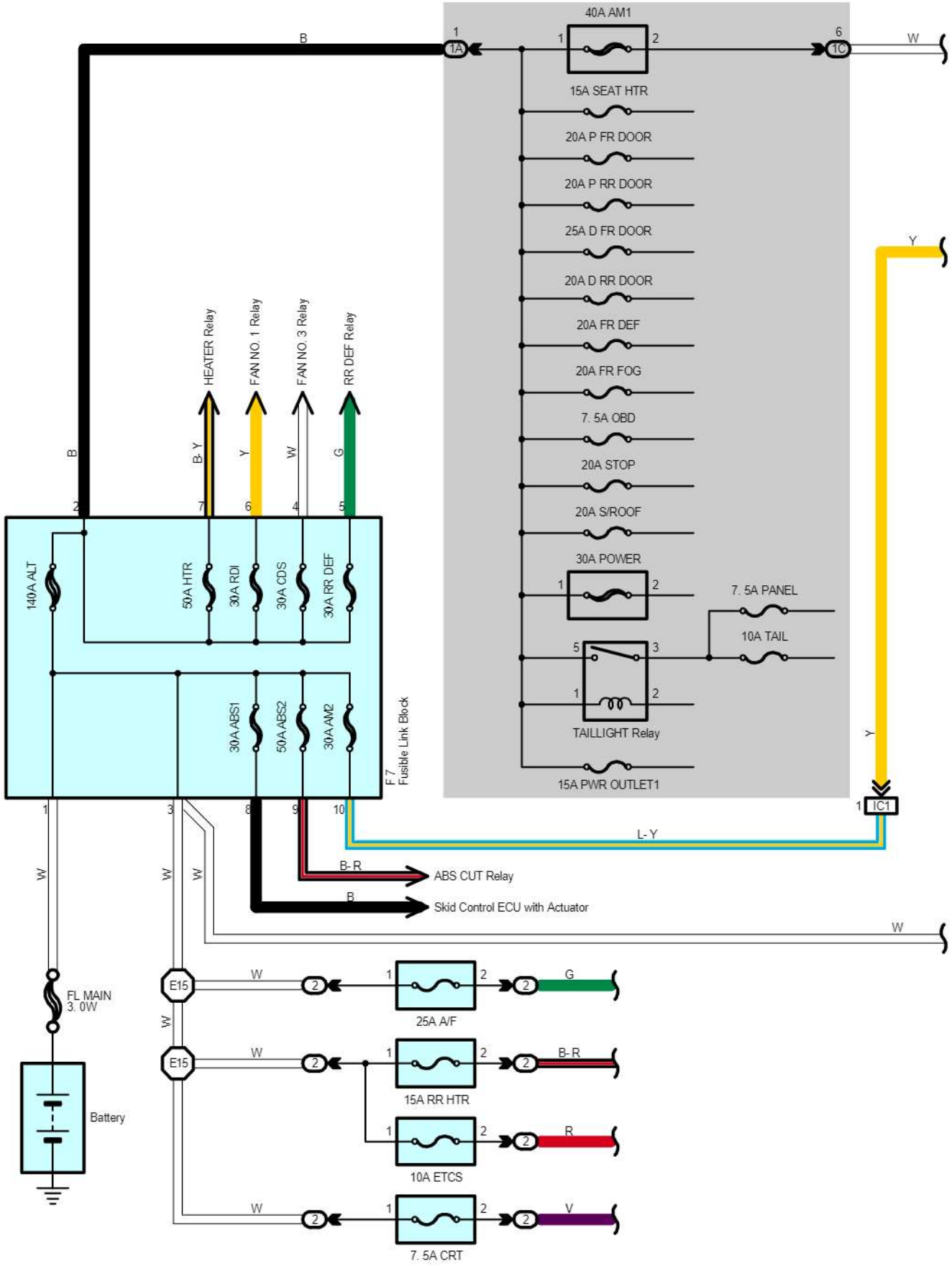
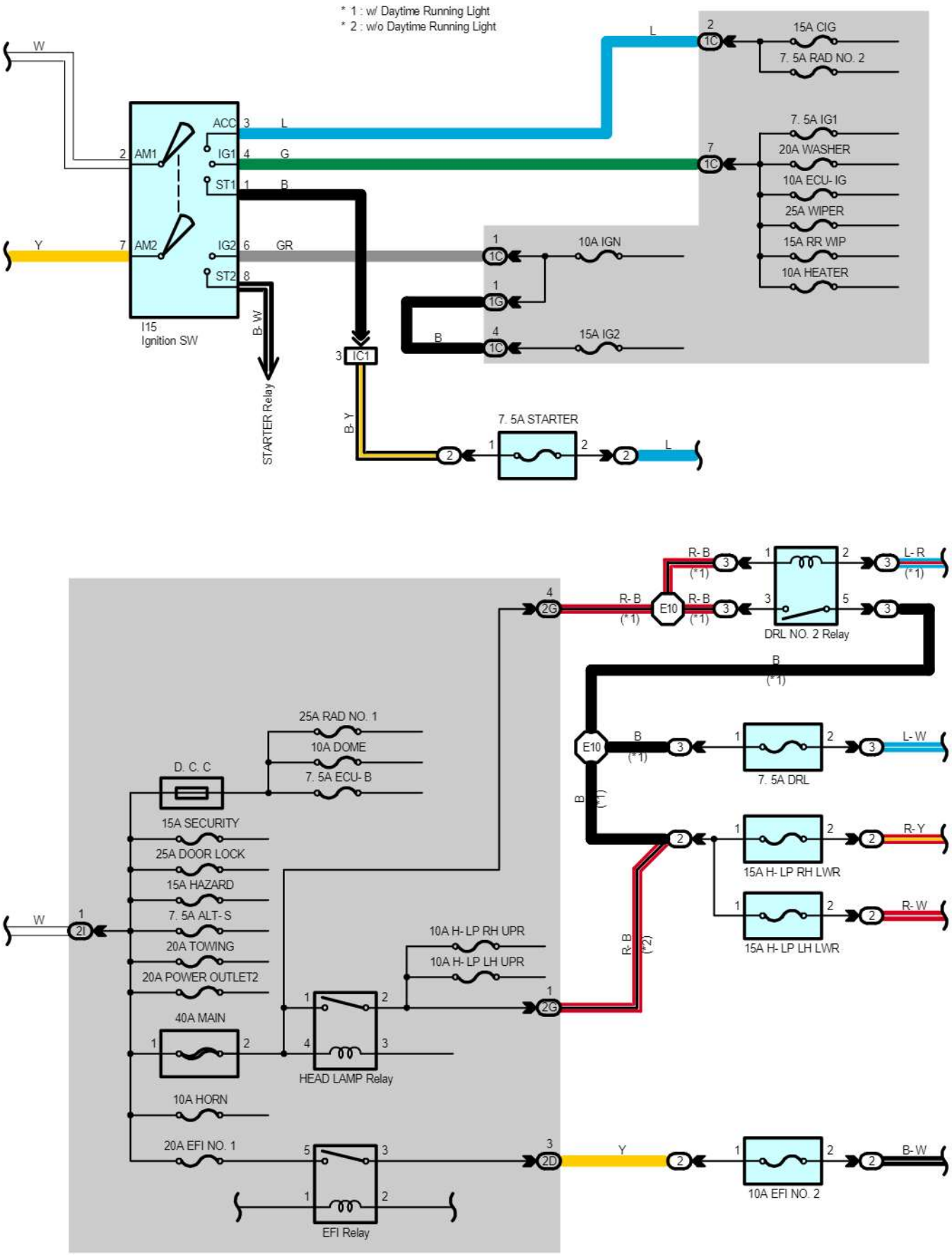

40A AM1
1A
1C
15A SEAT HTR
20A P FR DOOR
20A P RR DOOR
25A D FR DOOR
20A D RR DOOR
20A FR DEF
20A FR FOG
7. 5A OBD
20A STOP
20A S/ROOF
30A POWER
7. 5A PANEL
10A TAIL
TAILLIGHT Relay
15A PWR OUTLET1
HEATER Relay
FAN NO. 1 Relay
FAN NO. 3 Relay
RR DEF Relay
140A ALT
50A HTR
30A RDI
30A CDS
30A RR DEF
30A ABS1
50A ABS2
30A AM2
F 7
Fusible Link Block
IC1
L-Y
B-R
ABS CUT Relay
Skid Control ECU with Actuator
FL MAIN
3. 0W
Battery
E15
25A A/F
15A RR HTR
10A ETCS
7. 5A CRT


* 1 : w/ Daytime Running Light
* 2 : w/o Daytime Running Light
W
Y
ACC
IG1
ST1
IG2
ST2
AM1
AM2
I15
Ignition SW
B- W
STARTER Relay
B- Y
IC1
15A CIG
7. 5A RAD NO. 2
7. 5A IG1
20A WASHER
10A ECU- IG
25A WIPER
15A RR WIP
10A HEATER
10A IGN
15A IG2
7. 5A STARTER
DRL NO. 2 Relay
R- B
L- R
L- W
R- Y
R- W
7. 5A DRL
15A H- LP RH LWR
15A H- LP LH LWR
25A RAD NO. 1
10A DOME
7. 5A ECU- B
D. C. C
15A SECURITY
25A DOOR LOCK
15A HAZARD
7. 5A ALT- S
20A TOWING
20A POWER OUTLET2
40A MAIN
10A H- LP RH UPR
10A H- LP LH UPR
HEAD LAMP Relay
10A HORN
20A EFI NO. 1
EFI Relay
10A EFI NO. 2

Power Source

Service Hints

I15 Ignition SW

2-3 : Closed with the ignition SW at ACC or ON position
2-4 : Closed with the ignition SW at ON or ST position
2-1 : Closed with the ignition SW at ST position
7-6 : Closed with the ignition SW at ON or ST position
7-8 : Closed with the ignition SW at ST position

TAILLIGHT Relay

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

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
F7	38 (3MZ-FE)	F7	40 (2AZ-FE)	I15	43

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

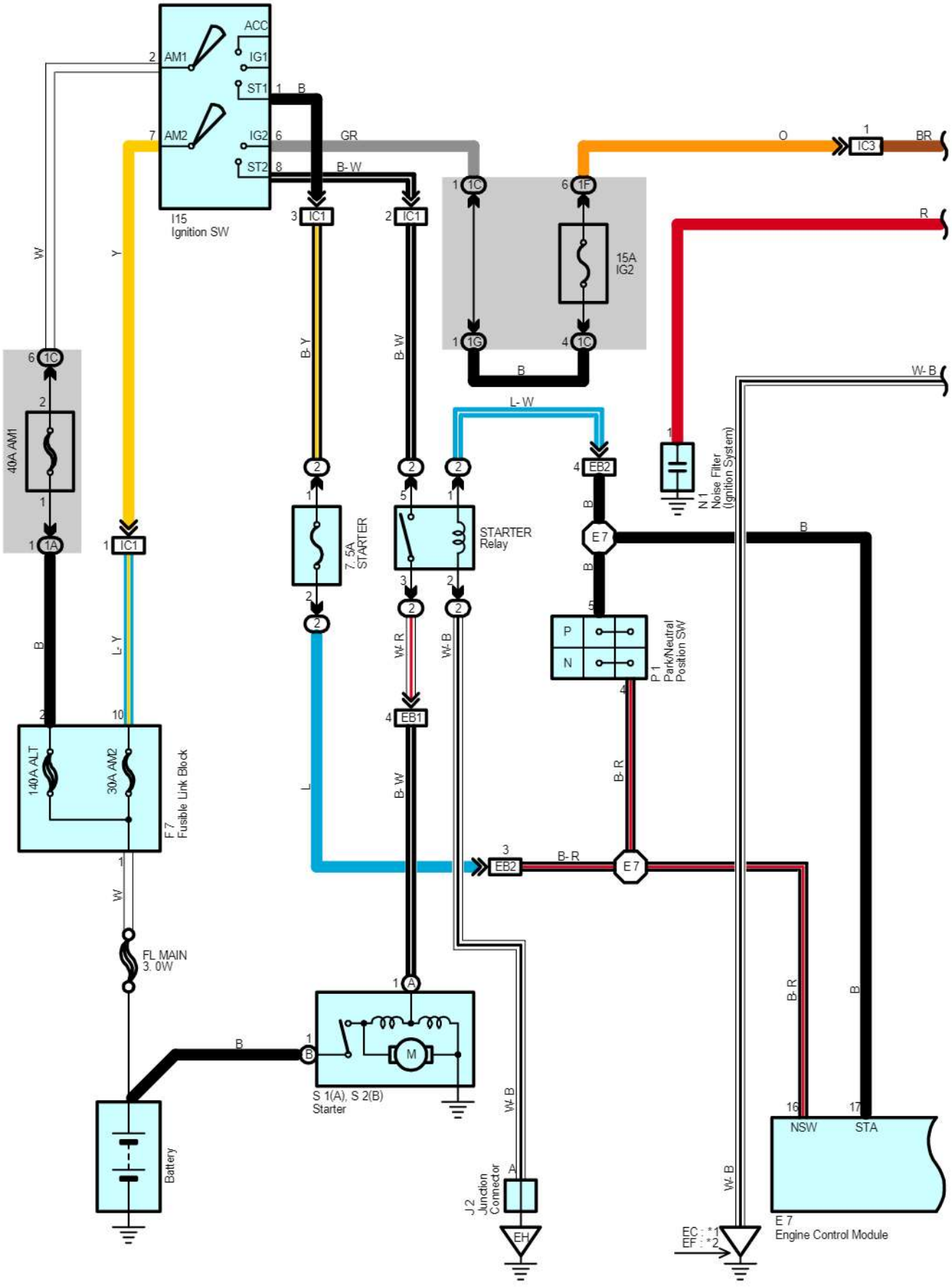
Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1C	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1G		
2D	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2G		
2I		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

