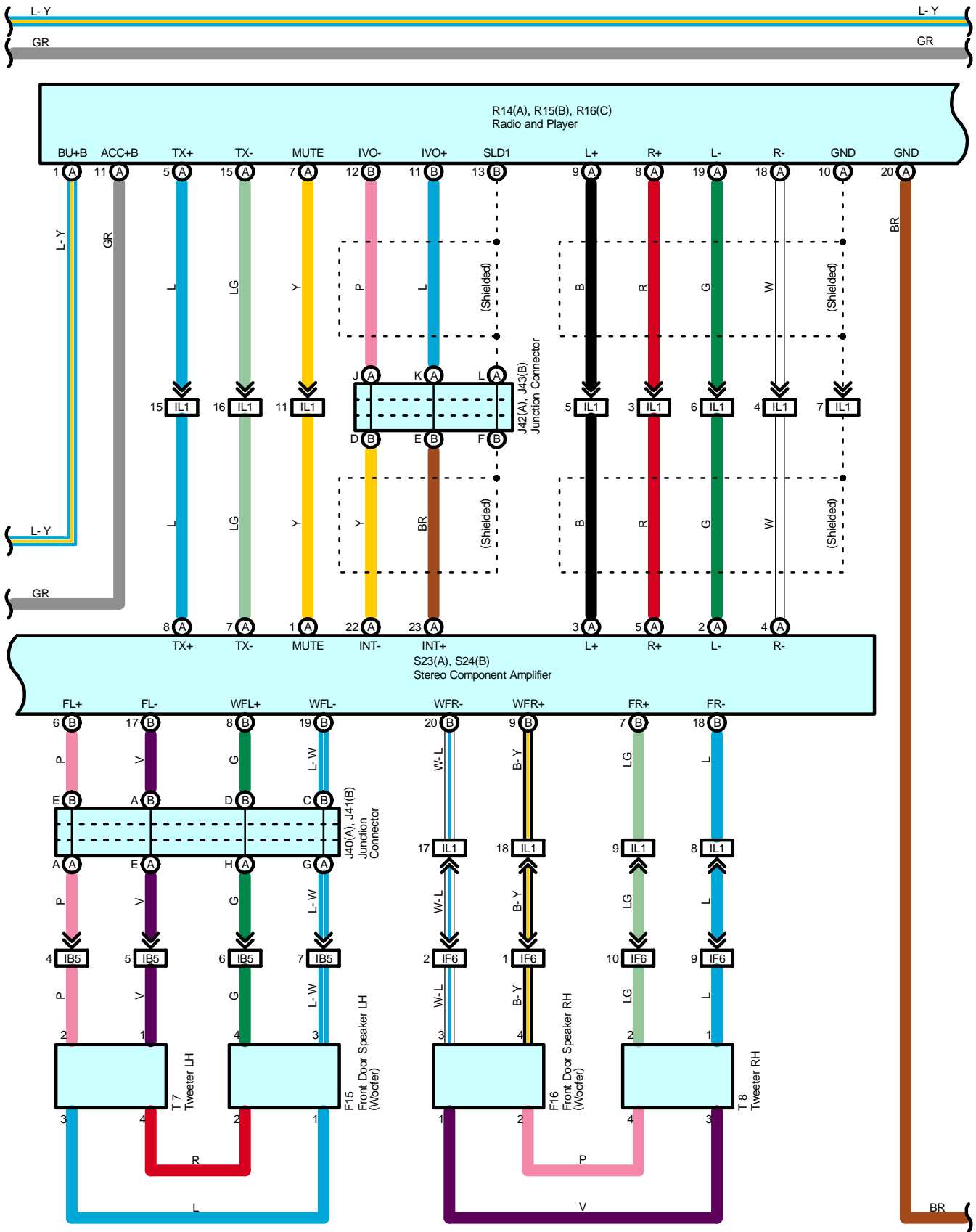


**: Ground Points**

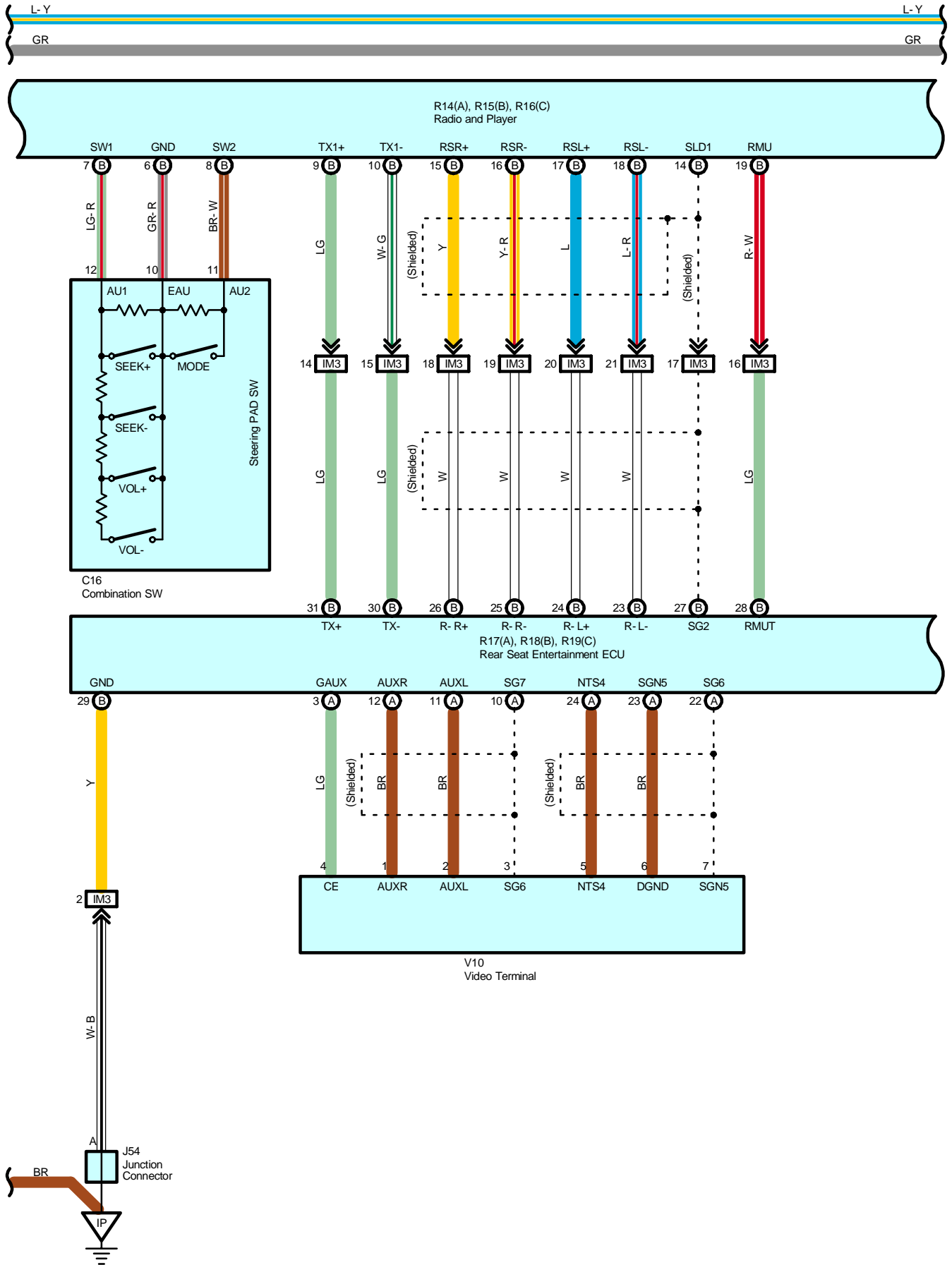
Code	See Page	Ground Points Location
IP	<a href="#">92</a>	Instrument Panel Brace LH
BR	<a href="#">96</a>	Back Panel Left

# Audio System with RSES (Double Cab)

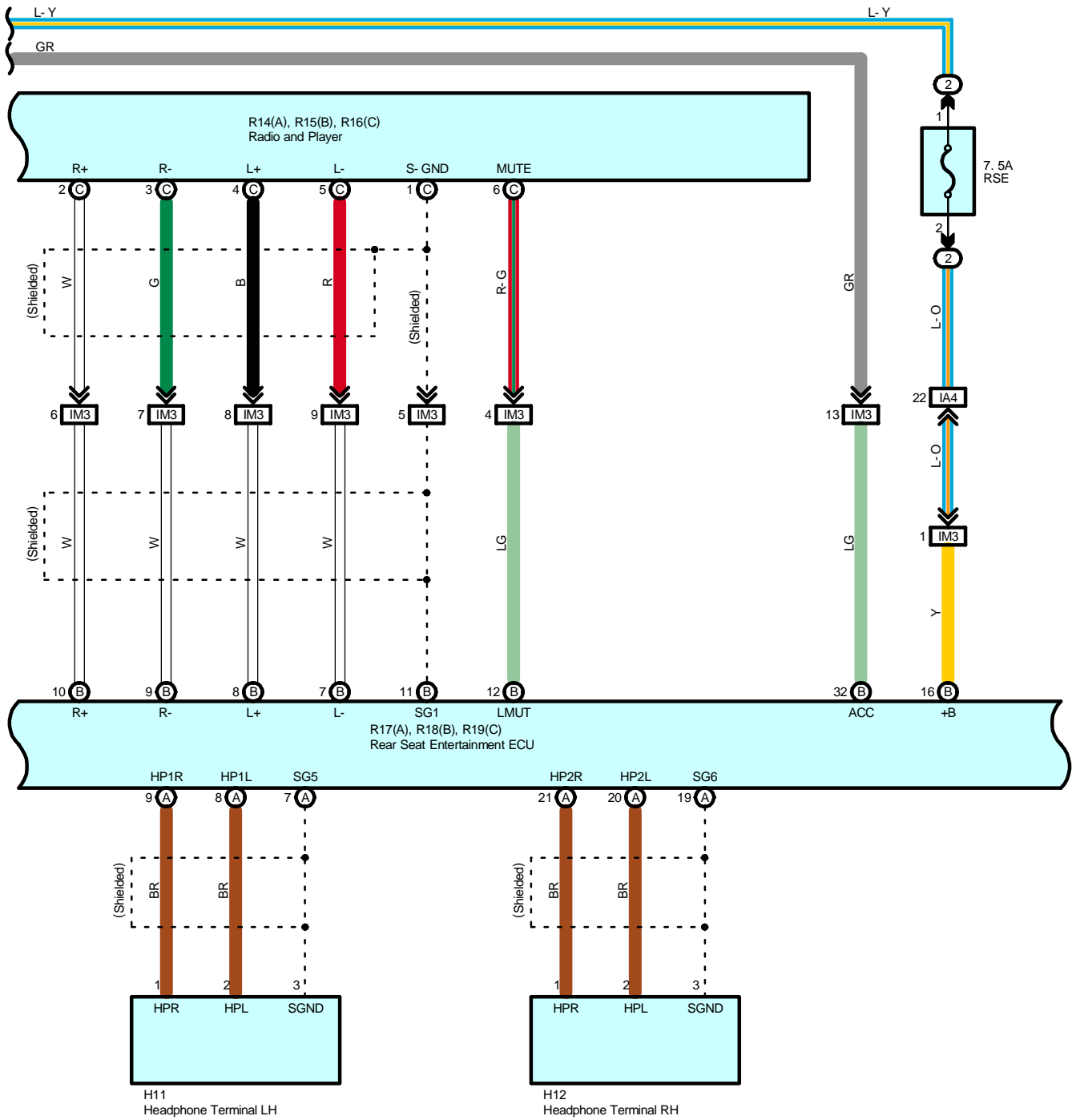




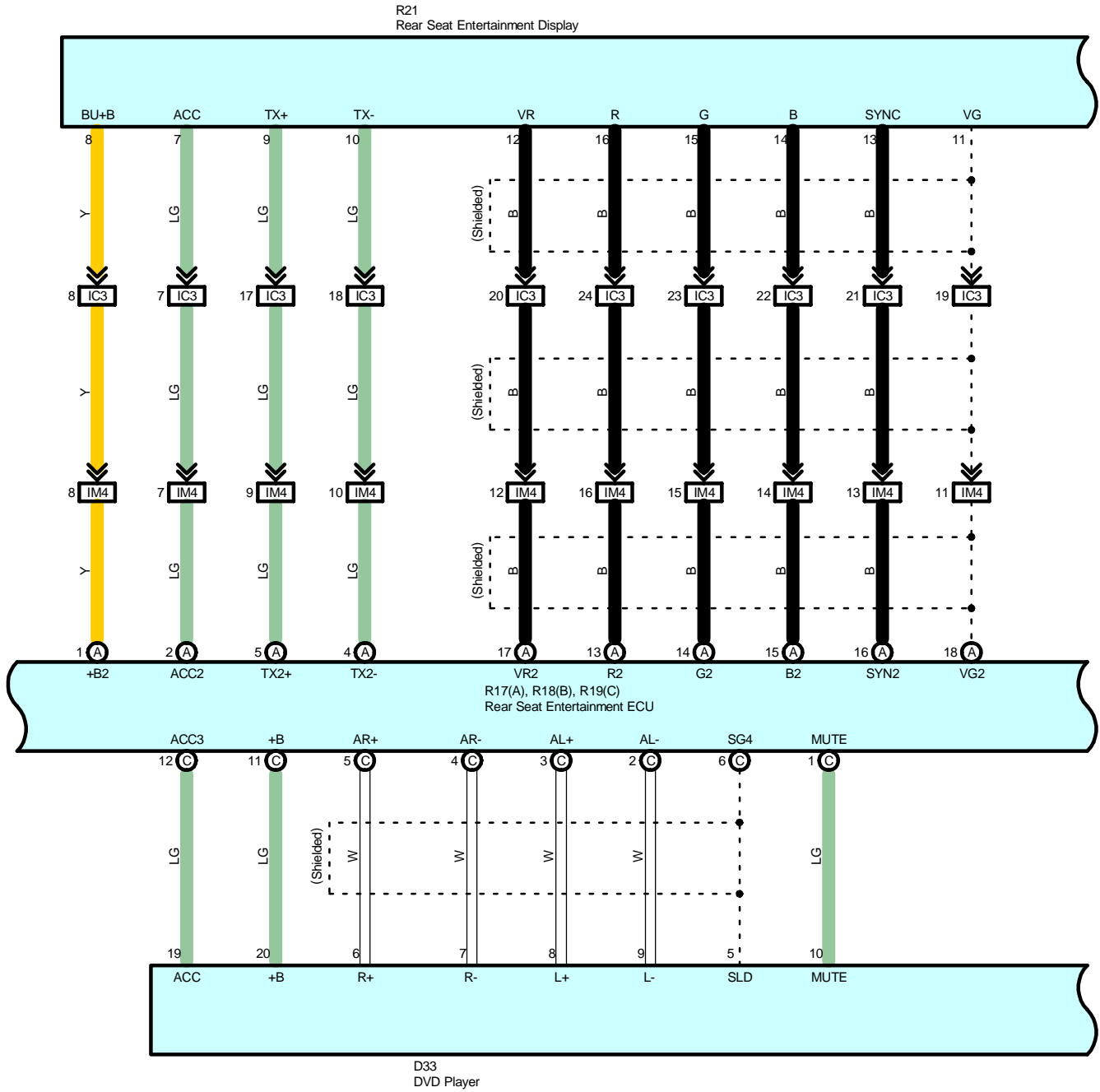
# Audio System with RSES (Double Cab)