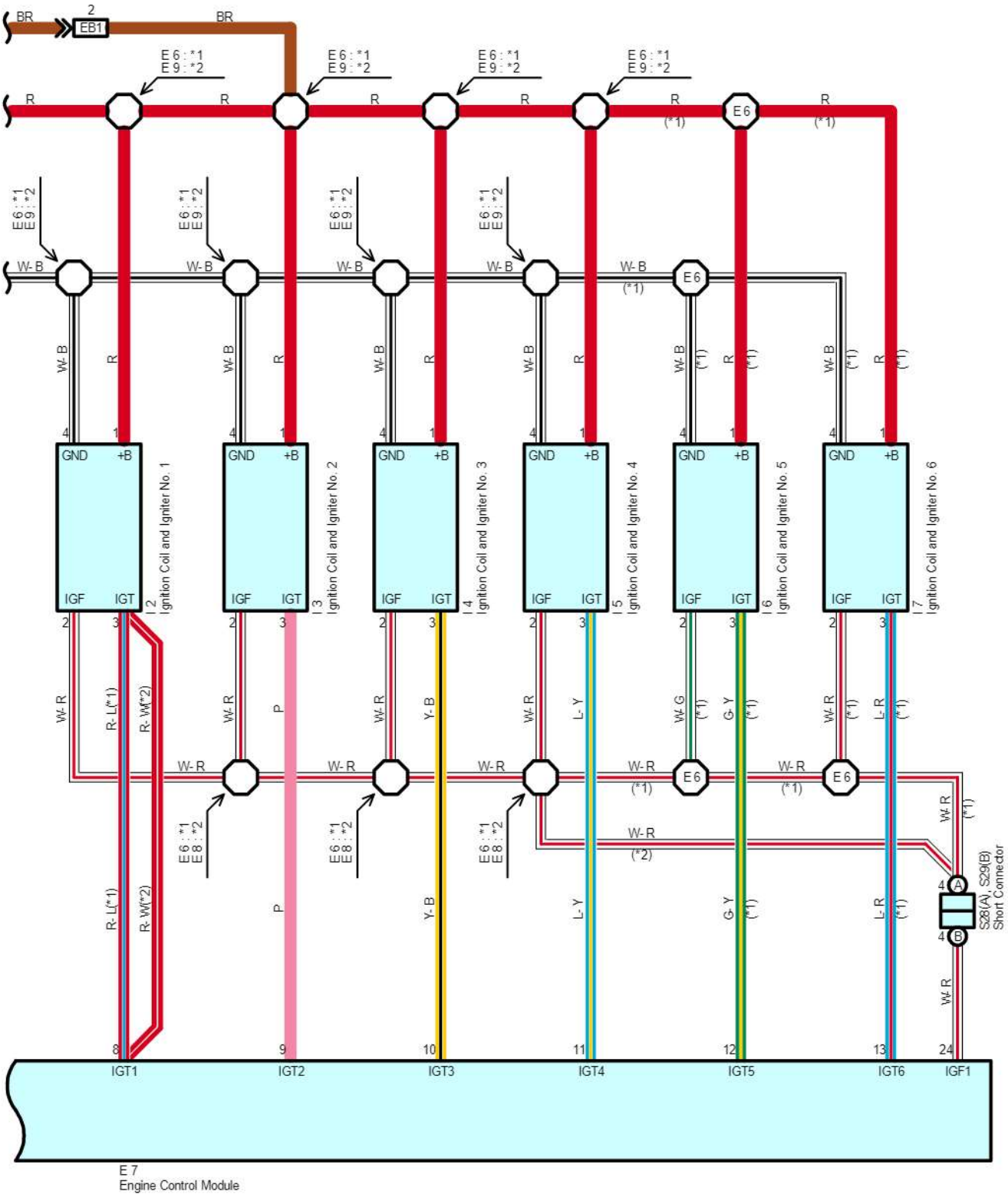
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC1	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E10	48 (3MZ-FE)	Engine Room Main Wire	E15	48 (3MZ-FE)	Engine Room Main Wire
	50 (2AZ-FE)			50 (2AZ-FE)	


I15
Ignition SW
ACC
IG1
ST1
IG2
ST2
AM1
AM2
B
GR
B-W
O
BR
R
W-B
L-W
B-Y
W
Y
L-Y
B
L
W-R
B-R
15A
IG2
40A AM1
7.5A
STARTER
STARTER
Relay
P
N
P 1
Park/Neutral
Position SW
N 1
Noise Filter
(Ignition System)
140A ALT
30A AM2
F 7
Fusible Link Block
FL MAIN
3.0W
Battery
S 1(A), S 2(B)
Starter
M
J 2
Junction
Connector
EH
NSW
STA
E 7
Engine Control Module
EC : *1
EF : *2

* 1 : 3MZ-FE
* 2 : 2AZ-FE



Service Hints

I15 Ignition SW

7-6 : Closed with the ignition SW at ON or ST position
7-8 : Closed with the ignition SW at ST position

P1 Park/Neutral Position SW

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

S1 (A), S2 (B) Starter

Points 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
E7	42	I5	39 (3MZ-FE)	P1		39 (3MZ-FE)
F7	38 (3MZ-FE)		41 (2AZ-FE)			41 (2AZ-FE)
	40 (2AZ-FE)	I6	39 (3MZ-FE)	S1	A	39 (3MZ-FE)
I2	39 (3MZ-FE)	I7	39 (3MZ-FE)			41 (2AZ-FE)
	41 (2AZ-FE)	I15	43	S2	B	39 (3MZ-FE)
I3	39 (3MZ-FE)	J2	39 (3MZ-FE)			41 (2AZ-FE)
	41 (2AZ-FE)		41 (2AZ-FE)	S28	A	43
I4	39 (3MZ-FE)	N1	39 (3MZ-FE)	S29	B	43
	41 (2AZ-FE)		41 (2AZ-FE)			

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1C	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1F		
1G		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

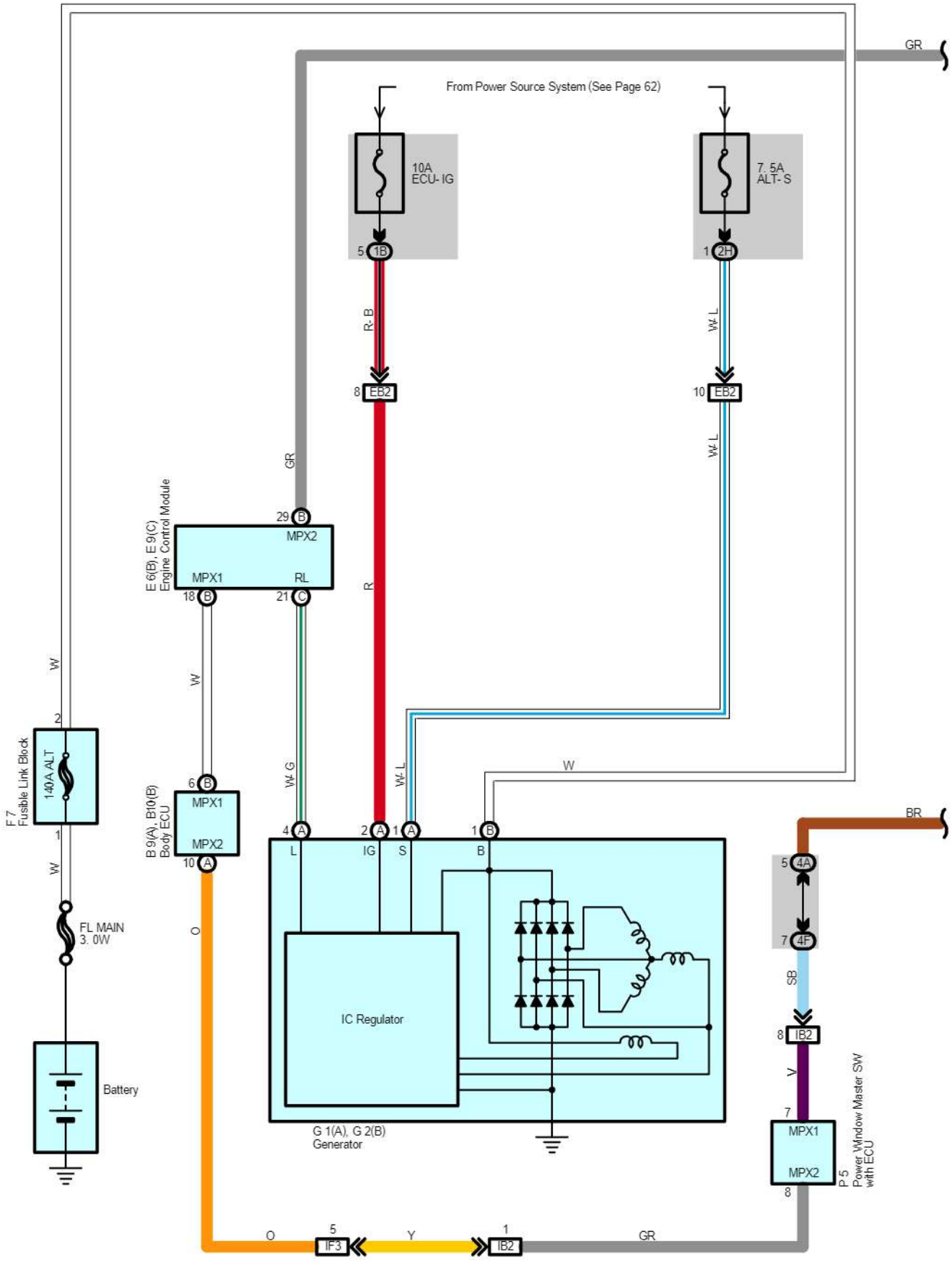
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB1	48 (3MZ-FE)	Engine Wire and Engine Room Main Wire (Front Side of Engine Room R/B)
	50 (2AZ-FE)	
EB2	48 (3MZ-FE)	
	50 (2AZ-FE)	
IC1	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC3		

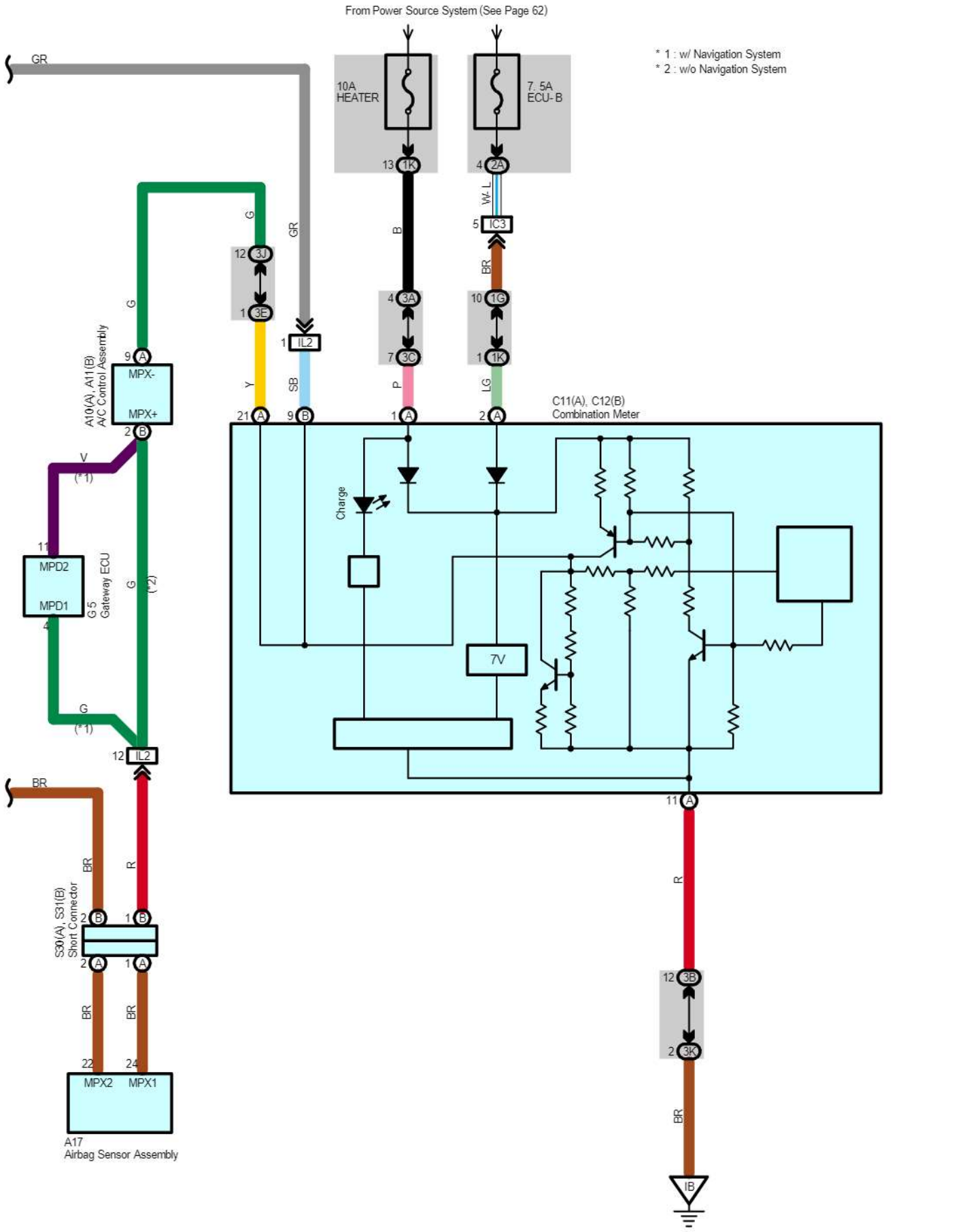
: GROUND POINTS

Code	See Page	Ground Points Location
EC	48 (3MZ-FE)	Left Side of Cylinder Head
EF	50 (2AZ-FE)	Left Side of Cylinder Block
EH	48 (3MZ-FE)	Under the Left Headlight
	50 (2AZ-FE)	