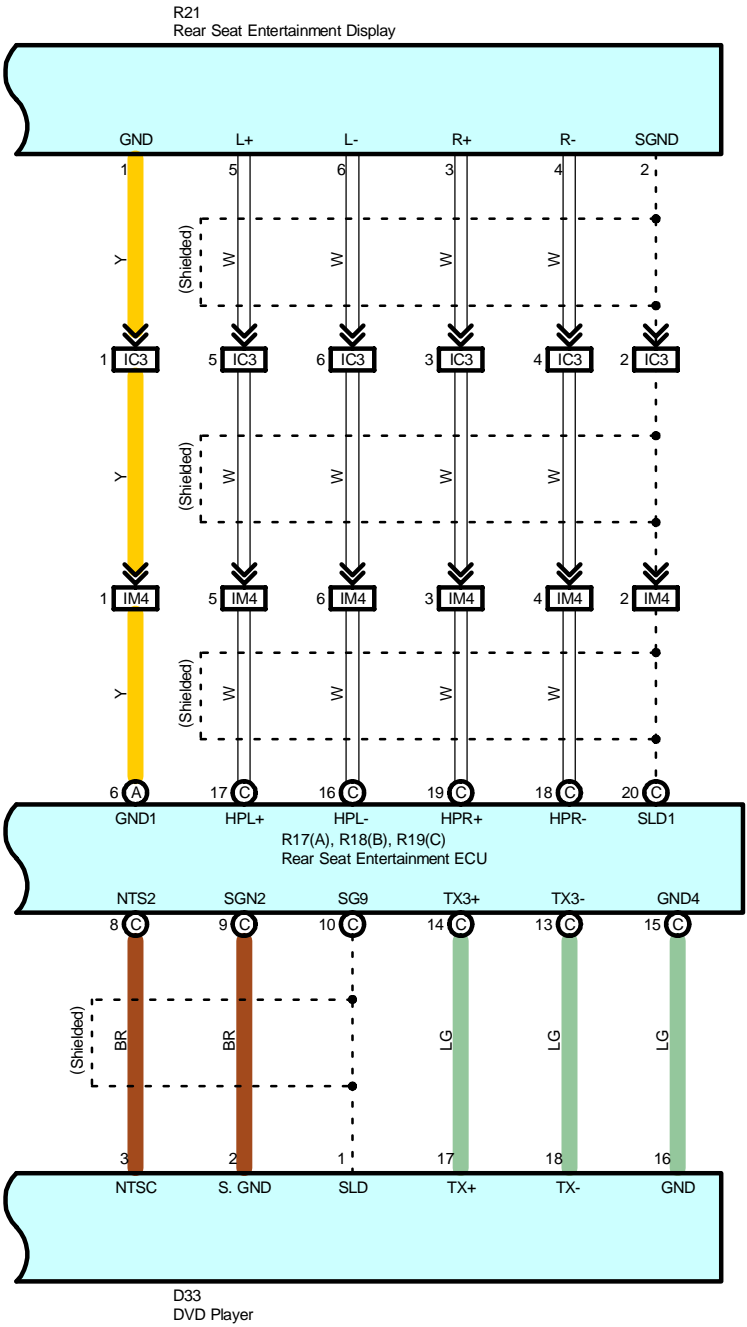






# Audio System with RSES (Double Cab)





# Audio System with RSES (Double Cab)

## Service Hints

### S23 (A), S24 (B) Stereo Component Amplifier

- (B) 1, (B) 10-Ground : Always approx. 12 volts
- (A)12-Ground : Approx. 12 volts with the ignition SW at ON or ACC position and acc cut relay not operated
- (B) 15, (B) 16-Ground : Always continuity

### R14 (A) Radio and Player

- (A) 1-Ground : Always approx. 12 volts
- (A)11-Ground : Approx. 12 volts with the ignition SW at ON or ACC position and acc cut relay not operated
- (A)20-Ground : Always continuity

### R17 (A) Rear Seat Entertainment ECU

- (B)16-Ground : Always approx. 12 volts
- (B)29-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C16	66	J43	B 68	R18	B 69
D33	67	J54	68	R19	C 69
F15	70	J60	70	R21	71
F16	70	R6	71	S23	A 71
H11	67	R7	71	S24	B 71
H12	67	R14	A 69	T7	71
J40	A 68	R15	B 69	T8	71
J41	B 68	R16	C 69	V10	69
J42	A 68	R17	A 69		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	38	Engine Room R/B No.2 (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
2A	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4C		
4D		

## □ : Connector Joining Wire Harness and Wire Harness

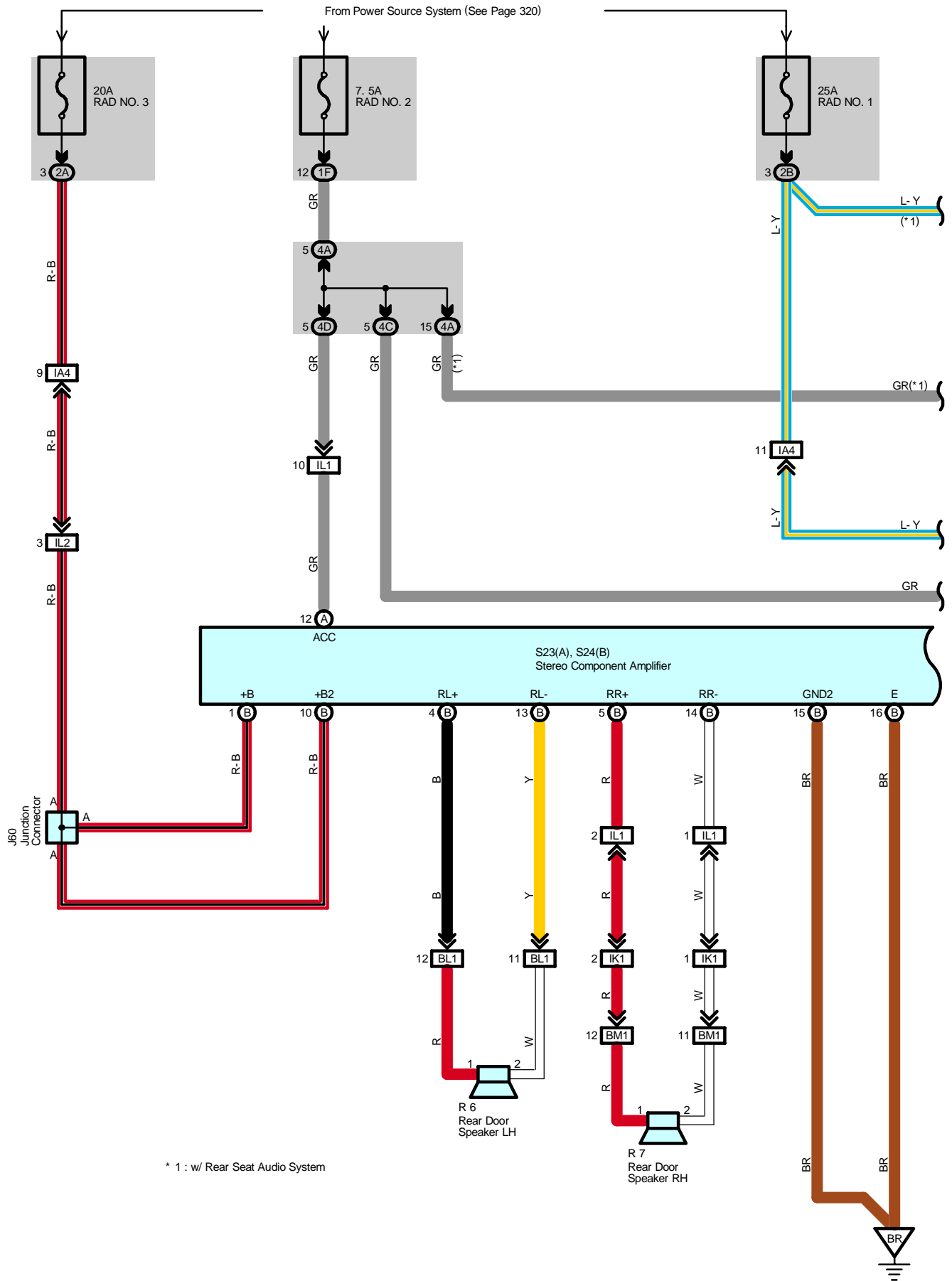
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IB5	92	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC3	92	Cowl Wire and Roof Wire (Left Side of Instrument Panel)
IF6	94	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IK1	94	Floor Wire and Cowl Wire (Right Kick Panel)
IL1	94	Floor No.2 Wire and Cowl Wire (Instrument Panel Brace RH)
IL2	92	Floor No.2 Wire and Cowl Wire (Right Kick Panel)
IM3	92	Console Box Wire and Cowl Wire (Rear Console)
IM4		
BL1	96	Rear Door No.1 Wire LH and Floor No.2 Wire (Left Side of Center Pillar)
BM1	96	Rear Door No.1 Wire RH and Floor Wire (Right Side of Center Pillar)