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E6	48 (3MZ-FE)	Engine Wire	E8	50 (2AZ-FE)	Engine Wire
E7	48 (3MZ-FE)		E9		
	50 (2AZ-FE)				


From Power Source System (See Page 62)
GR
10A
ECU- IG
7. 5A
ALT- S
5 1B
1 2H
R- B
W- L
8 EB2
10 EB2
W- L
GR
R
29 B
MPX2
E 6(B), E 9(C)
Engine Control Module
MPX1
RL
18 B
21 C
W
W
W
W- G
W- L
2
F 7
Fusible Link Block
140A ALT
6 B
MPX1
MPX2
B 9(A), B10(B)
Body ECU
10 A
4 A
L
2 A
IG
1 A
S
1 B
B
1
FL MAIN
3. 0W
O
IC Regulator
G 1(A), G 2(B)
Generator
Battery
BR
5 4A
7 4F
SB
8 IB2
V
7
MPX1
MPX2
8
P 5
Power Window Master SW
with ECU
O
5
IF3
Y
1
IB2
GR


From Power Source System (See Page 62)
* 1 : w/ Navigation System
* 2 : w/o Navigation System
GR
10A
HEATER
7.5A
ECU-B
13 1K
4 2A
W-L
5 IC3
BR
B
4 3A
10 1G
7 3C
1 1K
P
LG
G
GR
12 3J
1 3E
1 IL2
Y
SB
A10(A), A11(B)
A/C Control Assembly
9 A
MPX-
MPX+
2 B
21 A
9 B
1 A
2 A
C11(A), C12(B)
Combination Meter
V
(*1)
Charge
7V
11
MPD2
MPD1
4
G 5
Gateway ECU
G
(*2)
G
(*1)
12 IL2
BR
R
S30(A), S31(B)
Short Connector
2 B
1 B
2 A
1 A
BR
BR
22
24
MPX2
MPX1
A17
Airbag Sensor Assembly
11 A
R
12 3B
2 3K
BR
IB

Service Hints

G2 (B) Generator

(B) 1-Ground : 13.2-14.8 volts with the engine running at 2000 rpm

: PARTS LOCATION

Code		See Page	Code		See Page	Code		See Page
A10	A	42	E6	B	42	G2	B	40 (2AZ-FE)
A11	B	42	E9	C	42	G5		43
A17		42	F7		38 (3MZ-FE)	P5		44
B9	A	42			40 (2AZ-FE)	S30	A	43
B10	B	42	G1	A	38 (3MZ-FE)	S31	B	43
C11	A	42			40 (2AZ-FE)			
C12	B	42	G2	B	38 (3MZ-FE)			

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

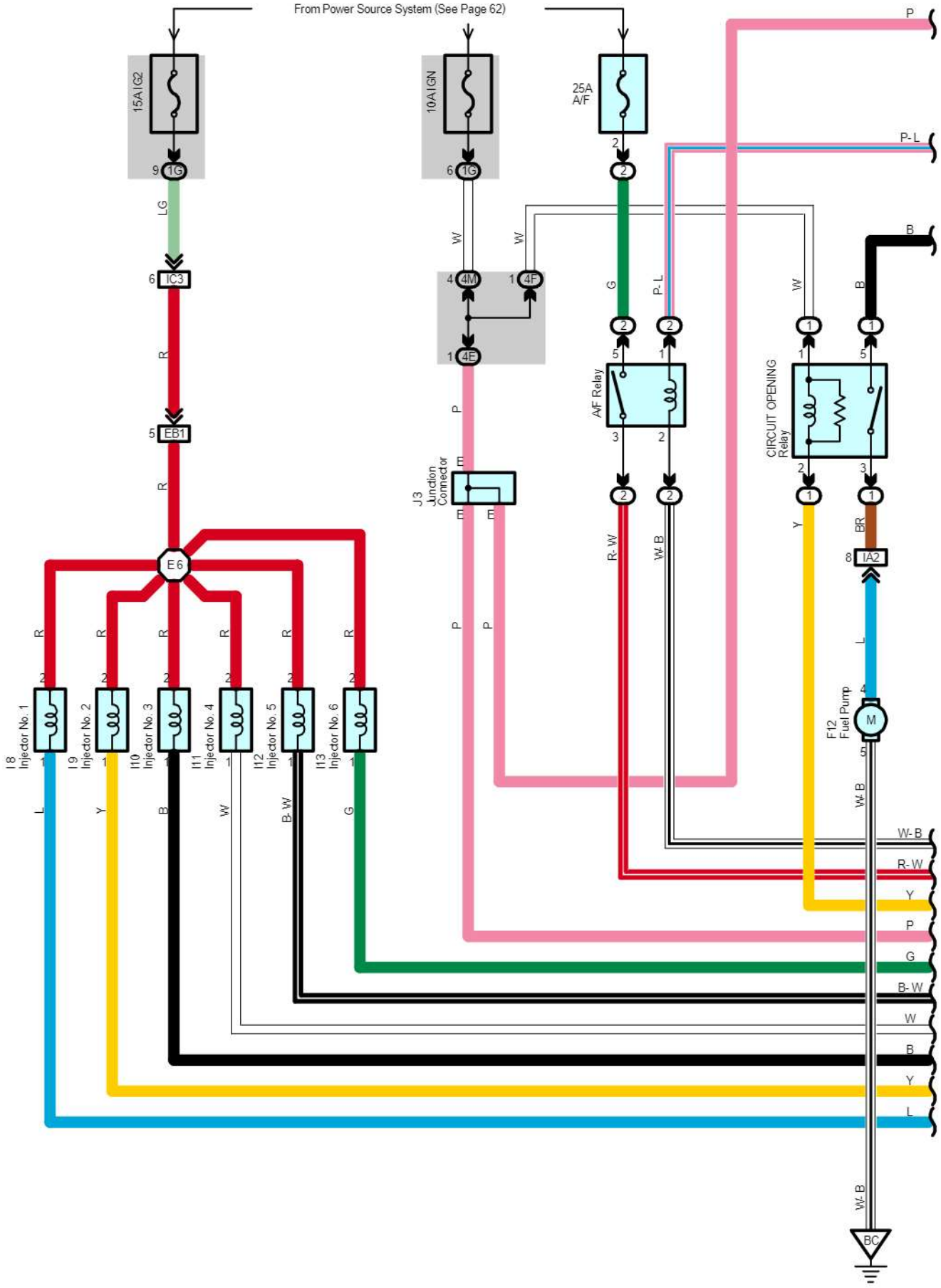
Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2H		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3E		
3J	31	
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4F		

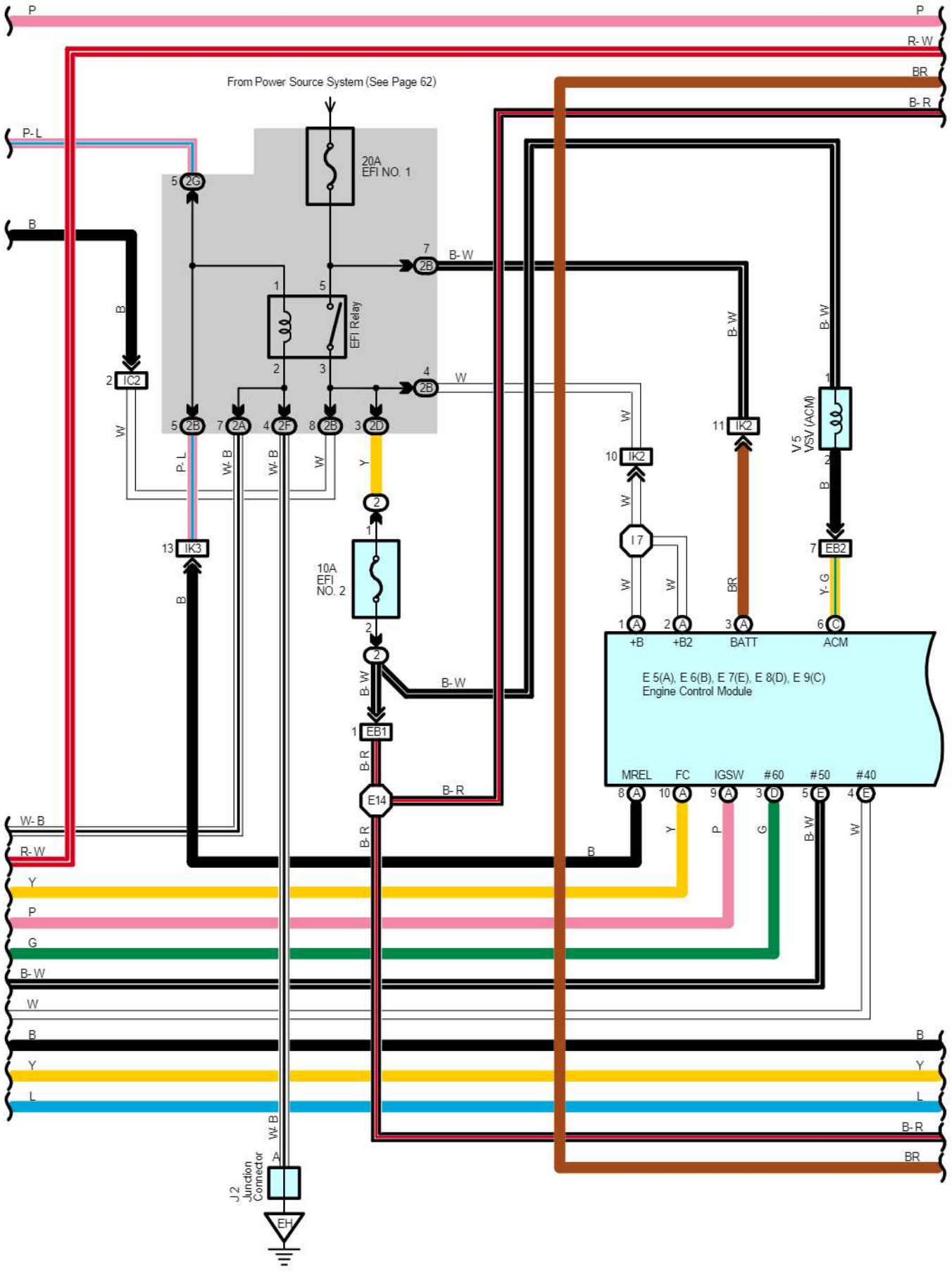
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

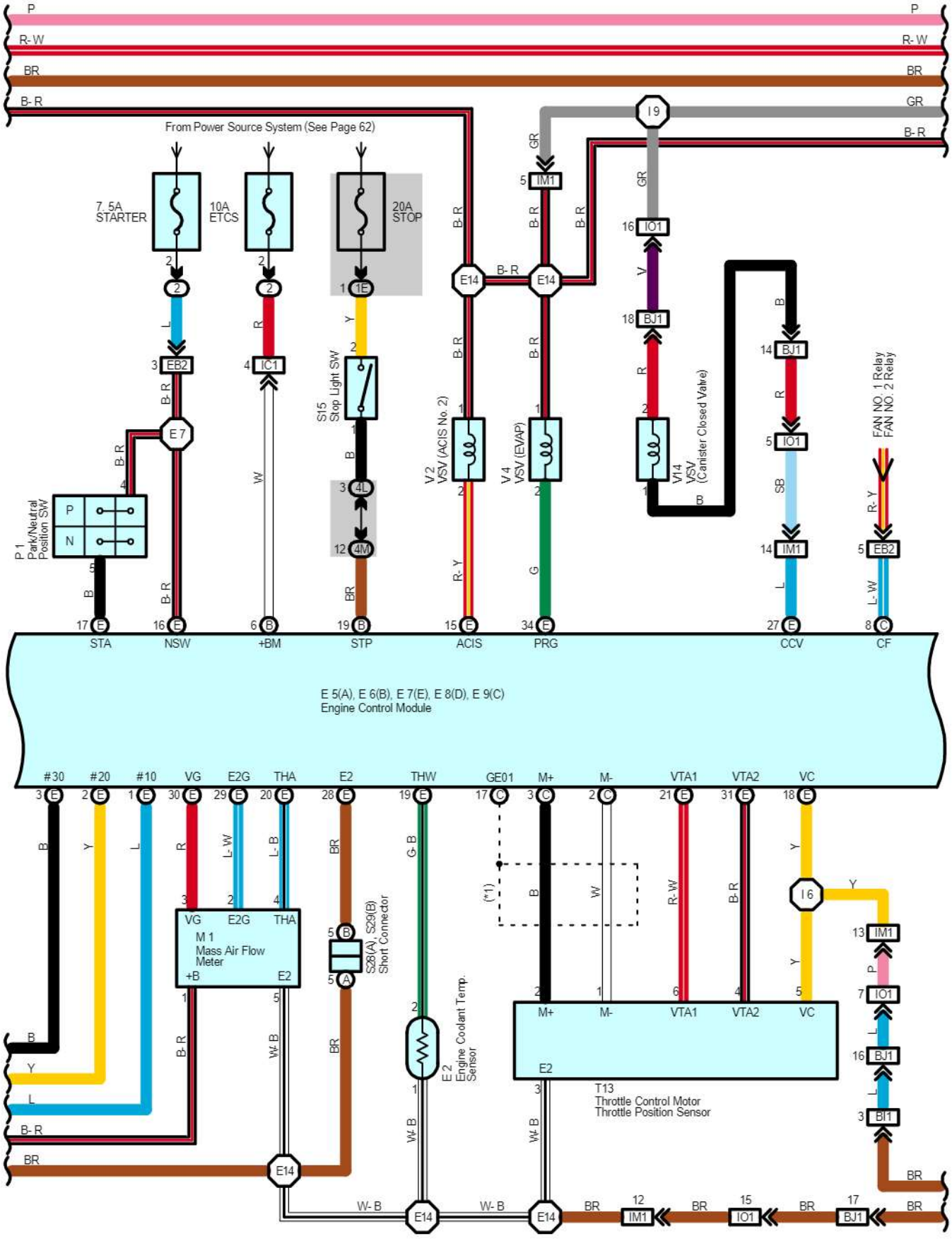
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB2	48 (3MZ-FE)	Engine Wire and Engine Room Main Wire (Front Side of Engine Room R/B)
	50 (2AZ-FE)	
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)