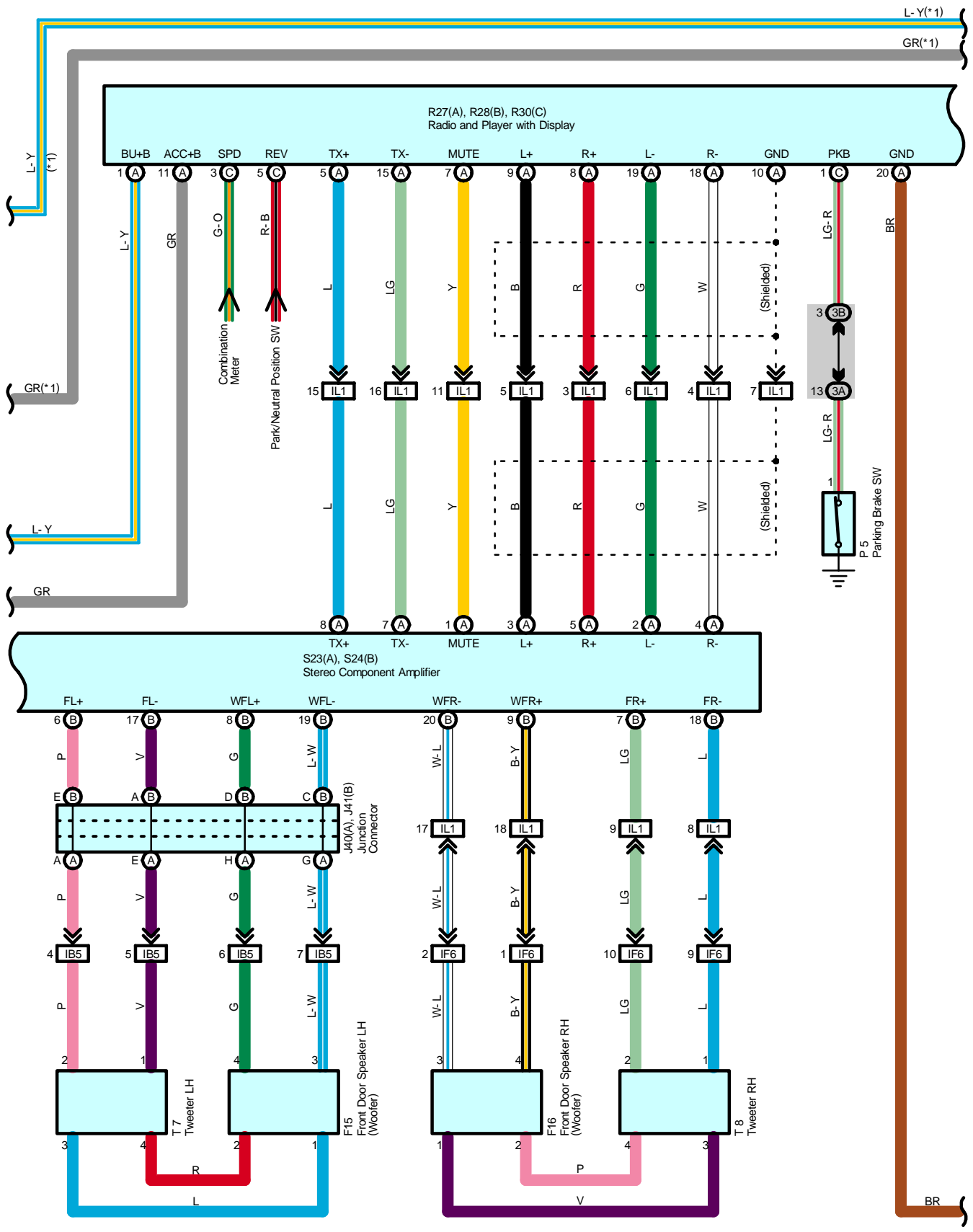


**: Ground Points**

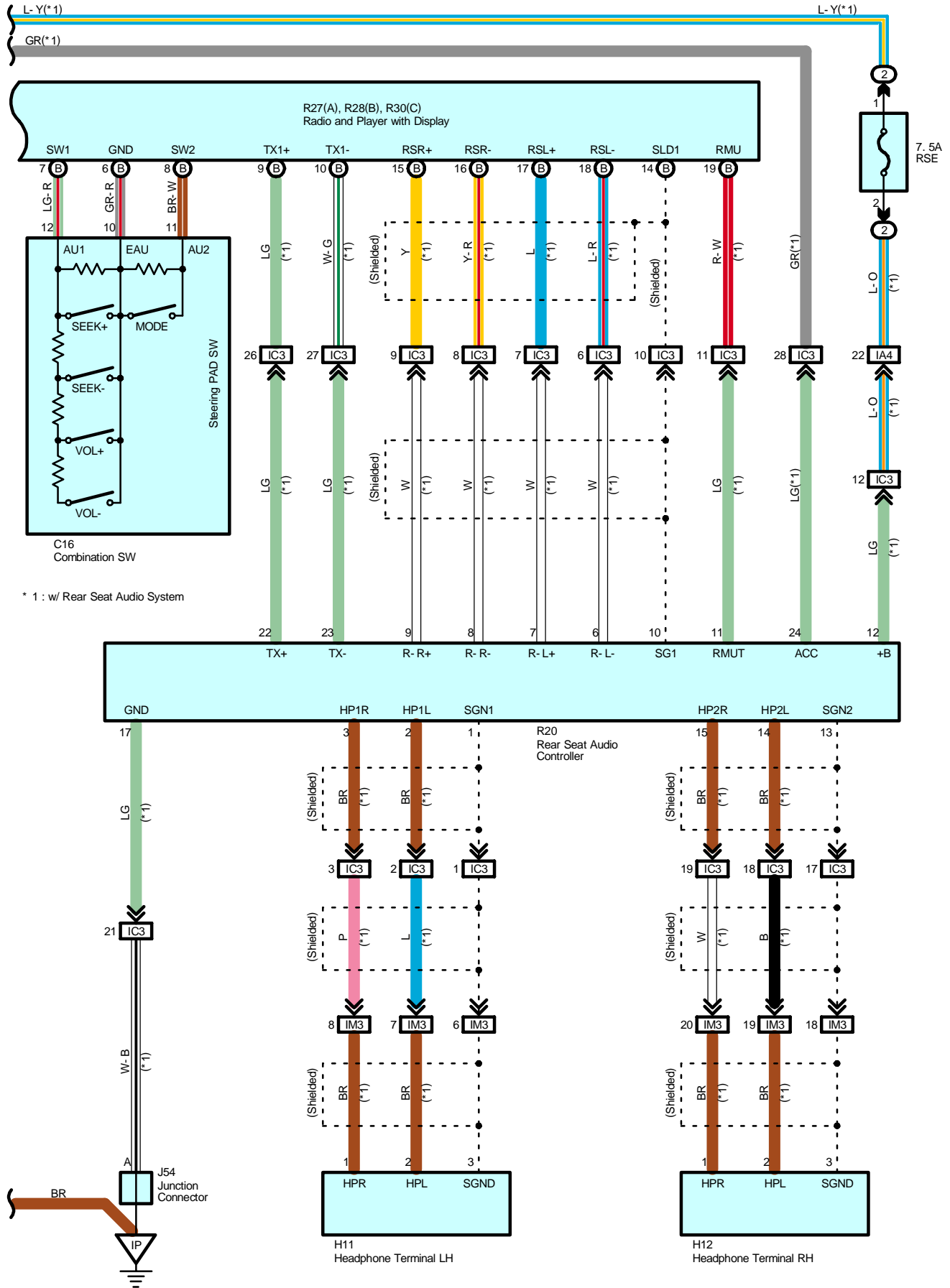
Code	See Page	Ground Points Location
IP	<a href="#">92</a>	Instrument Panel Brace LH
BR	<a href="#">96</a>	Back Panel Left

# Navigation and Audio System with 8 Speaker (Double Cab)





# Navigation and Audio System with 8 Speaker (Double Cab)





## Service Hints

### S23 (A), S24 (B) Stereo Component Amplifier

(B) 1, (B) 10-Ground : Always approx. 12 volts

(A)12-Ground : Approx. 12 volts with the ignition SW at ON or ACC position and acc cut relay not operated

(B) 15, (B) 16-Ground : Always continuity

### R27 (A) Radio and Player with Display

(A) 1-Ground : Always approx. 12 volts

(A)11-Ground : Approx. 12 volts with the ignition SW at ON or ACC position and acc cut relay not operated

(A)20-Ground : Always continuity

### R20 Rear Seat Audio Controller

12-Ground : Always approx. 12 volts

17-Ground : Always continuity

## : Parts Location

Code	See Page	Code	See Page	Code	See Page
C16	<a href="#">66</a>	J54	<a href="#">68</a>	R28	B <a href="#">69</a>
F15	<a href="#">70</a>	J60	<a href="#">70</a>	R30	C <a href="#">69</a>
F16	<a href="#">70</a>	P5	<a href="#">69</a>	S23	A <a href="#">71</a>
H11	<a href="#">67</a>	R6	<a href="#">71</a>	S24	B <a href="#">71</a>
H12	<a href="#">67</a>	R7	<a href="#">71</a>	T7	<a href="#">71</a>
J40	A <a href="#">68</a>	R20	<a href="#">71</a>	T8	<a href="#">71</a>
J41	B <a href="#">68</a>	R27	A <a href="#">69</a>		

## : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	<a href="#">38</a>	Engine Room R/B No.2 (Engine Compartment Left)

## : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	<a href="#">45</a>	Cowl Wire and Driver Side J/B (Lower Finish Panel)
2A	<a href="#">41</a>	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
3A	<a href="#">48</a>	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3B		
4A	<a href="#">50</a>	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4C		
4D		

## : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	<a href="#">92</a>	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IB5	<a href="#">92</a>	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC3	<a href="#">92</a>	Cowl Wire and Roof Wire (Left Side of Instrument Panel)
IF6	<a href="#">94</a>	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IK1	<a href="#">94</a>	Floor Wire and Cowl Wire (Right Kick Panel)
IL1	<a href="#">94</a>	Floor No.2 Wire and Cowl Wire (Instrument Panel Brace RH)
IL2	<a href="#">92</a>	Floor No.2 Wire and Cowl Wire (Right Kick Panel)
IM3	<a href="#">92</a>	Console Box Wire and Cowl Wire (Rear Console)
BL1	<a href="#">96</a>	Rear Door No.1 Wire LH and Floor No.2 Wire (Left Side of Center Pillar)
BM1	<a href="#">96</a>	Rear Door No.1 Wire RH and Floor Wire (Right Side of Center Pillar)

## Navigation and Audio System with 8 Speaker (Double Cab)

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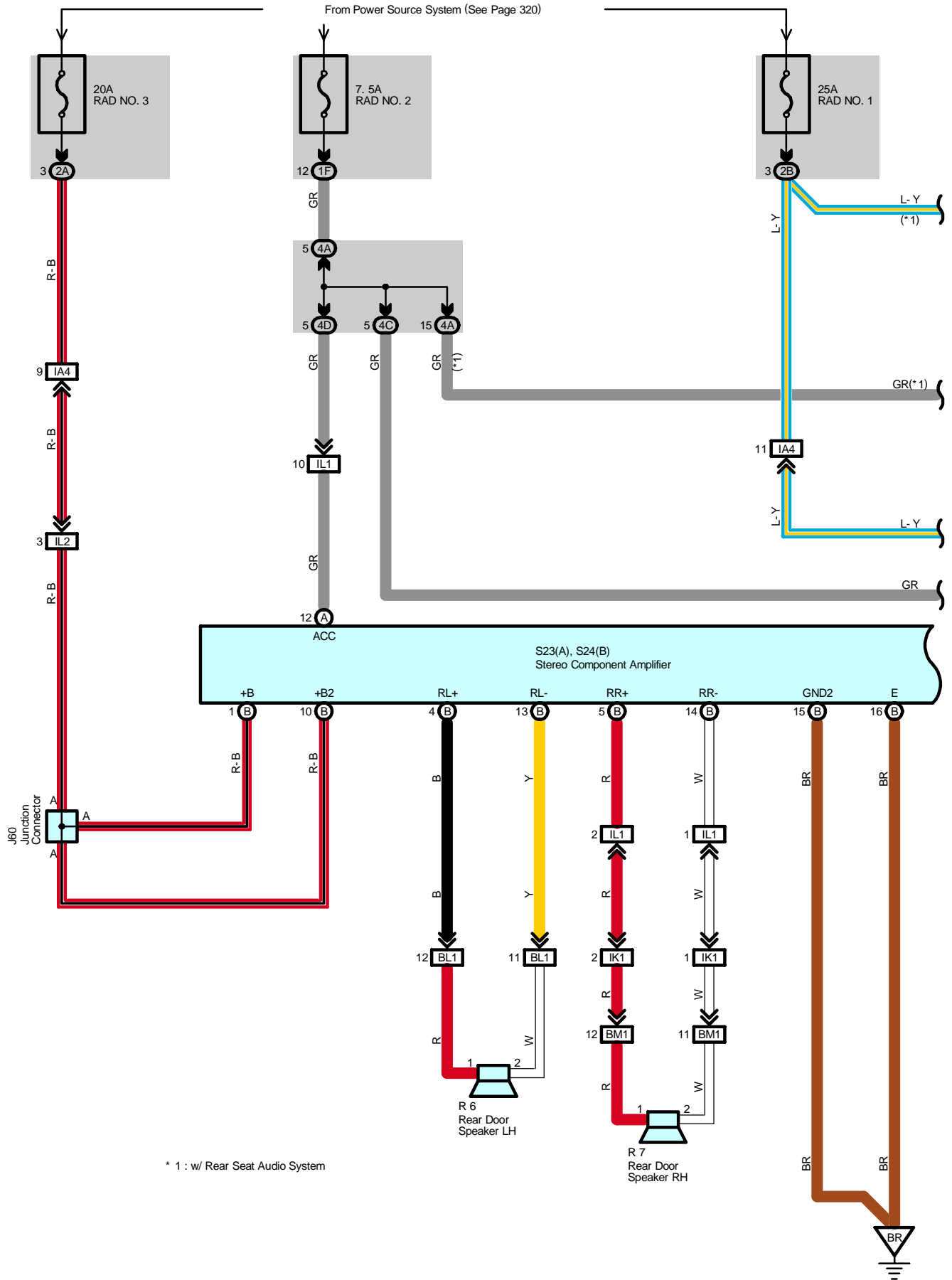


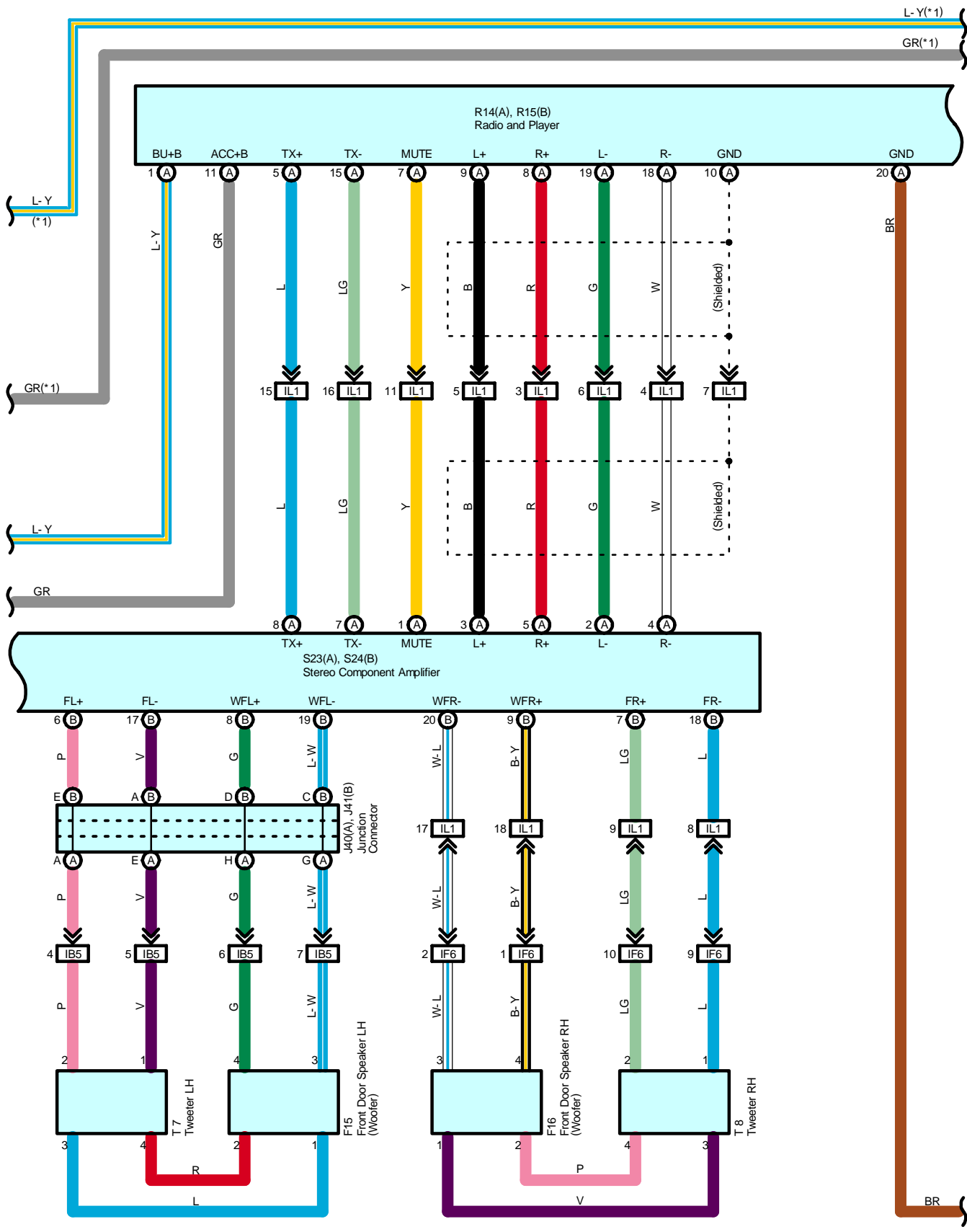
### : Ground Points

Code	See Page	Ground Points Location
IP	<a href="#">92</a>	Instrument Panel Brace LH
BR	<a href="#">96</a>	Back Panel Left

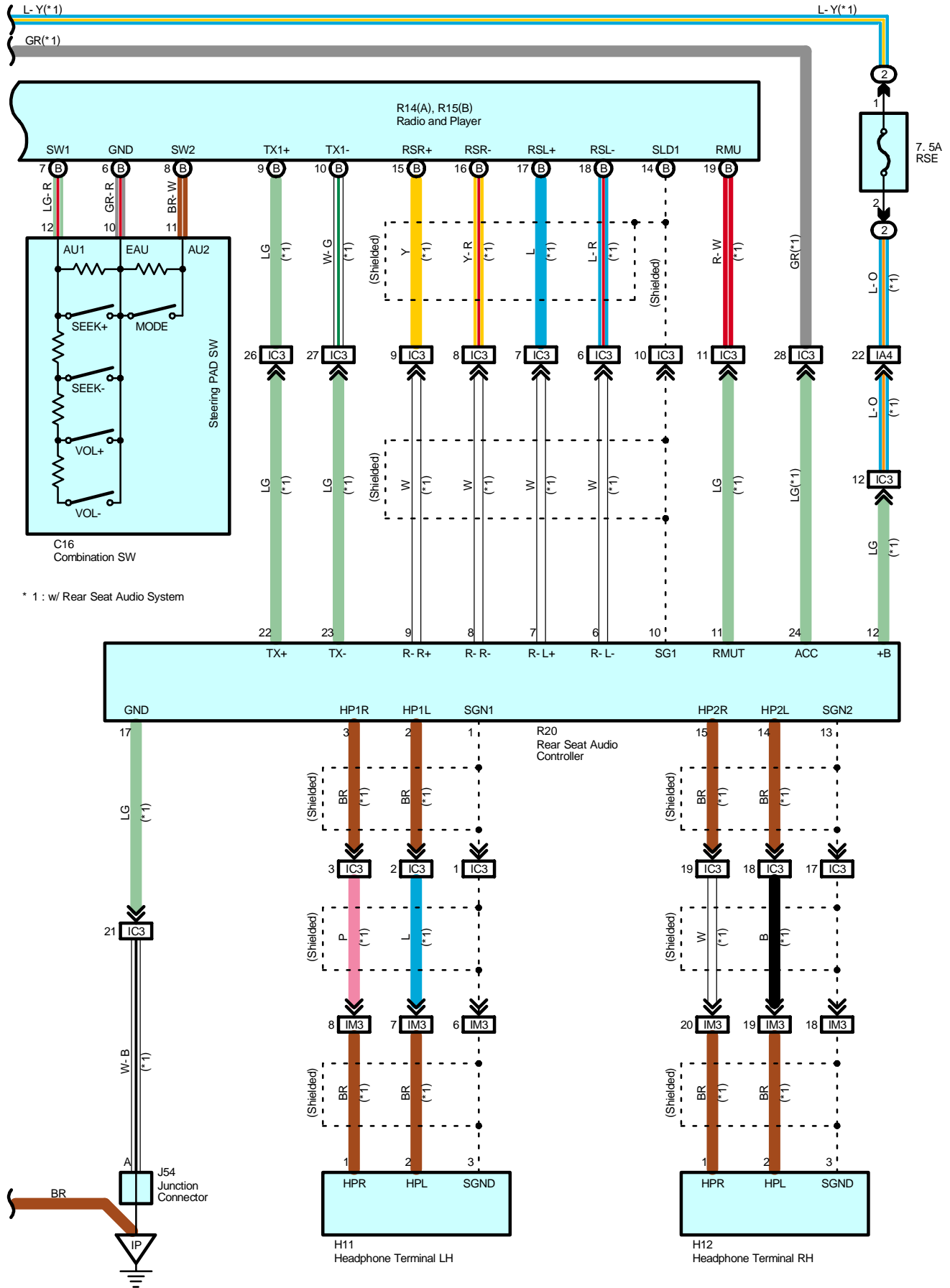


# Audio System with 8 Speaker (Double Cab)





# Audio System with 8 Speaker (Double Cab)



## Service Hints

### S23 (A), S24 (B) Stereo Component Amplifier

(B) 1, (B) 10-Ground : Always approx. 12 volts

(A)12-Ground : Approx. 12 volts with the ignition SW at ON or ACC position and acc cut relay not operated

(B) 15, (B) 16-Ground : Always continuity

### R14 (A) Radio and Player

(A) 1-Ground : Always approx. 12 volts

(A)11-Ground : Approx. 12 volts with the ignition SW at ON or ACC position and acc cut relay not operated

(A)20-Ground : Always continuity

### R20 Rear Seat Audio Controller

12-Ground : Always approx. 12 volts

17-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C16	66	J41 B	68	R15 B	69
F15	70	J54	68	R20	71
F16	70	J60	70	S23 A	71
H11	67	R6	71	S24 B	71
H12	67	R7	71	T7	71
J40 A	68	R14 A	69	T8	71

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	38	Engine Room R/B No.2 (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
2A	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4C		
4D		

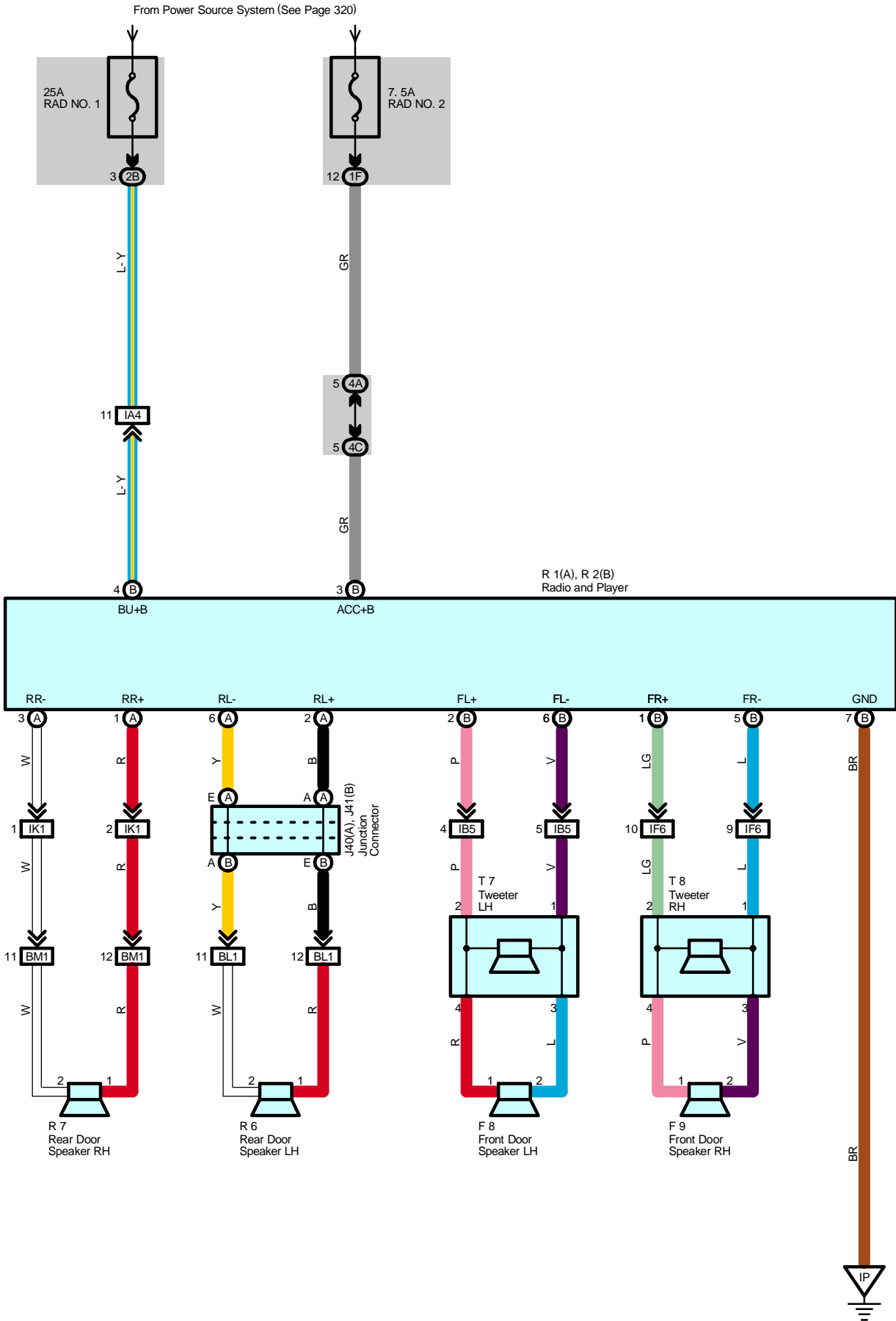
## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IB5	92	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC3	92	Cowl Wire and Roof Wire (Left Side of Instrument Panel)
IF6	94	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IK1	94	Floor Wire and Cowl Wire (Right Kick Panel)
IL1	94	Floor No.2 Wire and Cowl Wire (Instrument Panel Brace RH)
IL2	92	Floor No.2 Wire and Cowl Wire (Right Kick Panel)
IM3	92	Console Box Wire and Cowl Wire (Rear Console)
BL1	96	Rear Door No.1 Wire LH and Floor No.2 Wire (Left Side of Center Pillar)
BM1	96	Rear Door No.1 Wire RH and Floor Wire (Right Side of Center Pillar)

## ▽ : Ground Points

Code	See Page	Ground Points Location
IP	92	Instrument Panel Brace LH
BR	96	Back Panel Left

# Audio System with 6 Speaker (Double Cab)





**Service Hints**

**R2 (B) Radio and Player**

- (B) 3-Ground : Approx. 12 volts with the ignition SW at ON or ACC position and acc cut relay not operated
- (B) 4-Ground : Always approx. 12 volts
- (B) 7-Ground : Always continuity

 : **Parts Location**

Code		See Page	Code		See Page	Code		See Page
F8		70	R1	A	69	T7		71
F9		70	R2	B	69	T8		71
J40	A	68	R6		71			
J41	B	68	R7		71			

 : **Junction Block and Wire Harness Connector**

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
2B	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4C		