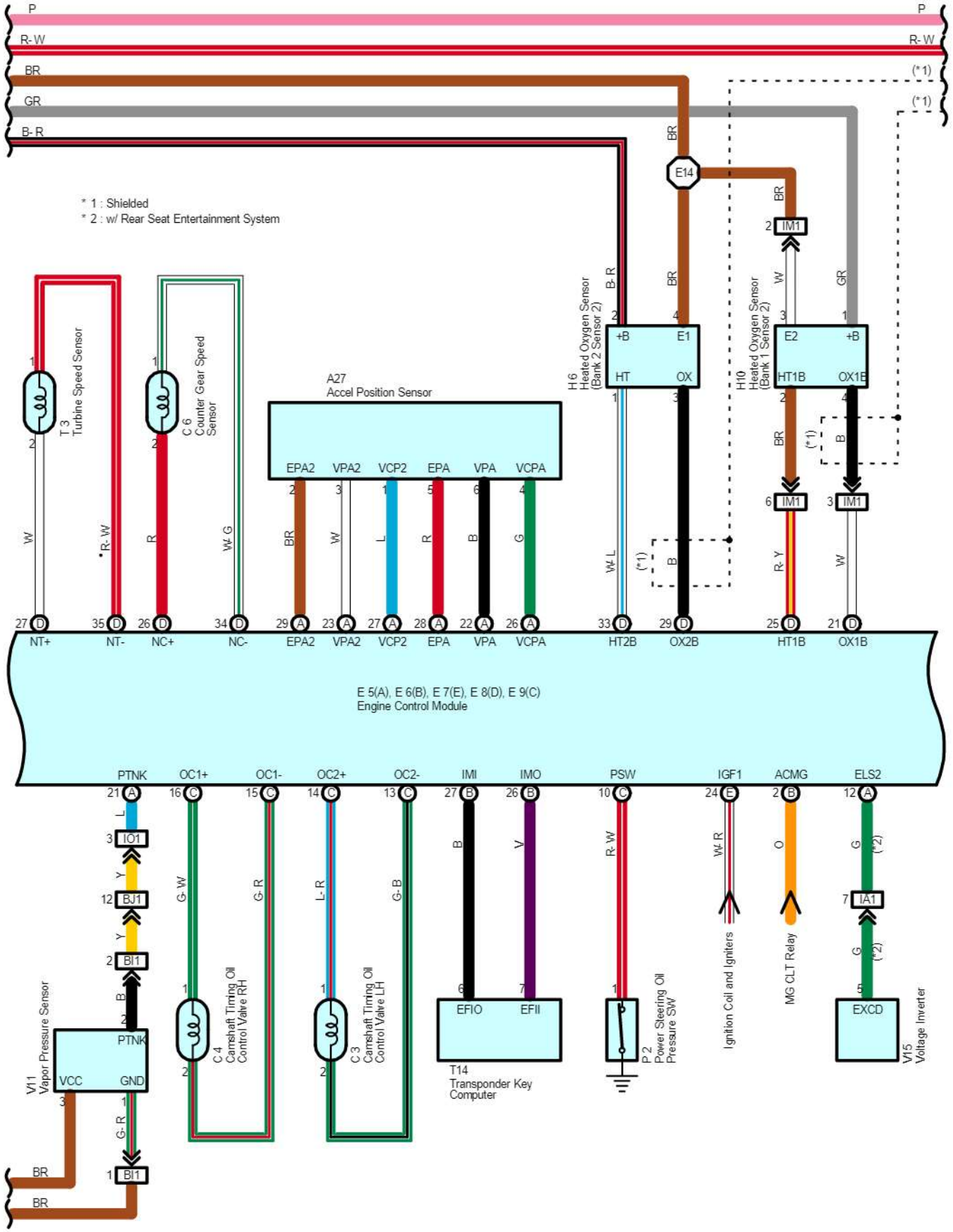
: GROUND POINTS

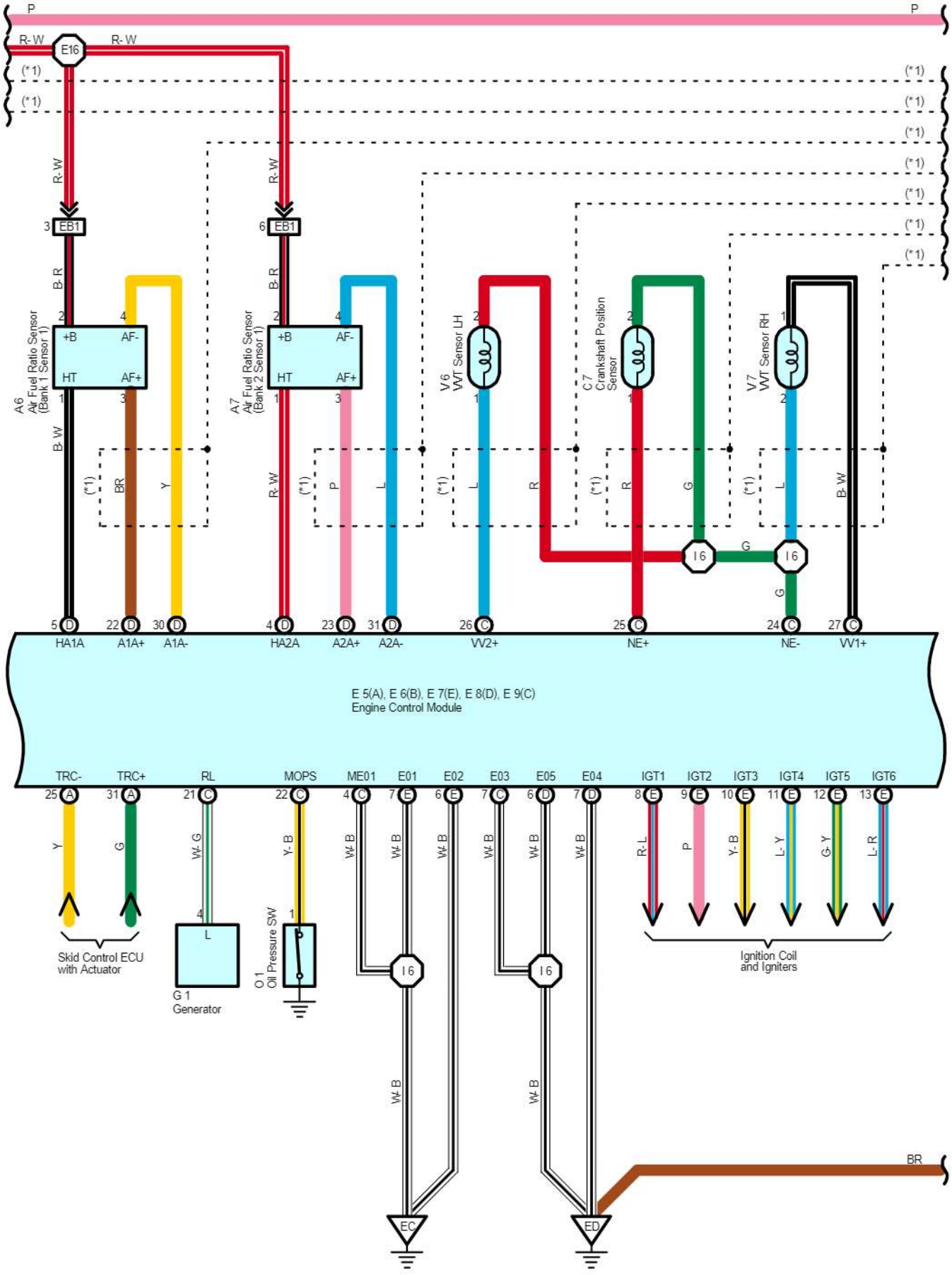
Code	See Page	Ground Points Location
IB	52	Right Instrument Panel Brace

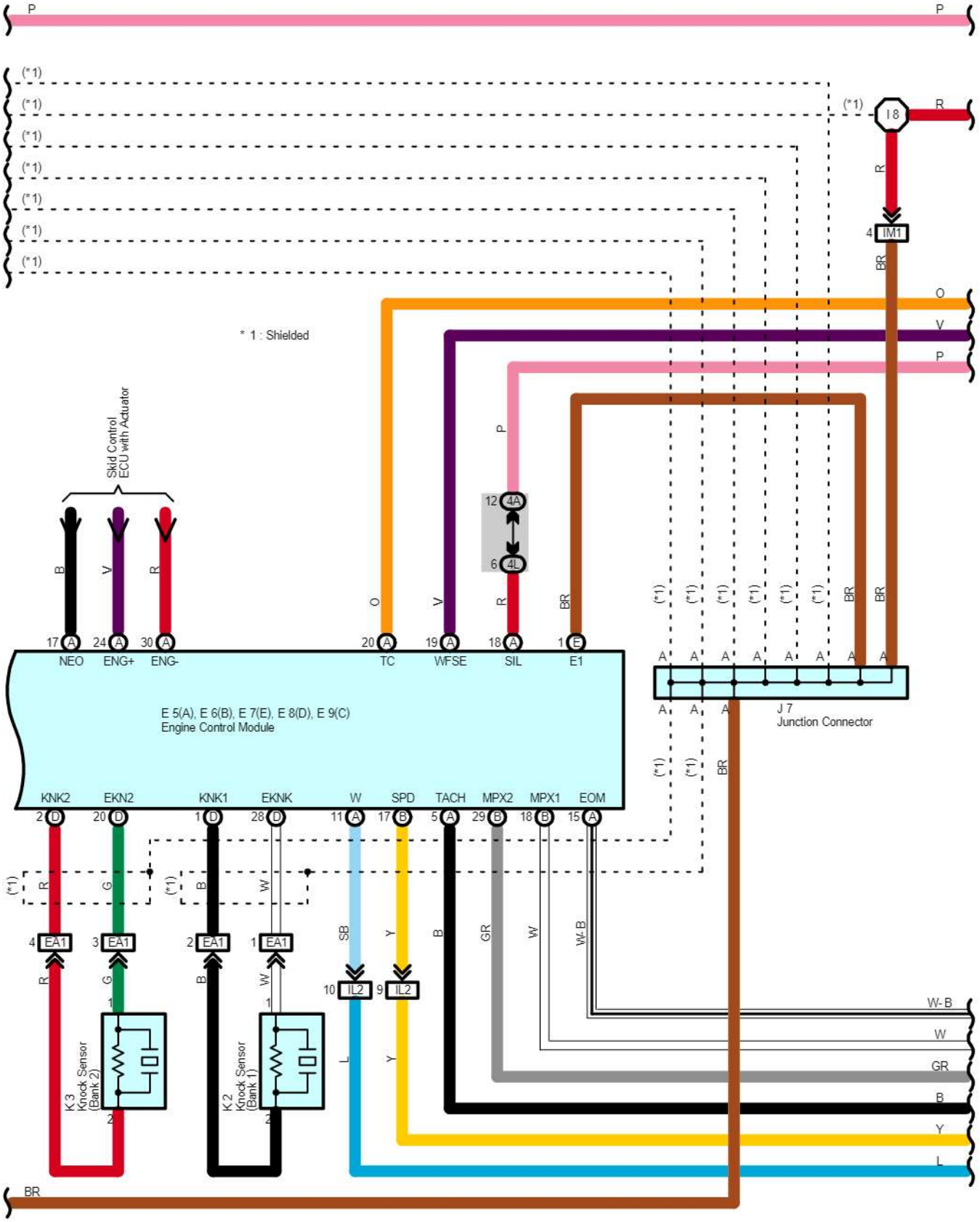

From Power Source System (See Page 62)
15A IG2
10A IGN
25A A/F
1G
IC3
EB1
E6
4M
4F
4E
J3 Junction Connector
A/F Relay
CIRCUIT OPENING Relay
IA2
F12 Fuel Pump
M
BC
I8 Injector No. 1
I9 Injector No. 2
I10 Injector No. 3
I11 Injector No. 4
I12 Injector No. 5
I13 Injector No. 6
LG
R
L
Y
B
W
B-W
G
P
P-L
R-W
W-B
BR