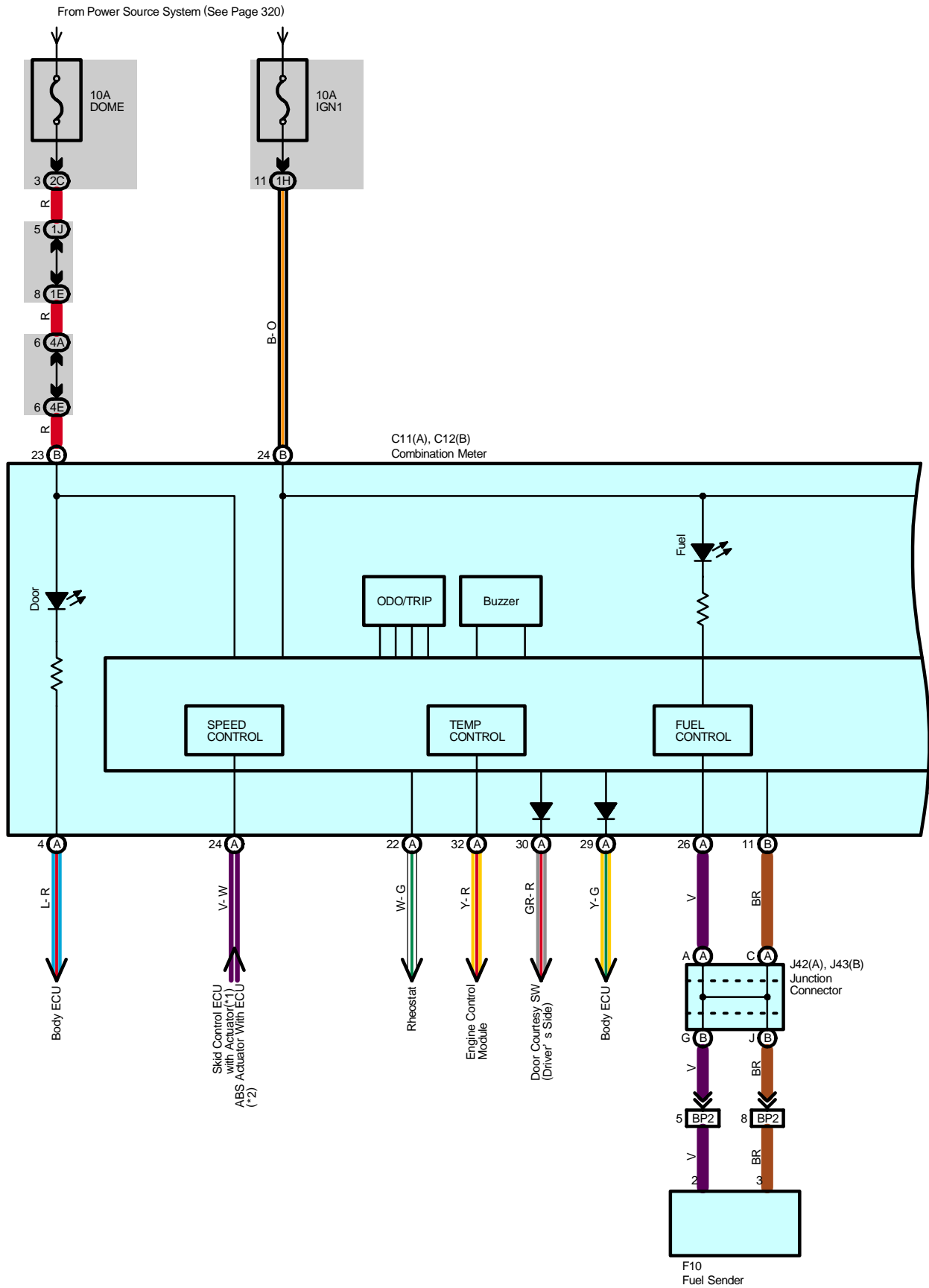
 : **Connector Joining Wire Harness and Wire Harness**

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IB5	92	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF6	94	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IK1	94	Floor Wire and Cowl Wire (Right Kick Panel)
BL1	96	Rear Door No.1 Wire LH and Floor No.2 Wire (Left Side of Center Pillar)
BM1	96	Rear Door No.1 Wire RH and Floor Wire (Right Side of Center Pillar)

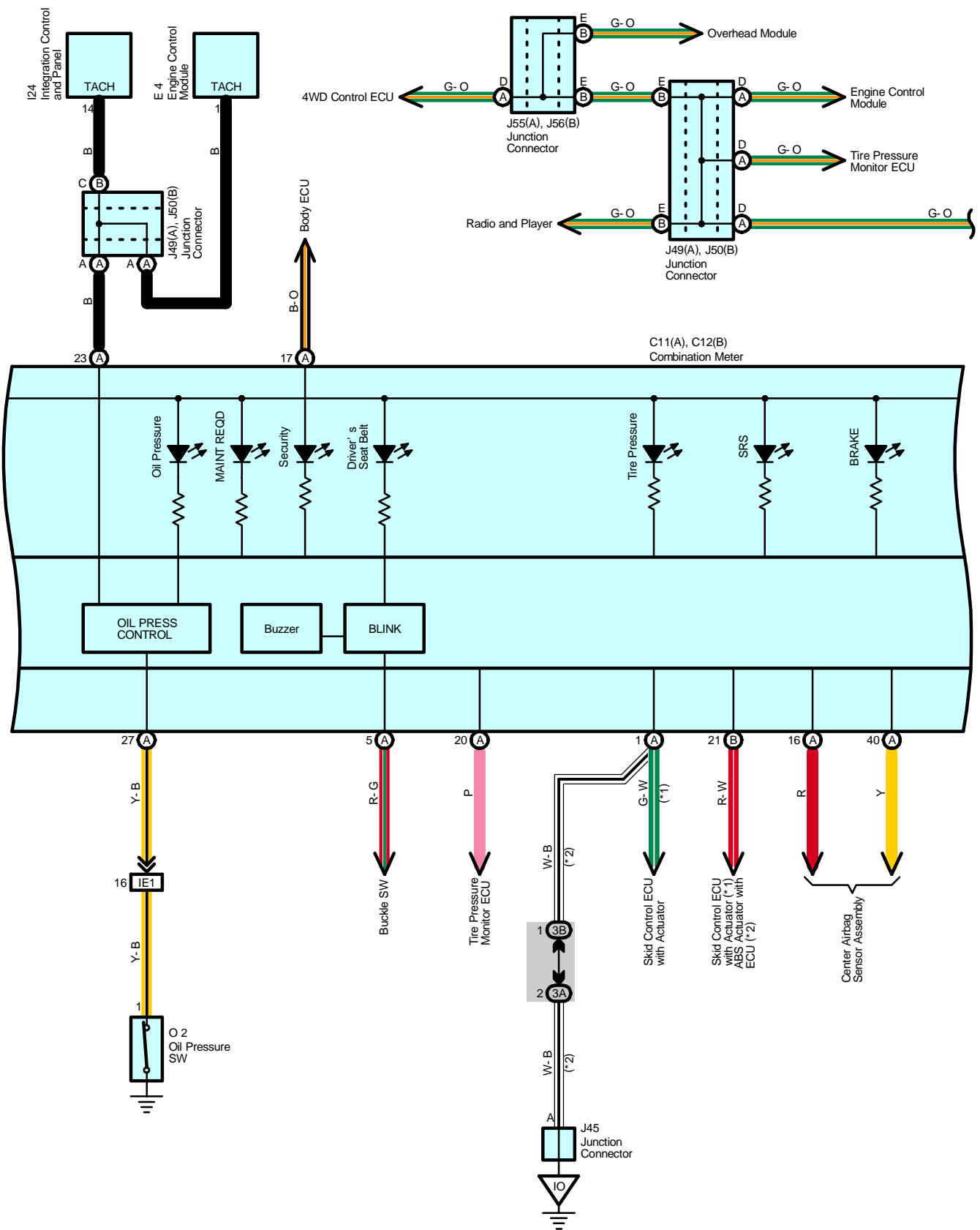
 : **Ground Points**

Code	See Page	Ground Points Location
IP	92	Instrument Panel Brace LH

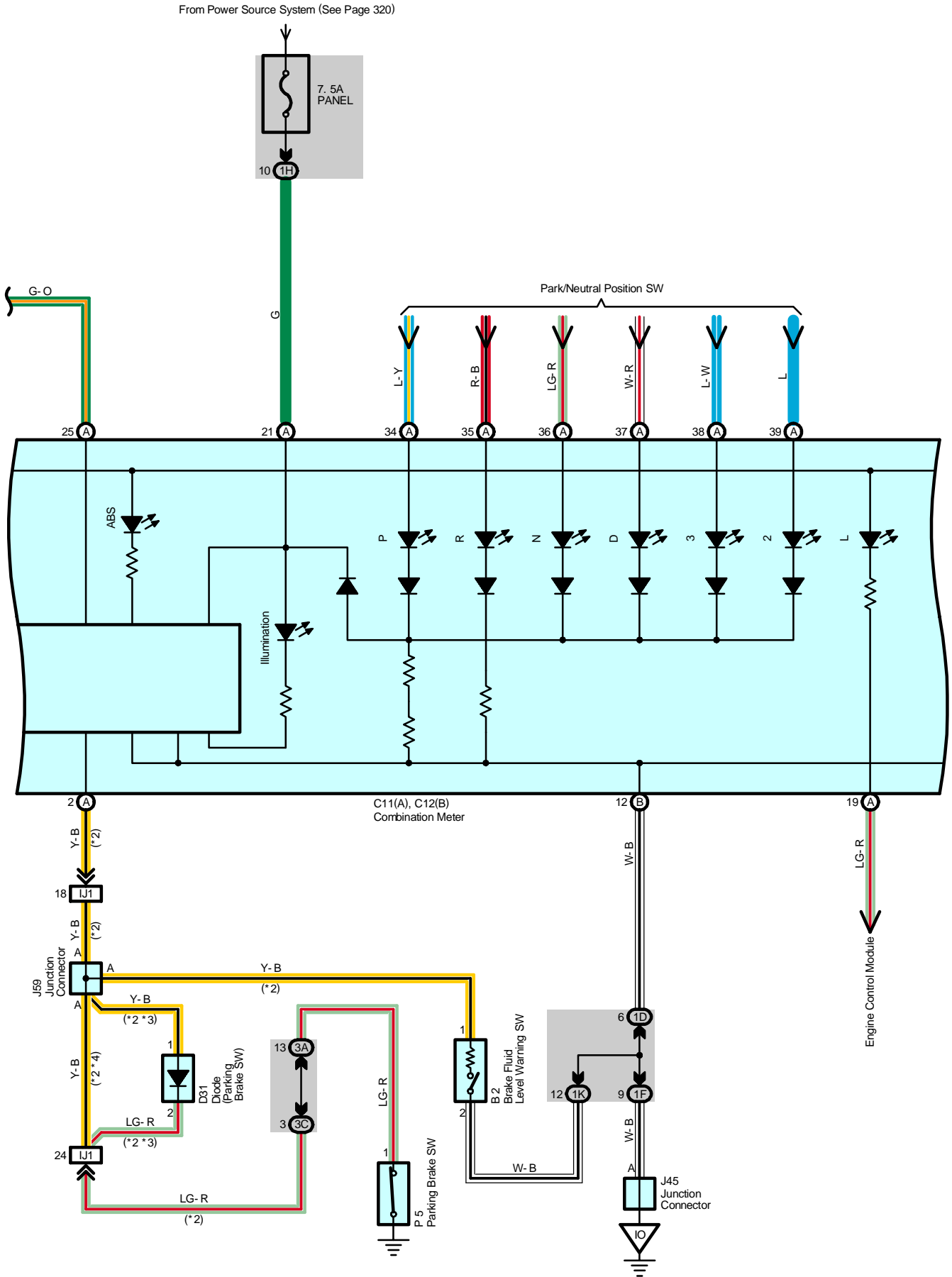
# Combination Meter (Double Cab)