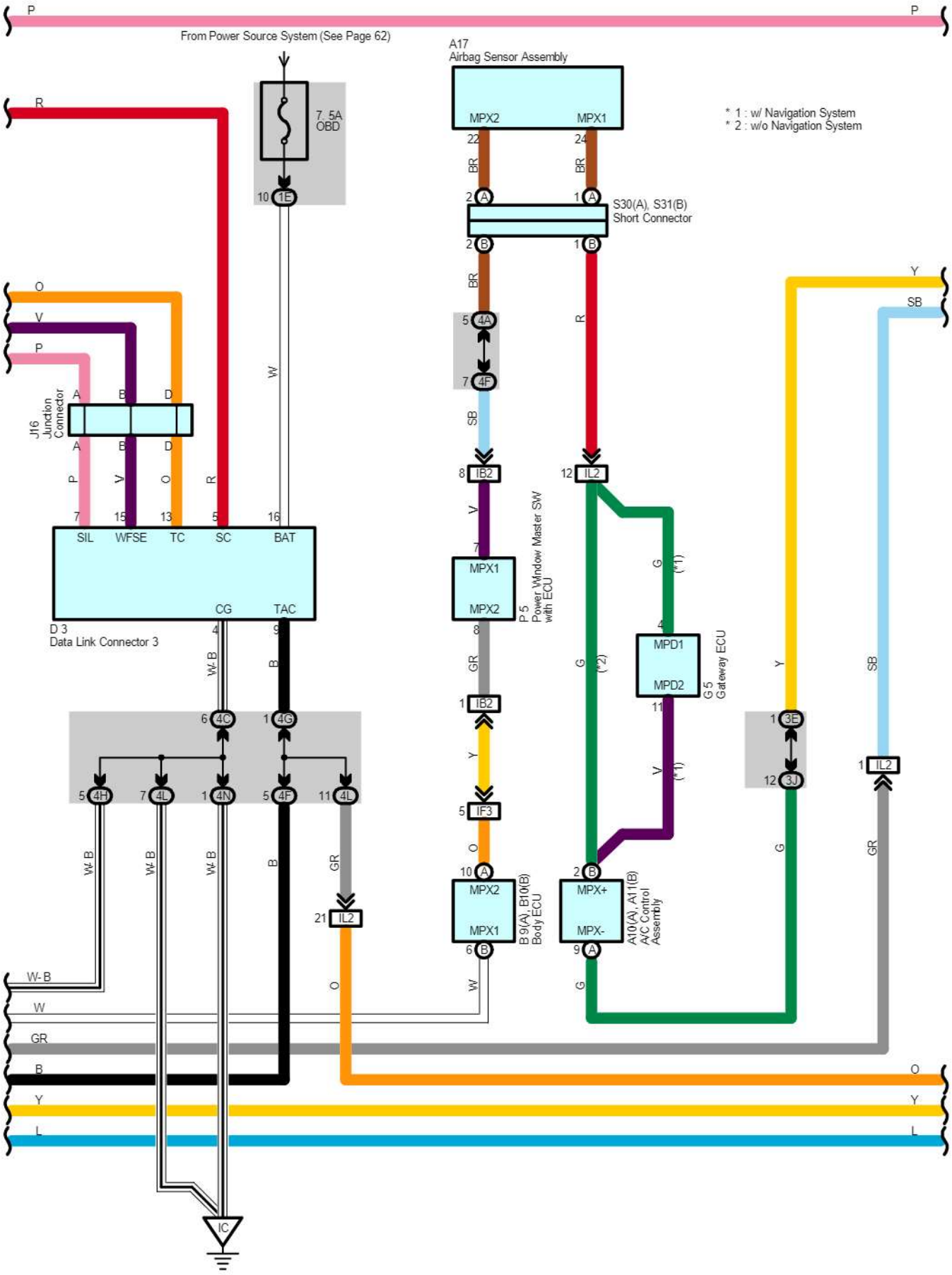

From Power Source System (See Page 62)
20A EFI NO. 1
EFI Relay
10A EFI NO. 2
VSV (ACM)
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C) Engine Control Module
+B
+B2
BATT
ACM
MREL
FC
IGSW
#60
#50
#40
J2 Junction Connector
EH

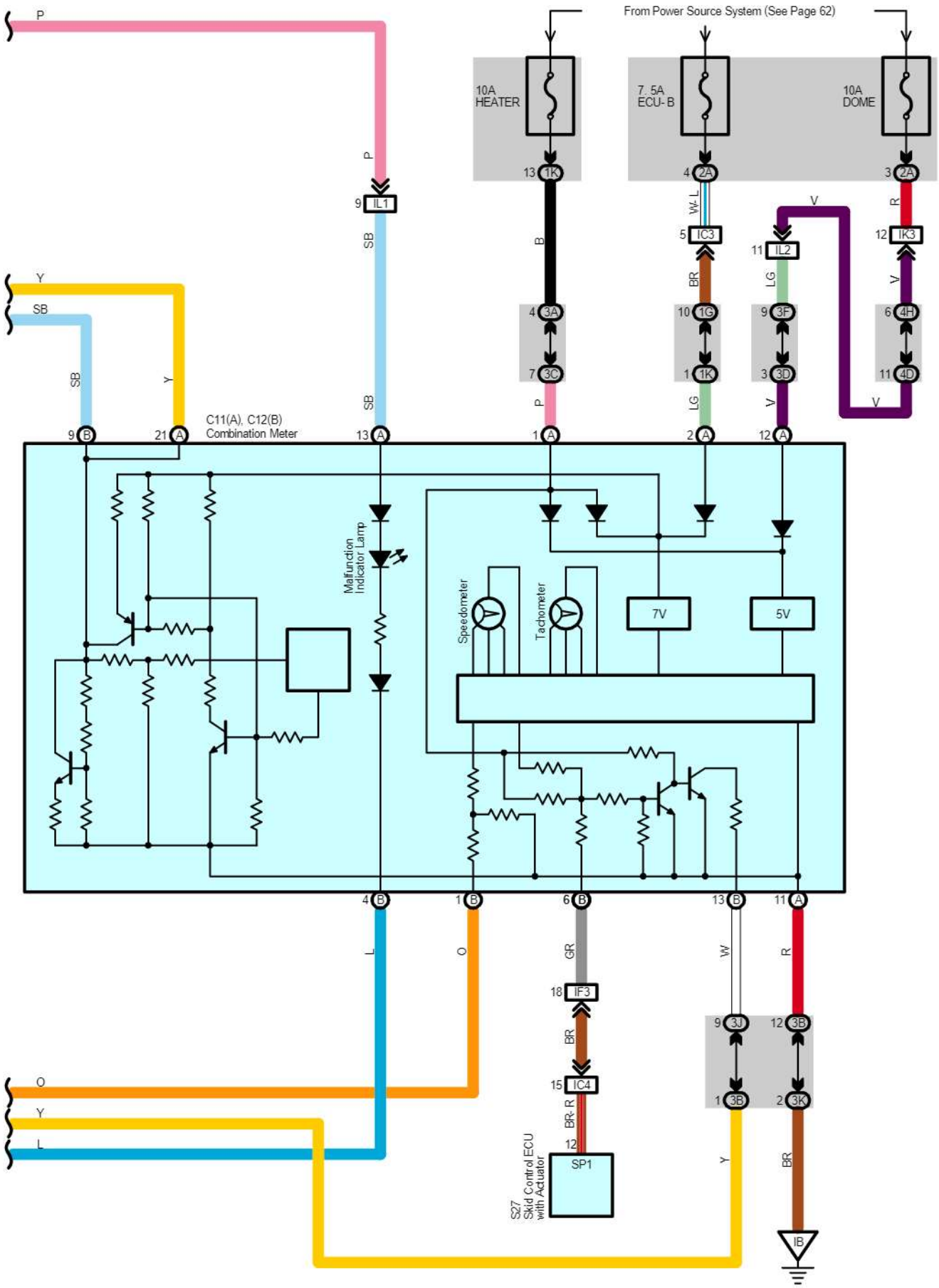

From Power Source System (See Page 62)
7.5A STARTER
10A ETCS
20A STOP
I9
IM1
IO1
BJ1
EB2
IC1
1E
E14
E7
S15 Stop Light SW
V2 VSV (ACIS No. 2)
V4 VSV (EVAP)
V14 VSV (Canister Closed Valve)
FAN NO. 1 Relay
FAN NO. 2 Relay
P1 Park/Neutral Position SW
STA
NSW
+BM
STP
ACIS
PRG
CCV
CF
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
#30
#20
#10
VG
E2G
THA
E2
THW
GE01
M+
M-
VTA1
VTA2
VC
M 1
Mass Air Flow Meter
+B
E2
S28(A), S29(B) Short Connector
E 2
Engine Coolant Temp. Sensor
(*1)
I6
T13
Throttle Control Motor
Throttle Position Sensor
BI1


P
R- W
BR
GR
B- R
* 1 : Shielded
* 2 : w/ Rear Seat Entertainment System
T 3
Turbine Speed Sensor
C 6
Counter Gear Speed Sensor
A27
Accel Position Sensor
EPA2
VPA2
VCP2
EPA
VPA
VCPA
H 6
Heated Oxygen Sensor
(Bank 2 Sensor 2)
+B
E1
HT
OX
H10
Heated Oxygen Sensor
(Bank 1 Sensor 2)
E2
+B
HT1B
OX1B
E14
IM1
(*1)
NT+
NT-
NC+
NC-
EPA2
VPA2
VCP2
EPA
VPA
VCPA
HT2B
OX2B
HT1B
OX1B
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
PTNK
OC1+
OC1-
OC2+
OC2-
IMI
IMO
PSW
IGF1
ACMG
ELS2
IO1
BJ1
BI1
IA1
V11
Vapor Pressure Sensor
VCC
GND
C 4
Camshaft Timing Oil
Control Valve RH
C 3
Camshaft Timing Oil
Control Valve LH
EFIO
EFII
T14
Transponder Key
Computer
P 2
Power Steering Oil
Pressure SW
Ignition Coil and Igniters
MG CLT Relay
EXCD
V15
Voltage Inverter
(*2)


P
R-W
E16
(*1)
EB1
B-R
A6
Air Fuel Ratio Sensor
(Bank 1 Sensor 1)
+B
HT
AF-
AF+
B-W
BR
Y
A7
Air Fuel Ratio Sensor
(Bank 2 Sensor 1)
R-W
P
L
V6
VVT Sensor LH
V7
VVT Sensor RH
C7
Crankshaft Position Sensor
R
G
I6
HA1A
A1A+
A1A-
HA2A
A2A+
A2A-
VV2+
NE+
NE-
VV1+
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
TRC-
TRC+
RL
MOPS
ME01
E01
E02
E03
E05
E04
IGT1
IGT2
IGT3
IGT4
IGT5
IGT6
W-G
Y-B
W-B
R-L
L-Y
G-Y
L-R
Skid Control ECU
with Actuator
G 1
Generator
O 1
Oil Pressure SW
Ignition Coil
and Igniters
EC
ED
BR


P
P
(*1)
(*1)
(*1)
(*1)
(*1)
(*1)
(*1)
(*1)
I 8
R
R
4 IM1
BR
O
V
P
* 1 : Shielded
Skid Control ECU with Actuator
B
V
R
P
12 4A
6 4L
O
V
R
BR
17 A NEO
24 A ENG+
30 A ENG-
20 A TC
19 A WFSE
18 A SIL
1 E1
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
J 7
Junction Connector
KNK2
EKN2
KNK1
EKNK
W
SPD
TACH
MPX2
MPX1
EOM
2 D
20 D
1 D
28 D
11 A
17 B
5 A
29 B
18 B
15 A
(*1)
R
G
B
W
SB
Y
B
GR
W
W-B
4 EA1
3 EA1
2 EA1
1 EA1
10 IL2
9 IL2
K3 Knock Sensor (Bank 2)
K2 Knock Sensor (Bank 1)
W-B
W
GR
B
Y
L
BR


P
P
From Power Source System (See Page 62)
A17
Airbag Sensor Assembly
MPX2
MPX1
* 1 : w/ Navigation System
* 2 : w/o Navigation System
R
7.5A
OBD
10 1E
22
24
BR
2 A
1 A
S30(A), S31(B)
Short Connector
2 B
1 B
BR
R
Y
SB
O
V
P
W
J16
Junction
Connector
A
B
D
5 4A
7 4F
SB
8 IB2
12 IL2
V
7
MPX1
MPX2
P 5
Power Window Master SW
with ECU
G
(*1)
4
MPD1
MPD2
G 5
Gateway ECU
11
V
(*1)
G
(*2)
SIL
WFSE
TC
SC
BAT
CG
TAC
D 3
Data Link Connector 3
W-B
B
6 4C
1 4G
1 3E
12 3J
1 IL2
5 4H
7 4L
1 4N
5 4F
11 4L
5 IF3
O
10 A
2 B
MPX2
MPX1
B 9(A), B10(B)
Body ECU
MPX+
MPX-
A10(A), A11(B)
A/C Control
Assembly
21 IL2
9 A
W
GR
L
IC


From Power Source System (See Page 62)
10A HEATER
7.5A ECU-B
10A DOME
C11(A), C12(B) Combination Meter
Malfunction Indicator Lamp
Speedometer
Tachometer
7V
5V
S27 Skid Control ECU with Actuator
SP1
IB

System Outline

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

1. Input Signals

(1) Engine coolant temp. signal circuit

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

(2) Intake air temp. signal circuit

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

(3) Vehicle speed signal circuit

The vehicle speed signal is input from the ABS speed sensor to skid control ECU with actuator, and are sent to the engine control module through communication control.

(4) RPM signal circuit

Camshaft position is detected by the VVT sensors and its signal is input to TERMINALS VV1+ and VV2+ of the engine control module as a control signal. Also, engine RPM is detected by the crankshaft position sensor and is input as a control signal to TERMINAL NE+.

(5) Throttle position signal circuit

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

(6) Battery signal circuit

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

The current flowing through the IGN fuse flows to TERMINAL IGSW of the engine control module.

(7) Intake air volume signal circuit

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

(8) Stop 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.

(9) Starter signal circuit

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

(10) Engine knock signal circuit

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

(11) Air fuel ration signal circuit

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

(12) Oxygen sensor signal circuit

The oxygen density in the exhaust gases is detected and input as a control signal into TERMINALS OX1B and OX2B of the engine control module.

To maintain stable detection performance by the heated oxygen sensor, a heater is used for warning the sensor. The heater is also controlled by the engine control module (HT1B and HT2B).

(13) Fuel cut in a collision

The system receives the collision signal from airbag sensor assembly in the vehicle has a collision and stops the fuel pump operation on the side of the engine control module.

2. Control System

* SFI system
  The SFI system monitors the engine condition through the signals input from each sensor (Input signals from (1) to (12) etc.) to the engine control module. And the control signal is output to TERMINALS #10, #20, #30, #40, #50 and #60 of the engine control module to operate the injector (Inject the fuel). The SFI system controls the fuel injection operation by the engine control module in response to the driving conditions.
* ESA system
  The ESA system monitors the engine condition through the signals input to the engine control module from each sensor (Input signals from (1) to (12) etc.). The best ignition timing is decided according to this data and the memorized data in the engine control module and the control signal is output to TERMINALS IGT1, IGT2, IGT3, IGT4, IGT5 and IGT6. This signal controls the igniter to provide the best ignition timing for the driving conditions.
* ACIS
  The ACIS includes a valve in the bulkhead separating the surge tank into two parts. This valve is opened or closed according to the driving conditions to control the intake manifold length in three stages, for increased engine output in all ranges from low to high speeds, when idling.