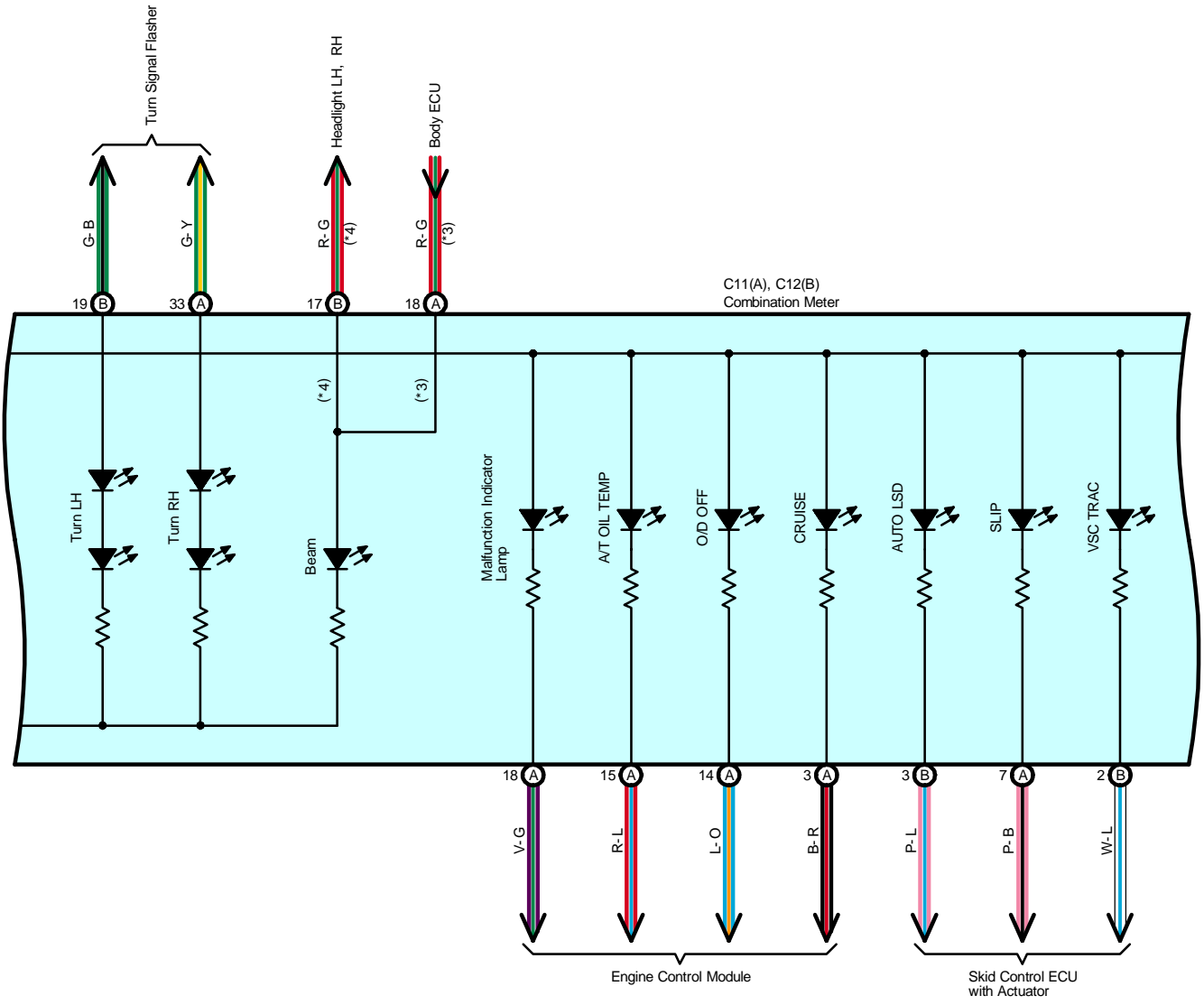
\* 1 : w/ VSC  
 \* 2 : w/o VSC



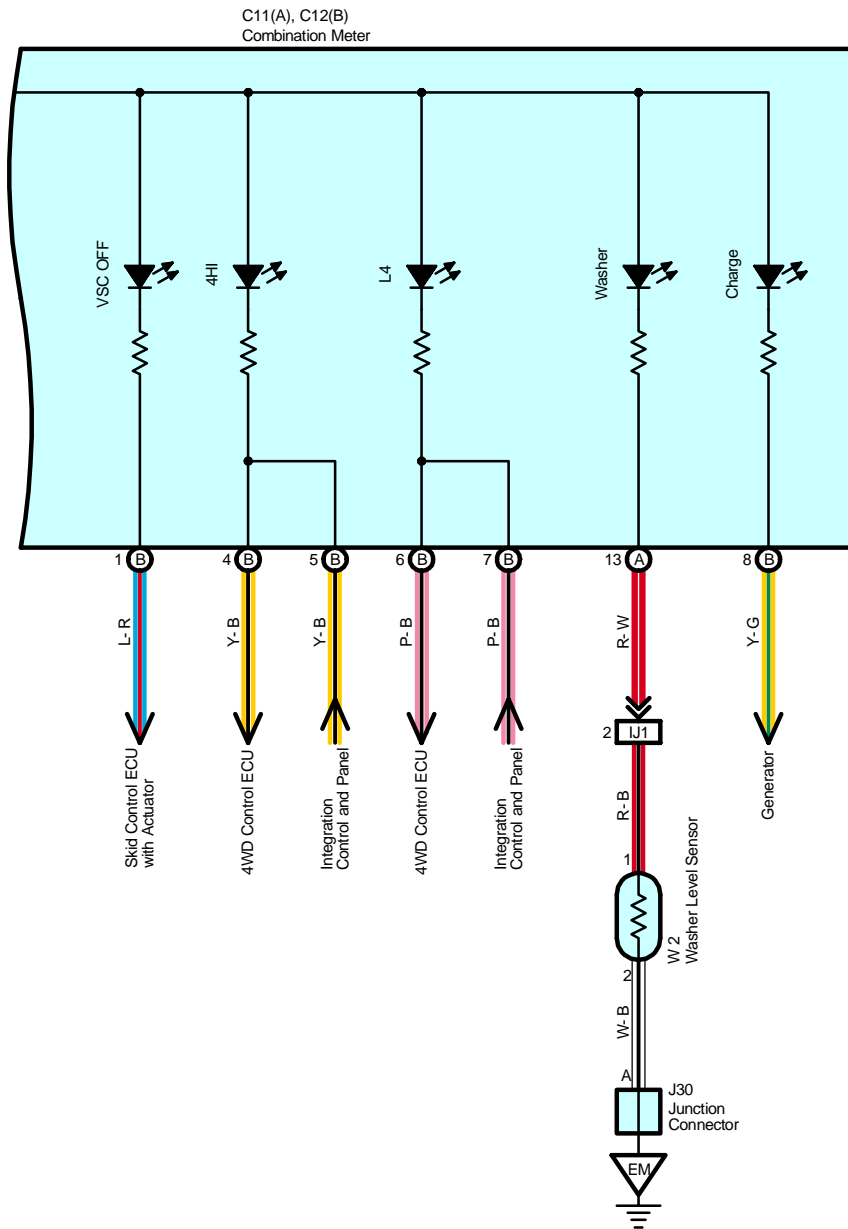
# Combination Meter (Double Cab)



- \* 1 : w/ VSC
- \* 2 : w/o VSC
- \* 3 : w/ Daytime Running Light
- \* 4 : w/o Daytime Running Light



# Combination Meter (Double Cab)



## Service Hints

### P5 Parking Brake SW

1-Ground : Closed with parking brake lever pulled up

### C11 (A), C12 (B) Combination Meter

(B)23-Ground : Always approx. 12 volts

(B)24-Ground : Approx. 12 volts with ignition SW at ON or ST position

(B)12-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
B2	64	J30	65	J56   B	68
C11   A	66	J42   A	68	J59	68
C12   B	66	J43   B	68	O2	65
D31	67	J45	68	P5	69
E4	67	J49   A	68	W2	65
F10	70	J50   B	68		
I24	67	J55   A	68		

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1E		
1F		
1H		
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
1K		
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3B		
3C		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4E		

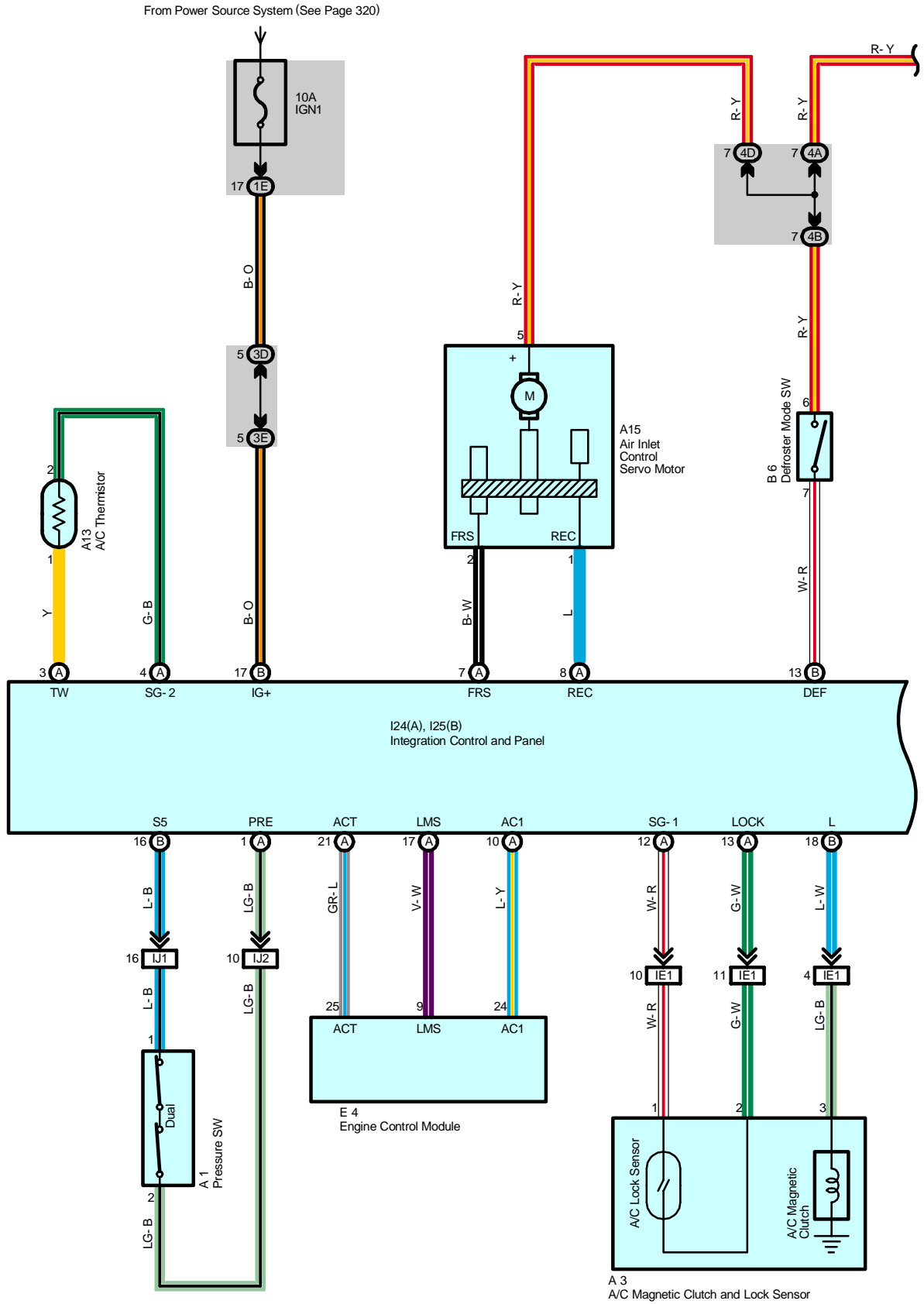
## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	94	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ1	94	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)
BP2	96	Frame Wire and Floor No.2 Wire (Under the Driver's Seat)

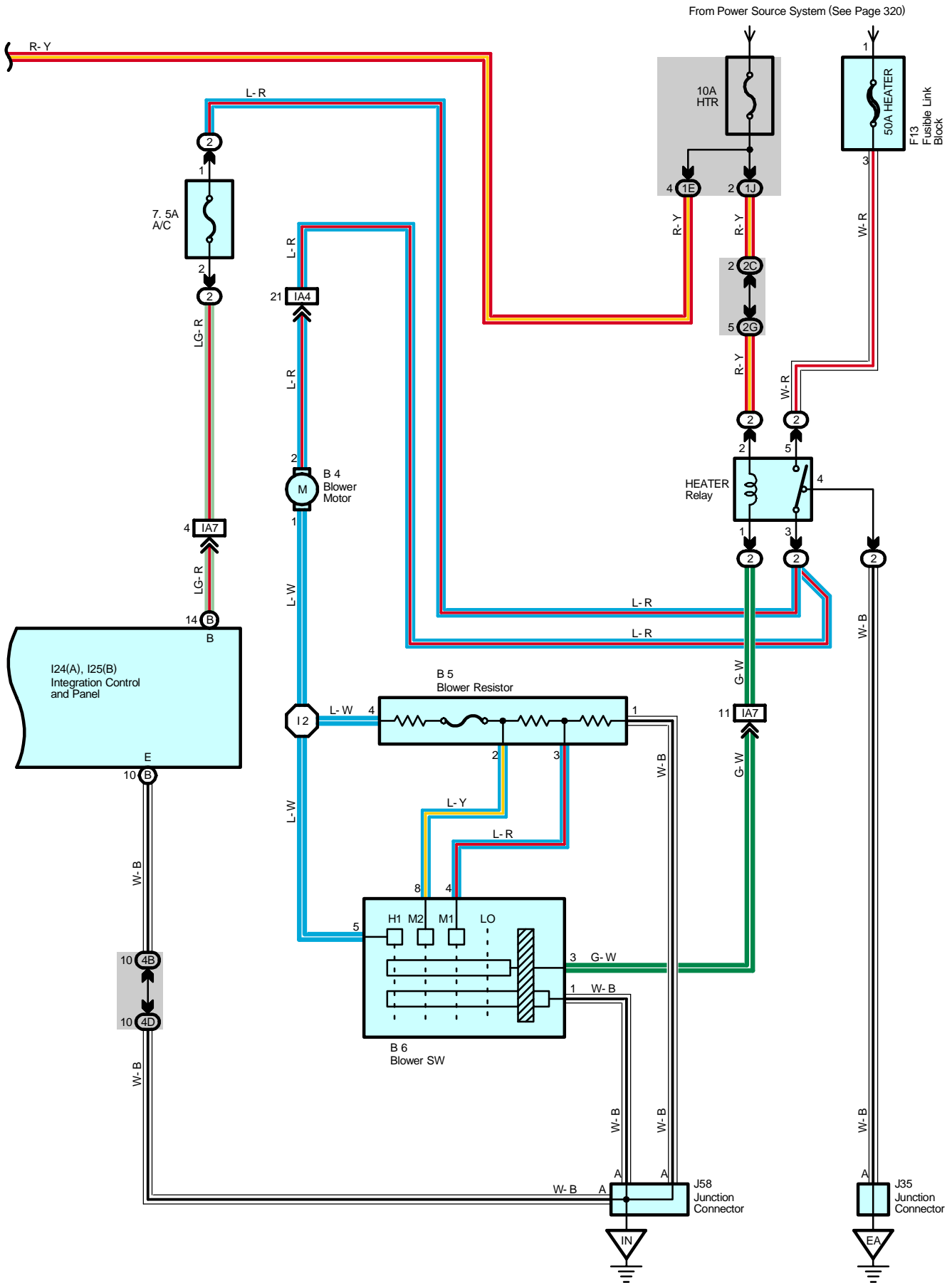
## ▽ : Ground Points

Code	See Page	Ground Points Location
EM	90	Radiator Side Support RH
IO	92	Left Kick Panel

# Air Conditioning (Double Cab)







# Air Conditioning (Double Cab)

## System Outline

### 1. Heater Blower Motor Operation

Current is applied at all times through the HEATER fuse to TERMINAL 5 of the HTR relay.

When the ignition SW is turned on, current flows through the HTR fuse to TERMINAL 2 of the HTR relay to the coil side to TERMINAL 1 to TERMINAL 3 of the blower SW.

#### \* Low speed operation

When the blower SW is moved to LO position, current flows to TERMINAL 3 of the blower SW to TERMINAL 1 to GROUND, causing the HTR relay to switch on. This causes the current to flow from the HEATER fuse to TERMINAL 5 of the HTR relay to TERMINAL 3 to TERMINAL 2 of the blower motor to TERMINAL 1 to TERMINAL 4 of the blower resistor to TERMINAL 1 to GROUND, causing the blower motor to rotate at low speed.

#### \* Medium speed operation (Operation at M1, M2)

When the blower SW is moved to M1 position, current flows to TERMINAL 3 of the blower SW to TERMINAL 1 to GROUND, turning the HTR relay to switch on. This causes the current to flow from the HEATER fuse to TERMINAL 5 of the HTR relay to TERMINAL 3 to TERMINAL 2 of the blower motor to TERMINAL 1 to TERMINAL 4 of the blower resistor to TERMINAL 3 to TERMINAL 4 of the blower SW to TERMINAL 1 to GROUND. At this time, the blower resistance of the blower resistor is less than at low speed, so the blower motor rotates at medium low speed.

When the blower SW is moved to M2 position, current flows through the motor flows from TERMINAL 4 of the blower resistor to TERMINAL 2 to TERMINAL 8 of the blower SW to TERMINAL 1 to GROUND. At this time, resistance of the blower resistor is less than at M1 position, so the blower motor rotates at medium high speed.

#### \* High speed operation

When the blower SW is moved to HIGH position, current flows to TERMINAL 3 of the blower SW to TERMINAL 1 to GROUND, turning the HTR relay to switch on.

This causes the current to flow from the HEATER fuse to TERMINAL 5 of the HTR relay to TERMINAL 3 to TERMINAL 2 of the blower motor to TERMINAL 1 to TERMINAL 5 of the blower SW to TERMINAL 1 to GROUND, causing the blower motor to rotate at high speed.

### 2. Operation of Air Inlet Control Servo Motor

#### \* Switching from FRESH to RECIRC

With the ignition SW turned on, current flows from the HTR fuse to TERMINAL 5 of the air inlet control servo motor. When the RECIRC/FRESH SW is switched to the RECIRC side, current flows from TERMINAL 5 of the air inlet control servo motor to TERMINAL 1 to TERMINAL (A) 8 of the integration control and panel to TERMINAL (B) 10 to GROUND. The motor rotates and the damper moves to the RECIRC side. When it is in the RECIRC position, current is cut inside the servo motor and 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, current flows from TERMINAL 5 of the air inlet control servo motor to TERMINAL 2 to TERMINAL (A) 7 of the integration control and panel to TERMINAL (B) 10 to GROUND, the motor rotates and the damper moves to the FRESH side. when it is in the FRESH position, current is cut inside the servo motor and the damper stops at that position. When the ignition SW turned on, and mode SW (Integration control and panel) is at DEF or F/DEF position, it causes the damper to move to the FRESH side. Whether the RECIRC/FRESH SW (Integration control and panel) is on or not.

### 3. Air Conditioning Operation

When the blower SW is on, current flows from the HTR fuse to the HTR relay (Coil side) to TERMINAL 3 of the blower SW to TERMINAL 1 to GROUND, activating the HTR relay. This causes current to flow from the HEATER fuse to the HTR relay (Point side) to A/C fuse to TERMINAL (B) 14 of the A/C SW (Integration control and panel). When the A/C SW (Integration Control and panel) is turned on. Current flows from the A/C fuse to TERMINAL (B) 14 of the integration control and panel to TERMINAL (B) 18 to A/C magnetic clutch. Causing The compressor to operate.

When blower SW is on and mode SW (Integration control and panel) is at DEF or F/DEF position, it causes A/C to run whether A/C SW (Integration control and panel) is on or not.

## Service Hints

### HEATER Relay

5-3 : Closed with ignition SW on and heater blower SW on

### A1 A/C Dual Pressure SW

1-2 : Open with refrigerant pressure at less than approx. 2.0 kgf/cm<sup>2</sup> (196.1 kpa, 28.4 psi) or more than approx. 32.0 kgf/cm<sup>2</sup> (3138.1 kpa, 455 psi)

### I25 (B) Integration Control and Panel

(B)17-Ground : Approx. 12 volts with ignition SW at ON or ST position

(B)14-Ground : Approx. 12 volts with ignition SW on and blower SW on

(B)10-Ground : Always continuity

## ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A1	64	B5	66	I25 B	67
A3	64	B6	66	J35	65
A13	66	E4	67	J58	68
A15	66	F13	34, 64		
B4	66	I24 A	67		

## ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
2	38	Engine Room R/B No.2 (Engine Compartment Left)

## ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	45	Cowl Wire and Driver Side J/B (Lower Finish Panel)
1J	45	Engine Room Main Wire and Driver Side J/B (Lower Finish Panel)
2C	41	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2G		
3D	48	Cowl Wire and Sub J/B No.3 (Upper the Accelerator Pedal)
3E		
4A	50	Cowl Wire and Sub J/B No.4 (Upper the Accelerator Pedal)
4B		
4D		

## □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA4	92	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
IA7		
IE1	94	Engine Wire and Cowl Wire (Right Side of Instrument Panel)
IJ1	94	Engine Room Main Wire and Cowl Wire (Cowl Side Panel RH)
IJ2		

## ▽ : Ground Points

Code	See Page	Ground Points Location
EA	90	Front Left Fender Apron
IN	92	Right Kick Panel

## ○ : Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I2	94	Cowl Wire			

# 2005 TOYOTA TUNDRA ELECTRICAL WIRING DIAGRAM SYSTEM CIRCUITS

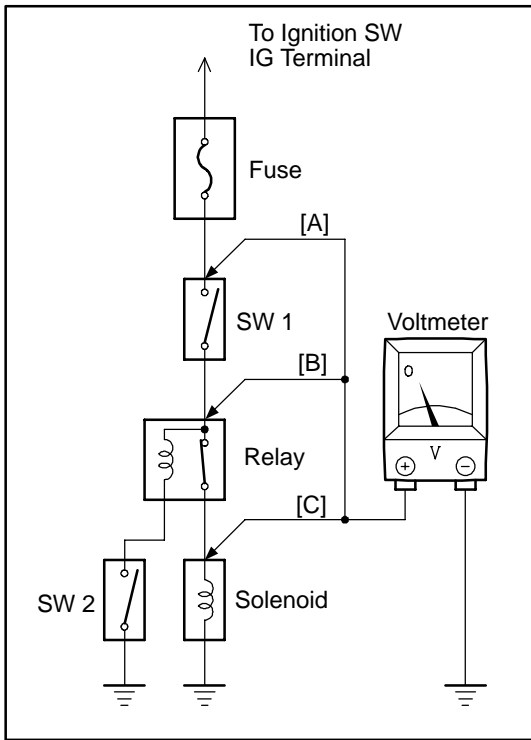
(ACCESS CAB, STANDARD CAB)

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# C TROUBLESHOOTING

## VOLTAGE CHECK



- (a) Establish conditions in which voltage is present at the check point.

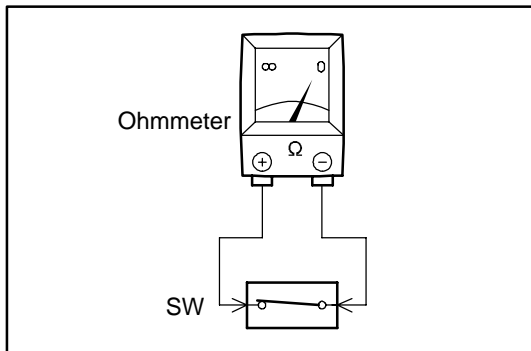
Example:

- [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.

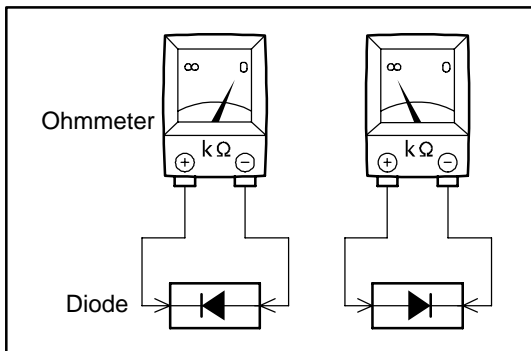
This check can be done with a test light instead of a voltmeter.

## CONTINUITY AND RESISTANCE CHECK



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

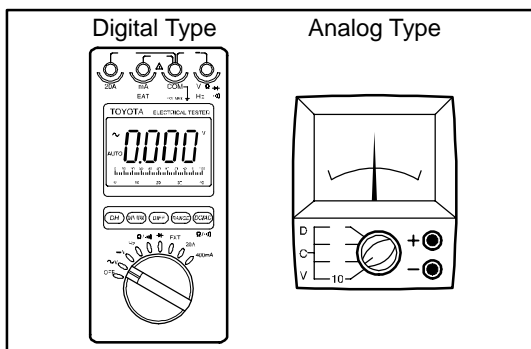
- (b) Contact the two leads of an ohmmeter to each of the check points.



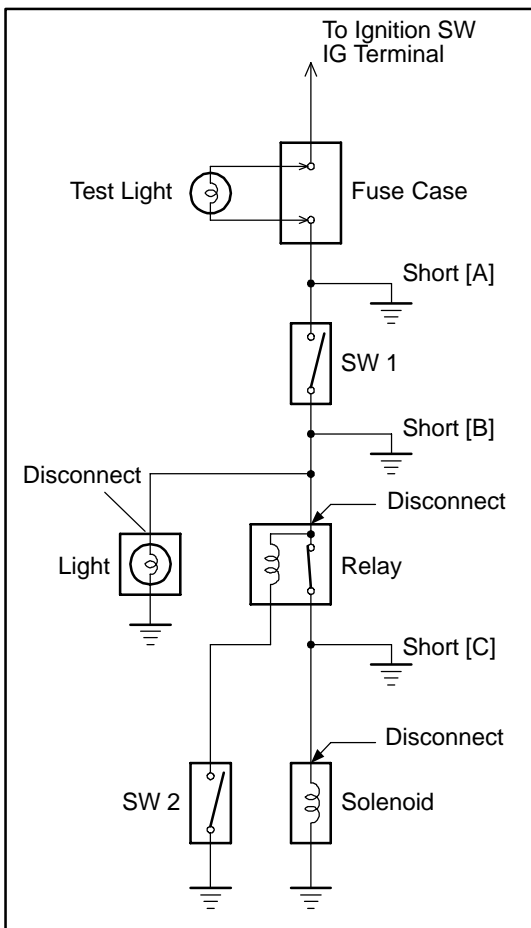
If the circuit has diodes, reverse the two leads and check again.

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 k $\Omega$ /V minimum) for troubleshooting of the electrical circuit.



## FINDING A SHORT CIRCUIT

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

Example:

- [A] - Ignition SW on
  - [B] - Ignition SW and SW 1 on
  - [C] - Ignition SW, SW 1 and Relay on (Connect the Relay) and SW 2 off (or Disconnect SW 2)
- Disconnect and reconnect the connectors while watching the test light. The short lies between the connector where the test light stays lit and the connector where the light goes out.
  - Find the exact location of the short by lightly shaking the problem wire along the body.

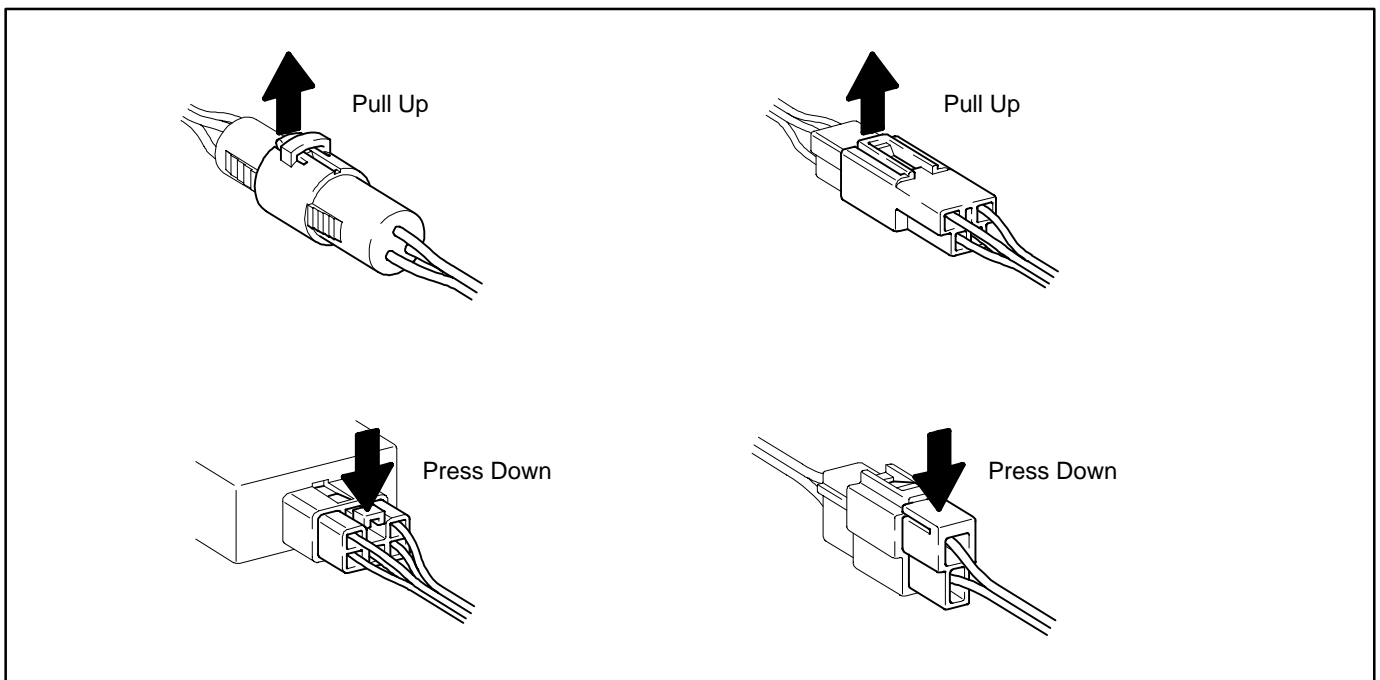
## CAUTION:

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

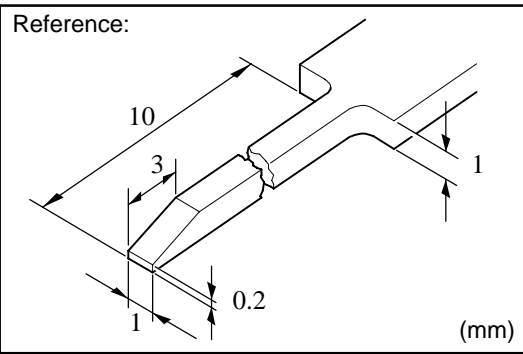
## DISCONNECTION OF MALE AND FEMALE CONNECTORS

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

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



## C TROUBLESHOOTING



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

#### 1. PREPARE THE SPECIAL TOOL

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

#### 2. DISCONNECT CONNECTOR

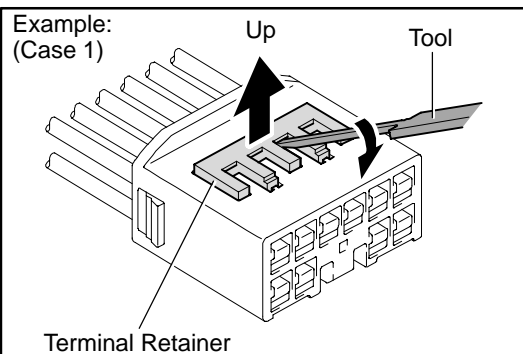
#### 3. DISENGAGE THE SECONDARY LOCKING DEVICE OR TERMINAL RETAINER.