3. Diagnosis System

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

4. Fail-Safe System

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

Service Hints

CIRCUIT OPENING Relay

5-3 : Closed with the starter running

EFI Relay

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

E5 (A), E6 (B), E7 (E), E8 (D), E9 (C) Engine Control Module

Voltage at engine control module wiring connector

BATT-E1 : Always 9.0-14.0 volts
VC-E2 : Always 4.5-5.5 volts (Ignition SW at ON position)
VG-E2G : 1.1-1.5 volts (Engine idling and A/C SW off)
THA-E2 : 0.5-3.4 volts (Engine idling and intake air temp. 20°C, 68°F)
THW-E2 : 0.2-1.0 volts (Engine idling and coolant temp. 80°C, 176°F)
IGF-E1 : 4.5-5.5 volts (Ignition SW at ON position)
Pulse generation (Engine idling)
SIL-E1 : Pulse generation (During transmission)
TACH-E1 : Pulse generation (Engine idling)
STA-E1 : 6.0 volts or more (Engine cranking)
FC-E1 : 9.0-14.0 volts (Ignition SW at ON position)
0-3.0 volts (Engine idling)
SPD-E1 : Pulse generation (Ignition SW on and rotate driving wheel slowly)
W-E1 : Below 3.0 volts (Ignition SW at ON position)
NSW-E1 : 9.0-14.0 volts (Ignition SW on and other shift position in P or N position)
0-3.0 volts (Ignition SW on and shift position in P or N position)
PRG-E01 : 9.0-14.0 volts (Ignition SW at ON position)
TC-E1 : 9.0-14.0 volts (Ignition SW at ON position)
STP-E1 : 7.5-14.0 volts (Ignition SW on and brake pedal depressed)
0-1.5 volts (Ignition SW on and brake pedal depressed)
PTNK-E1 : 3.0-3.6 volts (Ignition SW at ON position)
1.3-2.1 volts (Ignition SW on and apply vacuum 2.0 kpa)
OX1B, OX2B-E1 : Pulse generation (Maintain engine speed at 2500 rpm for two minutes after warming up)
KNK1, KNK2-E1 : Pulse generation (Engine idling)
IGT1, IGT2, IGT3, IGT4, IGT5, IGT6-E1 : Pulse generation (Engine idling)
#10, #20, #30, #40, #50, #60-E01 : 9.0-14.0 volts (ignition SW at ON position)
Pulse generation (Engine idling)

○ : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A6	38 (3MZ-FE)	E9 C	42	P1	39 (3MZ-FE)
A7	38 (3MZ-FE)	F12	44	P2	39 (3MZ-FE)
A10 A	42	G1	38 (3MZ-FE)	P5	44
A11 B	42	G5	43	S15	43
A17	42	H6	38 (3MZ-FE)	S27	39 (3MZ-FE)
A27	42	H10	43	S28 A	43
B9 A	42	I8	39 (3MZ-FE)	S29 B	43
B10 B	42	I9	39 (3MZ-FE)	S30 A	43
C3	38 (3MZ-FE)	I10	39 (3MZ-FE)	S31 B	43
C4	38 (3MZ-FE)	I11	39 (3MZ-FE)	T3	39 (3MZ-FE)
C6	38 (3MZ-FE)	I12	39 (3MZ-FE)	T13	39 (3MZ-FE)
C7	38 (3MZ-FE)	I13	39 (3MZ-FE)	T14	43
C11 A	42	J2	39 (3MZ-FE)	V2	39 (3MZ-FE)
C12 B	42	J3	39 (3MZ-FE)	V4	39 (3MZ-FE)
D3	42	J7	43	V5	39 (3MZ-FE)
E2	38 (3MZ-FE)	J16	43	V6	39 (3MZ-FE)
E5 A	42	K2	39 (3MZ-FE)	V7	39 (3MZ-FE)
E6 B	42	K3	39 (3MZ-FE)	V11	45
E7 E	42	M1	39 (3MZ-FE)	V14	45
E8 D	42	O1	39 (3MZ-FE)	V15	45

▭ : RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
1	24	R/B No.1 (Lower Finish Panel)
2	22	Engine Room R/B (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1G		
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2D		
2F		
2G		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3D		
3E		
3F		
3J	31	
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4C		
4D		
4E		
4F		
4G		
4H		
4L	32	
4M		
4N		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

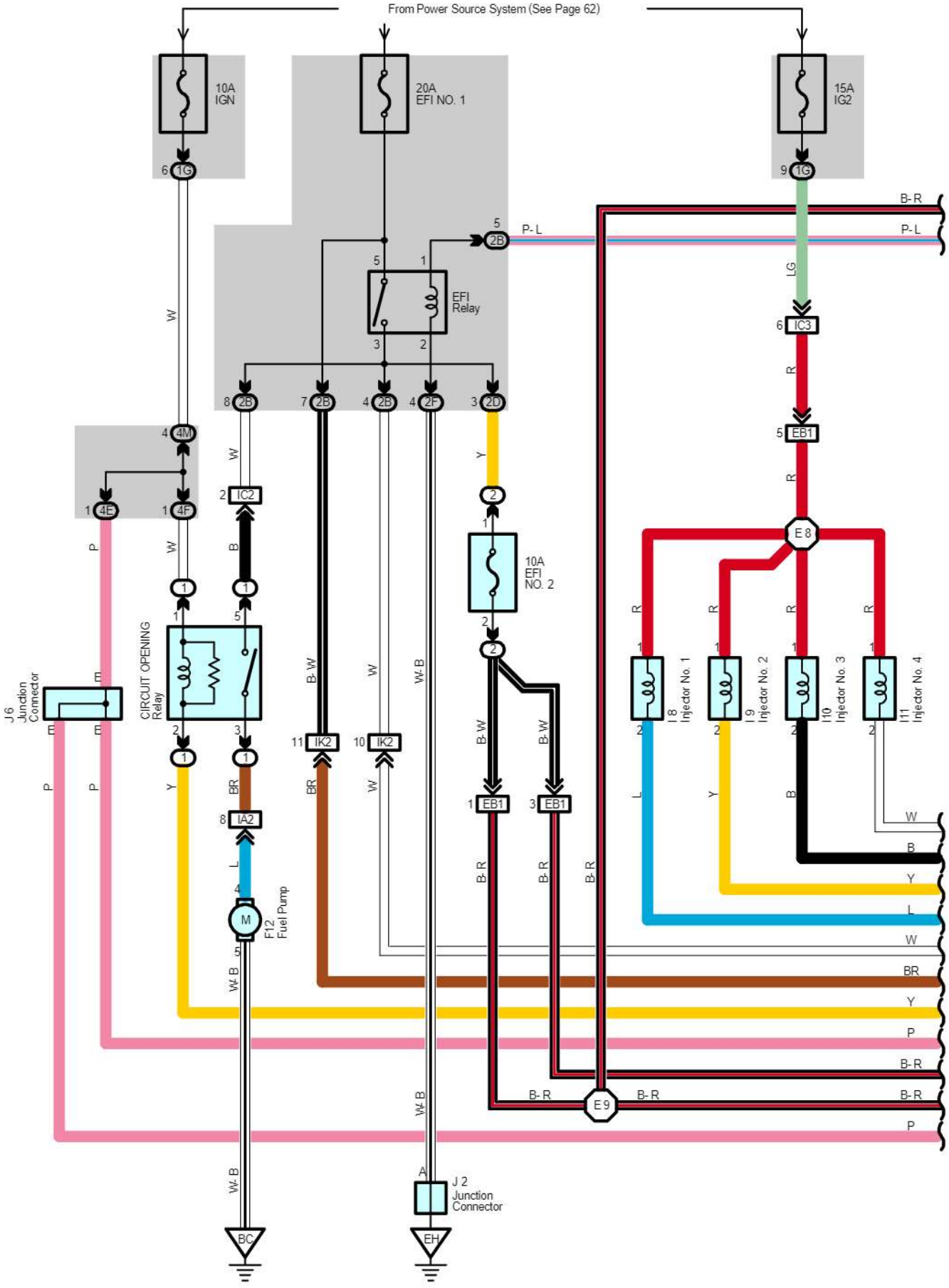
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	48 (3MZ-FE)	Engine Wire and Sensor Wire (Right Side of Cylinder Head)
EB1	48 (3MZ-FE)	Engine Wire and Engine Room Main Wire (Front Side of Engine Room R/B)
EB2		
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IA2		
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC1	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC2		
IC3		
IC4		
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IL2		
IM1	54	Engine Wire and Cowl Wire (Right Kick Panel)
IO1	54	Cowl Wire and Floor Wire (Right Kick Panel)
BI1	56	Floor No.4 Wire and Fuel Tank Wire (Right Side of Rear Floor Crossmember)
BJ1	56	Floor Wire and Floor No.4 Wire (Right Side of Rear Floor Crossmember)

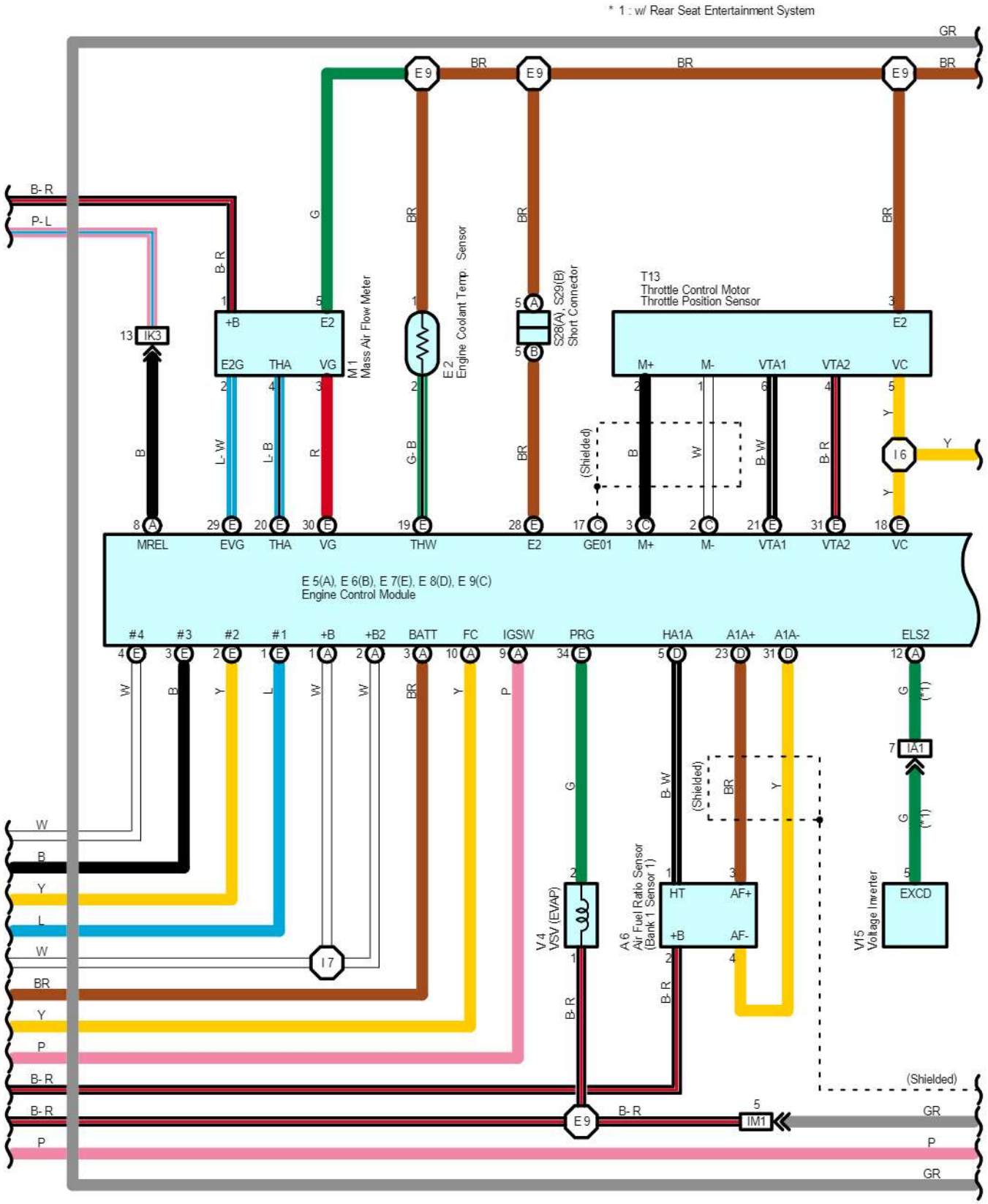
 **: GROUND POINTS**

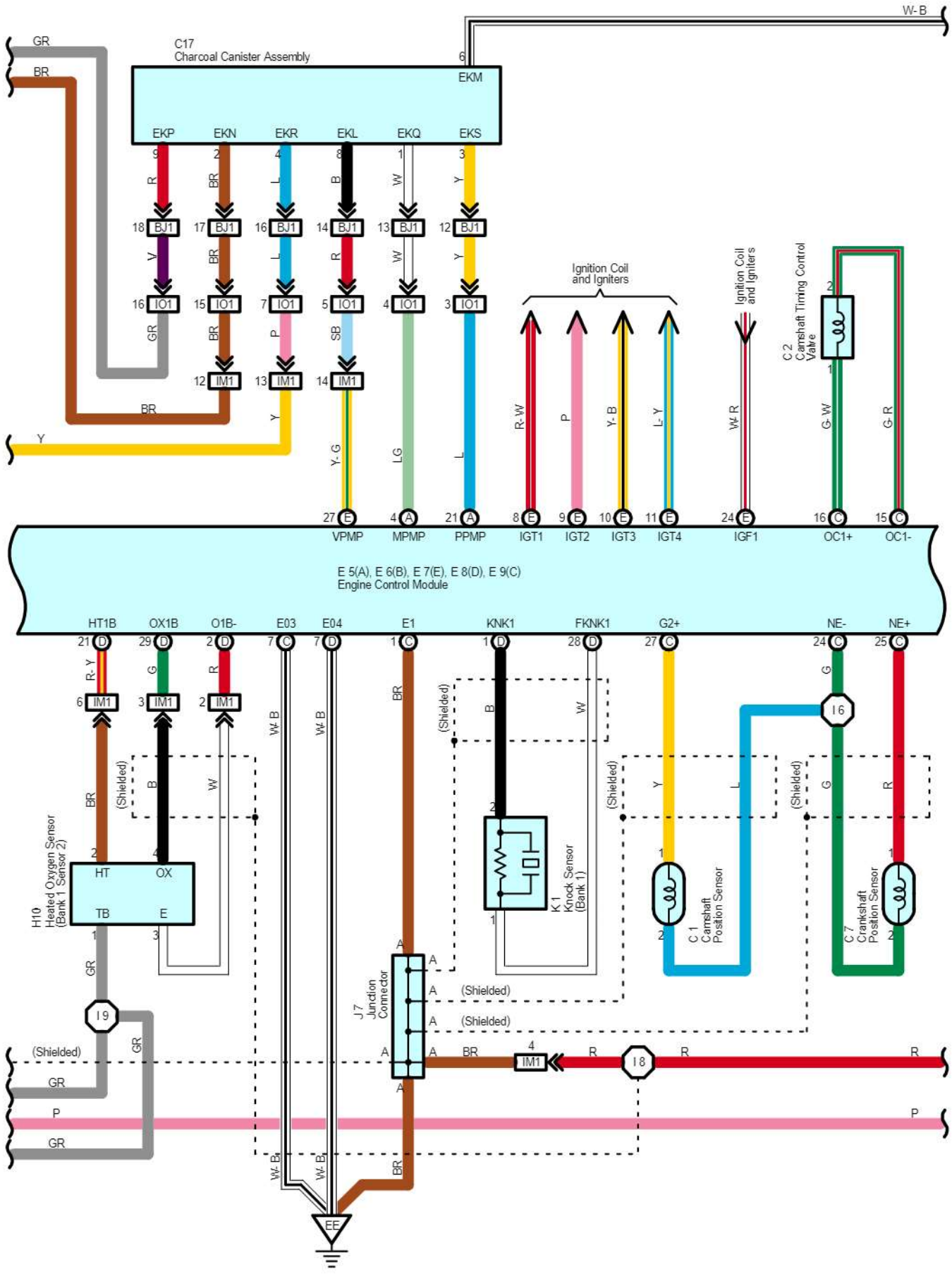
Code	See Page	Ground Points Location
EC	48 (3MZ-FE)	Left Side of Cylinder Head
ED	48 (3MZ-FE)	Rear Side of Cylinder Head
EH	48 (3MZ-FE)	Under the Left Headlight
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel
BC	56	Left Side of Rear Cross Member

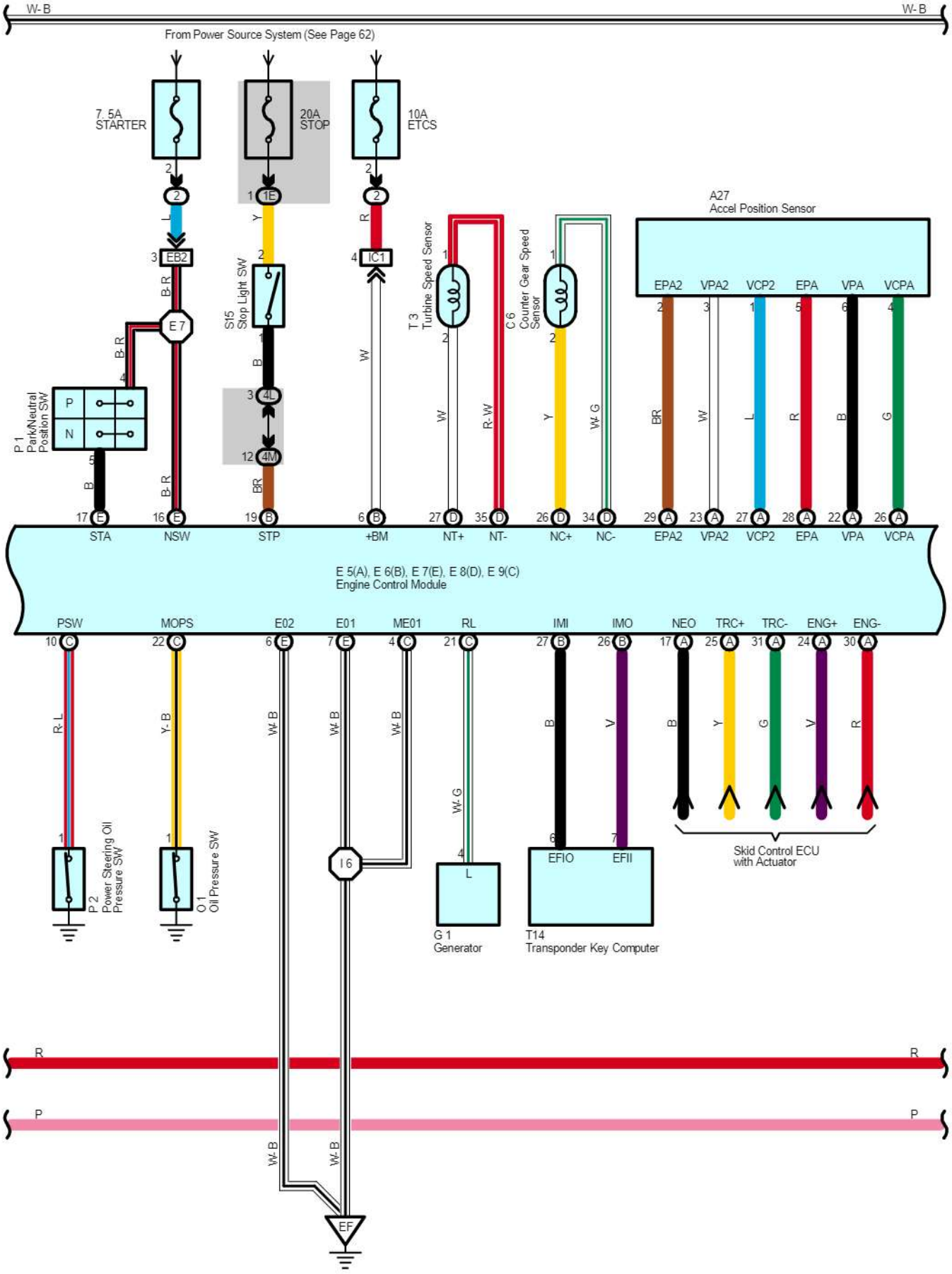
 **: SPLICE POINTS**

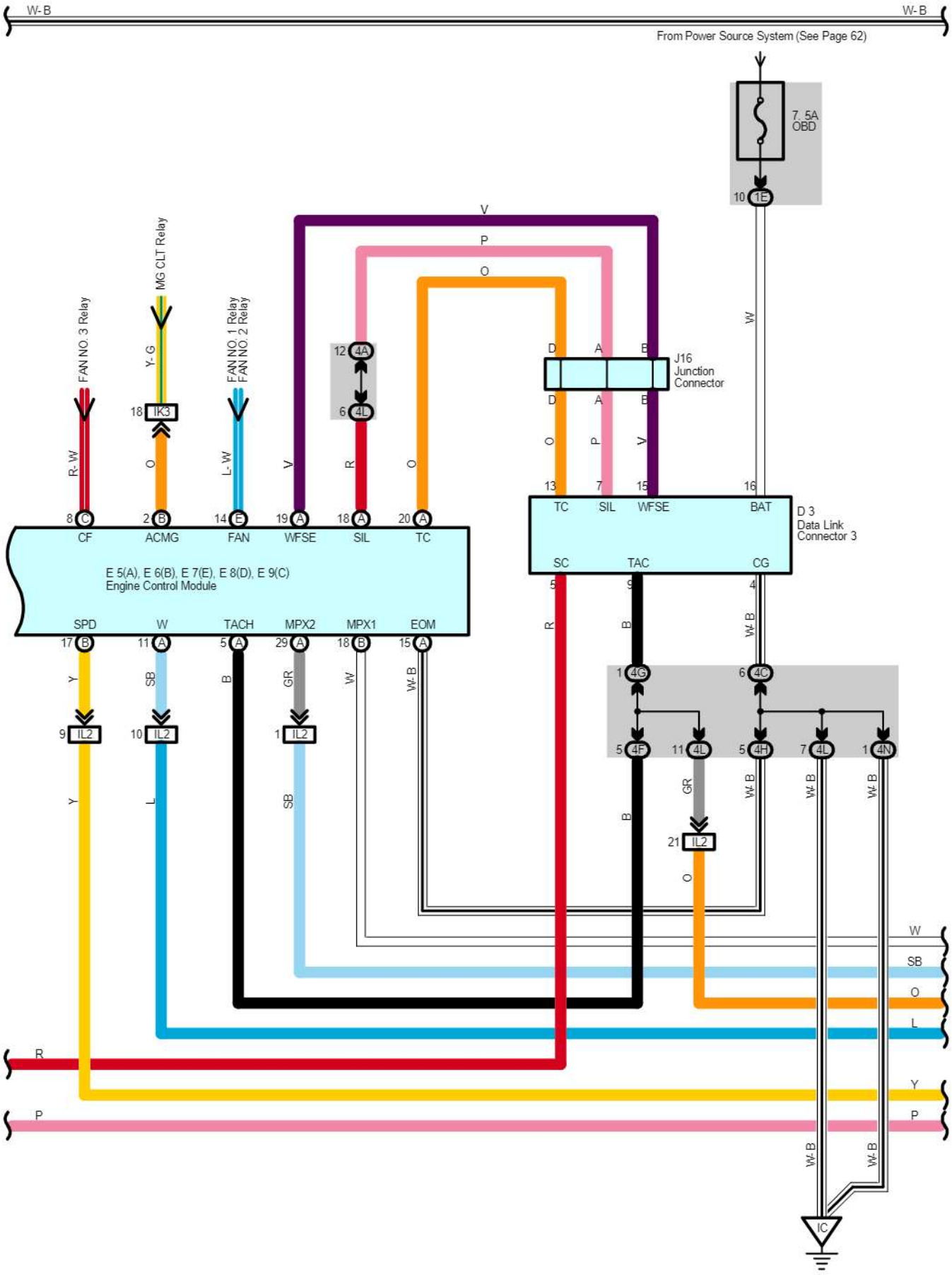
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E6	48 (3MZ-FE)	Engine Wire	I6	54	Engine Wire
E7			I7	54	Cowl Wire
E14			I8		
E16	48 (3MZ-FE)	Engine Room Main Wire	I9		

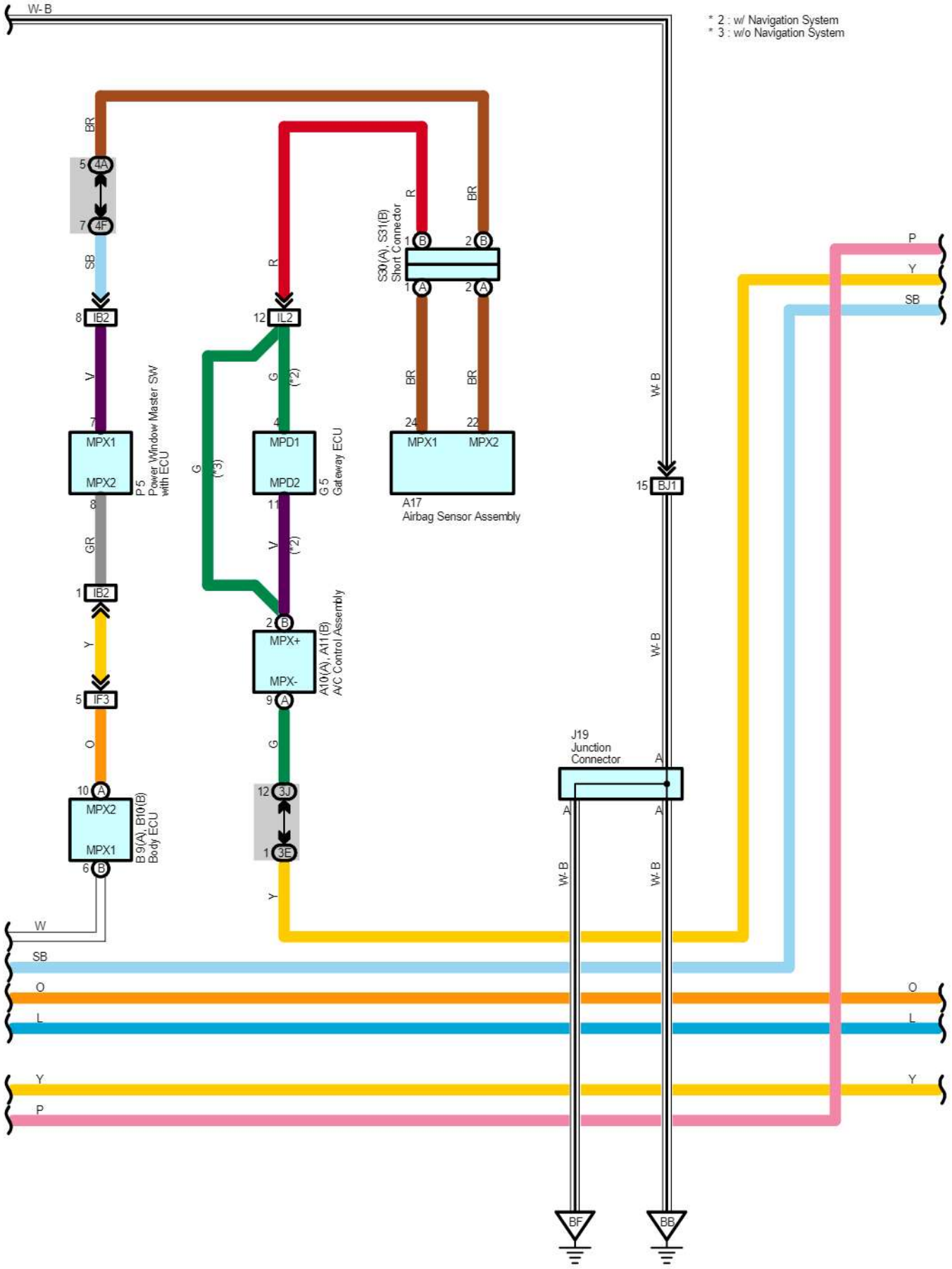

From Power Source System (See Page 62)
10A IGN
20A EFI NO. 1
15A IG2
EFI Relay
10A EFI NO. 2
CIRCUIT OPENING Relay
J6 Junction Connector
J 2 Junction Connector
F12 Fuel Pump
I8 Injector No. 1
I9 Injector No. 2
I10 Injector No. 3
I11 Injector No. 4
E 8
E 9
BC
EH