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

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

#### NOTICE:

**Do not remove the terminal retainer from connector body.**

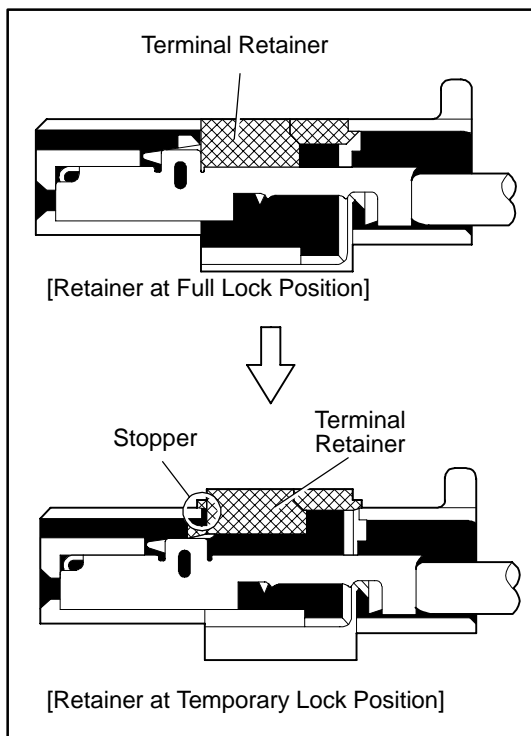


[A] For Non-Waterproof Type Connector

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

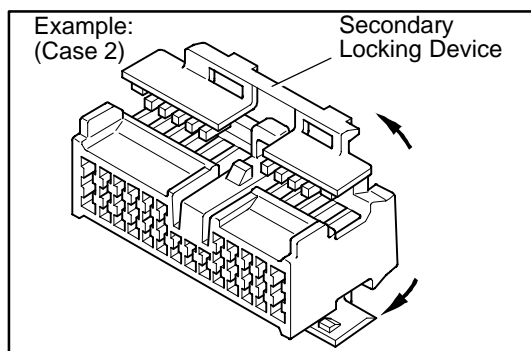
"Case 1"

Raise the terminal retainer up to the temporary lock position.

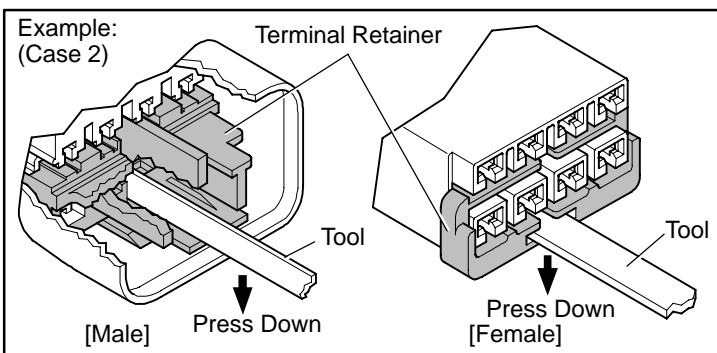
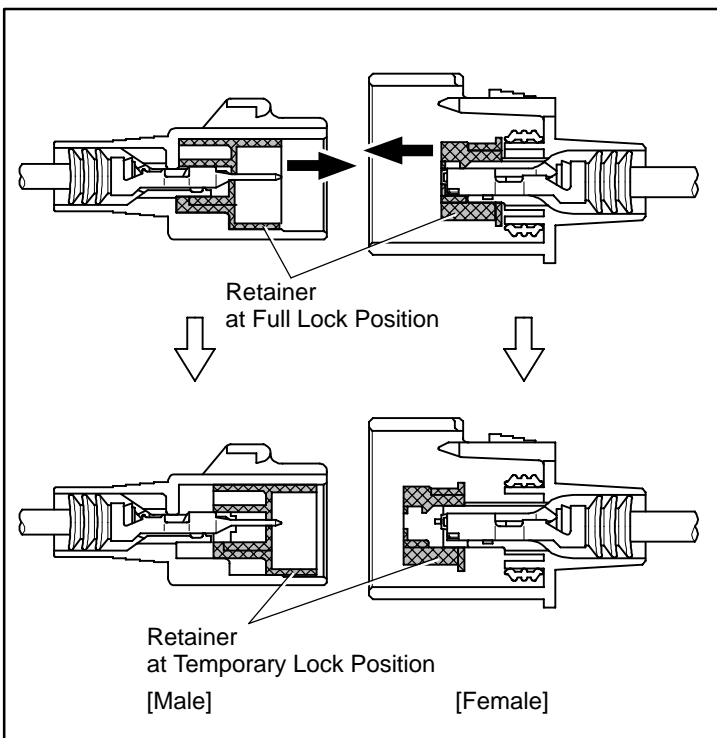
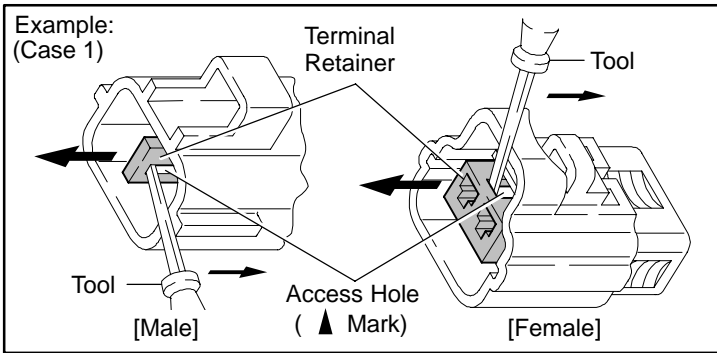
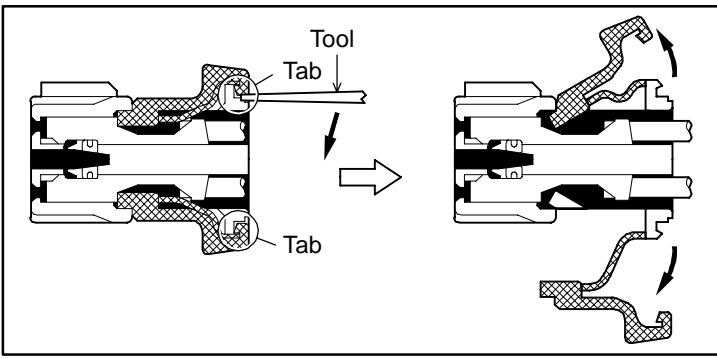


"Case 2"

Open the secondary locking device.







[B] For Waterproof Type Connector

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

Example:

Terminal Retainer : Connector Body

Black or White : Gray

Black or White : Dark Gray

Gray or White : Black

"Case 1"

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

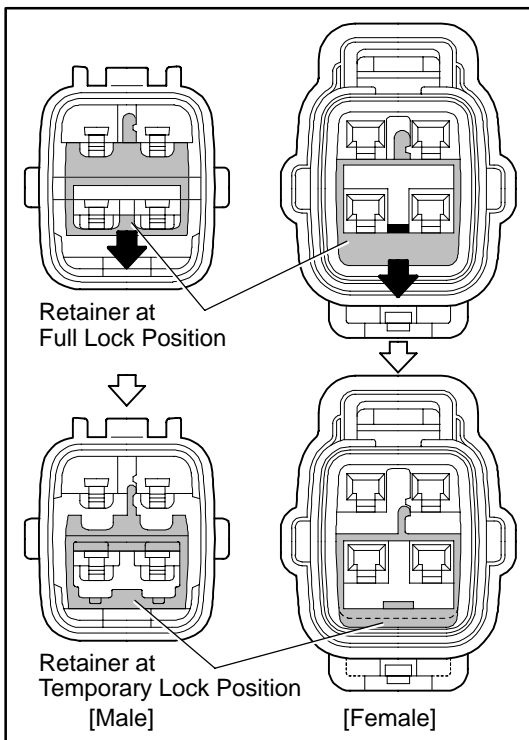
Insert the special tool into the terminal retainer access hole (▲Mark) and pull the terminal retainer up to the temporary lock position.

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

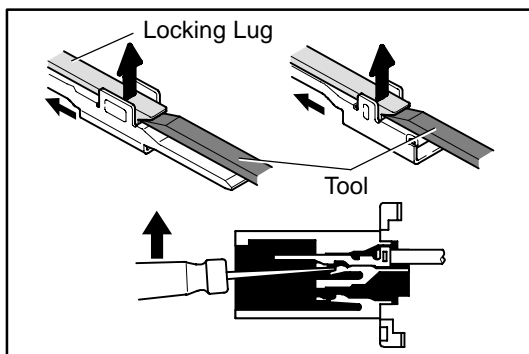
"Case 2"

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

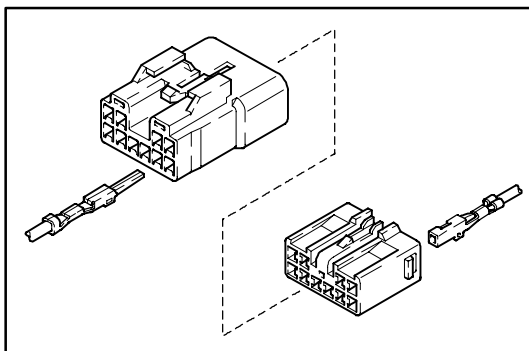
## C TROUBLESHOOTING



Push the terminal retainer down to the temporary lock position.



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

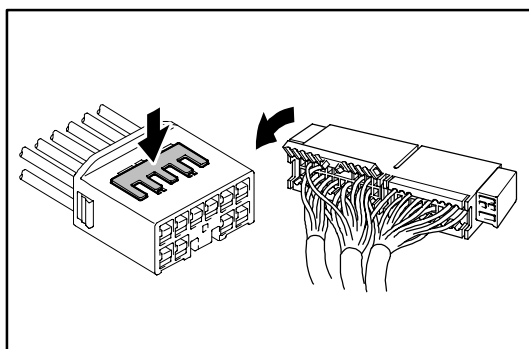


### 4. INSTALL TERMINAL TO CONNECTOR

(a) Insert the terminal.

HINT:

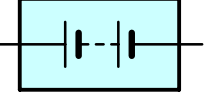

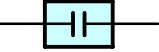
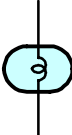

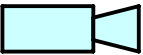
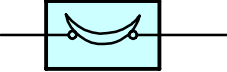






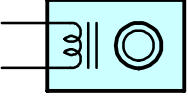
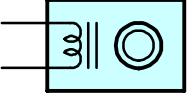
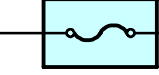
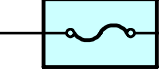

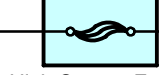
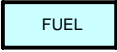

1. Make sure the terminal is positioned correctly.
2. Insert the terminal until the locking lug locks firmly.
3. Insert the terminal with terminal retainer in the temporary lock position.

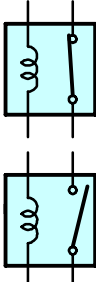

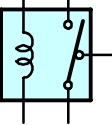
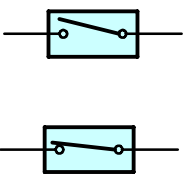
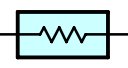
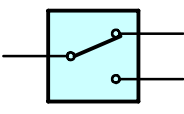
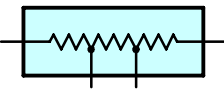
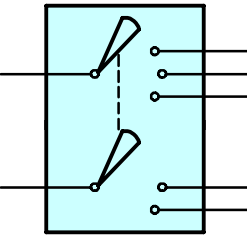

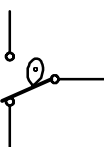

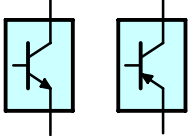
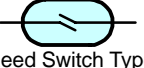
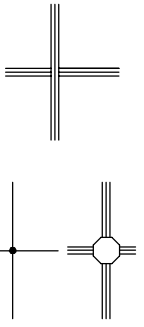
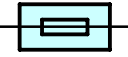
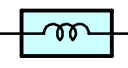


(b) Push the secondary locking device or terminal retainer in to the full lock position.

### 5. CONNECT CONNECTOR

# E GLOSSARY OF TERMS AND SYMBOLS

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

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