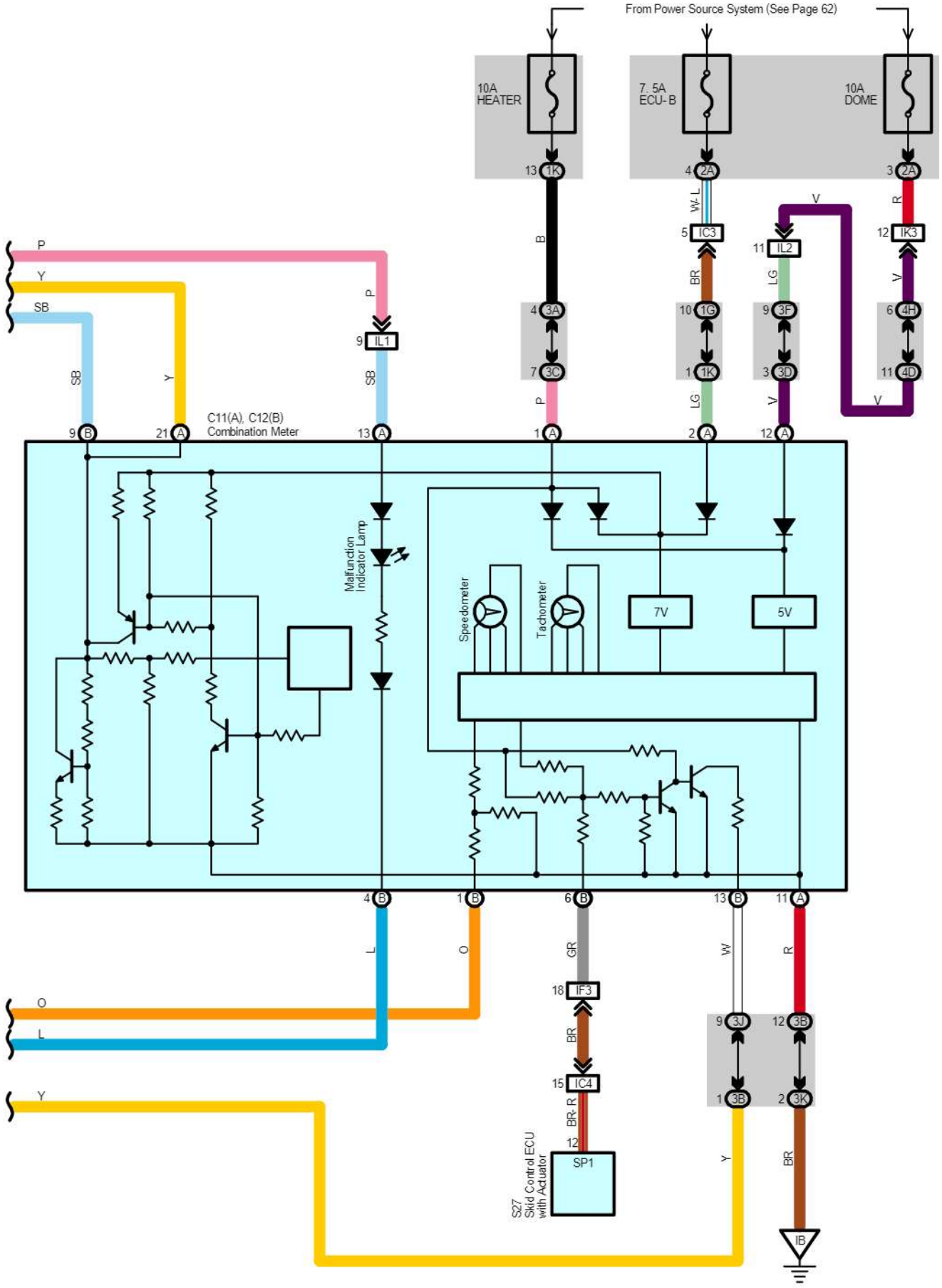

* 1 : w/ Rear Seat Entertainment System
GR
E9
BR
E9
BR
E9
BR
B-R
P-L
G
BR
BR
BR
M1
Mass Air Flow Meter
E2
Engine Coolant Temp. Sensor
S28(A), S29(B)
Short Connector
T13
Throttle Control Motor
Throttle Position Sensor
IK3
+B
E2
E2G
THA
VG
M+
M-
VTA1
VTA2
VC
(Shielded)
I6
MREL
EVG
THA
VG
THW
E2
GE01
M+
M-
VTA1
VTA2
VC
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
#4
#3
#2
#1
+B
+B2
BATT
FC
IGSW
PRG
HA1A
A1A+
A1A-
ELS2
I7
V4
VSV (EVAP)
A6
Air Fuel Ratio Sensor
(Bank 1 Sensor 1)
HT
AF+
+B
AF-
IA1
V15
Voltage Inverter
EXCD
(*1)
(Shielded)
E9
IM1
GR
P


W-B
GR
BR
C17
Charcoal Canister Assembly
EKM
EKP
EKN
EKR
EKL
EKQ
EKS
Ignition Coil and Igniters
Ignition Coil and Igniters
C2 Camshaft Timing Control Valve
VPMP
MPMP
PPMP
IGT1
IGT2
IGT3
IGT4
IGF1
OC1+
OC1-
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
HT1B
OX1B
O1B-
E03
E04
E1
KNK1
FKNK1
G2+
NE-
NE+
H10 Heated Oxygen Sensor (Bank 1 Sensor 2)
HT
OX
TB
E
K1 Knock Sensor (Bank 1)
C1 Camshaft Position Sensor
C7 Crankshaft Position Sensor
J7 Junction Connector
(Shielded)
EE


W-B
W-B
From Power Source System (See Page 62)
7.5A STARTER
20A STOP
10A ETCS
EB2
E7
1E
IC1
S15 Stop Light SW
P 1 Park/Neutral Position SW
T 3 Turbine Speed Sensor
C 6 Counter Gear Speed Sensor
A27 Accel Position Sensor
EPA2
VPA2
VCP2
EPA
VPA
VCPA
STA
NSW
STP
+BM
NT+
NT-
NC+
NC-
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C) Engine Control Module
PSW
MOPS
E02
E01
ME01
RL
IMI
IMO
NEO
TRC+
TRC-
ENG+
ENG-
P 2 Power Steering Oil Pressure SW
O 1 Oil Pressure SW
I 6
G 1 Generator
T14 Transponder Key Computer
EFIO
EFII
Skid Control ECU with Actuator
EF
R
P


W-B
W-B
From Power Source System (See Page 62)
7.5A
OBD
10 1E
W
V
P
O
MG CLT Relay
FAN NO. 3 Relay
FAN NO. 1 Relay
FAN NO. 2 Relay
Y-G
R-W
L-W
18 IK3
12 4A
6 4L
D A B
J16
Junction
Connector
13 7 15 16
TC SIL WFSE BAT
D 3
Data Link
Connector 3
SC TAC CG
8 C
2 B
14 E
19 A
18 A
20 A
CF ACMG FAN WFSE SIL TC
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
SPD W TACH MPX2 MPX1 EOM
17 B
11 A
5 A
29 A
18 B
15 A
9 IL2
10 IL2
1 IL2
21 IL2
1 4G
6 4C
5 4F
11 4L
5 4H
7 4L
1 4N
W-B
GR
SB
L
R
Y
P
O
IC


W-B
* 2 : w/ Navigation System
* 3 : w/o Navigation System
BR
5 4A
7 4F
SB
8 IB2
V
7
MPX1
MPX2
P 5
Power Window Master SW with ECU
8
GR
1 IB2
Y
5 IF3
O
10 A
MPX2
MPX1
6 B
B9(A), B10(B)
Body ECU
W
SB
O
L
Y
P
R
12 IL2
G
(*2)
G
(*3)
4
MPD1
MPD2
G 5
Gateway ECU
11
V
(*2)
2 B
MPX+
MPX-
9 A
A10(A), A11(B)
A/C Control Assembly
G
12 3J
1 3E
Y
R
BR
S30(A), S31(B)
Short Connector
1 B
2 B
1 A
2 A
BR
BR
24
22
MPX1
MPX2
A17
Airbag Sensor Assembly
W-B
15 BJ1
W-B
W-B
W-B
J19
Junction
Connector
A
A
A
P
Y
SB
O
L
Y
BF
BB


From Power Source System (See Page 62)
10A HEATER
7.5A ECU-B
10A DOME
13 1K
4 2A
3 2A
W-L
R
V
5 IC3
11 IL2
12 IK3
B
BR
LG
V
4 3A
10 1G
9 3F
6 4H
P
9 IL1
SB
7 3C
1 1K
3 3D
11 4D
P
LG
V
V
P
SB
Y
C11(A), C12(B)
Combination Meter
9 B
21 A
13 A
1 A
2 A
12 A
Malfunction Indicator Lamp
Speedometer
Tachometer
7V
5V
4 B
1 B
6 B
13 B
11 A
L
O
GR
W
R
O
L
18 IF3
9 3J
12 3B
BR
15 IC4
1 3B
2 3K
Y
BR-R
Y
BR
12
SP1
S27
Skid Control ECU
with Actuator
IB

System Outline

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

1. Input Signals

(1) Engine coolant temp. signal circuit

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

(2) Intake air temp. signal circuit

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

(3) Vehicle speed signal circuit

The vehicle speed signal is input from the ABS speed sensor to skid control ECU with actuator, and are sent to the engine control module through communication control.

(4) RPM signal circuit

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

(5) Throttle position signal circuit

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

(6) Battery signal circuit

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

The current flowing through the IGN fuse flows to TERMINAL IGSW of the engine control module.

(7) Intake air volume signal circuit

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

(8) Stop 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.

(9) Starter signal circuit

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

(10) Engine knock signal circuit

Engine knocking is detected by knock sensor and the signal is input into TERMINAL KNK1 as a control signal.

(11) Air fuel ratio signal system

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

(12) Oxygen sensor signal circuit

The oxygen density in the exhaust gases is detected and input as a control signal into TERMINAL OX1B of the engine control module. To maintain stable detection performance by the heated oxygen sensor, a heater is used for warning the sensor. The heater is also controlled by engine control module (O1B-).

(13) Fuel cut in a collision

The system receives the collision signal from center airbag sensor assembly in the vehicle has a collision and stops the fuel pump operation on the side of the engine control module.

2. Control System

* SFI system
  The SFI system monitors the engine condition through the signals input from each sensor (Input signals from (1) to (12) etc.) to the engine control module. And the control signal is output to TERMINALS #1, #2, #3 and #4 of the engine control module to operate the injector (Inject the fuel). The SFI system controls the fuel injection operation by the engine control module in response to the driving conditions.
* ESA system
  The ESA system monitors the engine condition through the signals input to the engine control module from each sensor (Input signals from (1) to (12) etc.). The best ignition timing is decided according to this data and the memorized data in the engine control module and the control signal is output to TERMINALS IGT1, IGT2, IGT3 and IGT4. This signal controls the igniter to provide the best ignition timing for the driving conditions.

3. Diagnosis System

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

4. Fail-safe System

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

Service Hints

CIRCUIT OPENING Relay

5-3 : Closed with the starter running

EFI Relay

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

E5 (A), E6 (B), E7 (E), E8 (D), E9 (C) Engine Control Module

BATT-E1 : Always 9.0-14.0 volts
VC-E2 : 4.5-5.5 volts (Ignition SW at ON position)
VG-EVG : 1.1-1.5 volts (Engine idling and A/C SW off)
THA-E2 : 0.5-3.4 volts (Engine idling and intake air temp. 20°C, 68°F)
THW-E2 : 0.2-1.0 volts (Engine idling and coolant temp. 80°C, 176°F)
IG1-E1 : 4.5-5.5 volts (Ignition SW at ON position)
Pulse generation (Engine idling)
SIL-E1 : Pulse generation (During transmission)
TACH-E1 : Pulse generation (Engine idling)
STA-E1 : 6.0 volts or more (Engine cranking)
FC-E01 : 9.0-14.0 volts (Ignition SW at ON position)
SPD-E1 : Pulse generation (Ignition SW on and rotate driving wheel slowly)
W-E01 : Below 3.0 volts (Ignition SW at ON position)
NSW-E1 : 9.0-14.0 volts (Ignition SW on and other shift position in P or N position)
0-3.0 volts (Ignition SW on and shift position in P or N position)
PRG-E01 : 9.0-14.0 volts (Ignition SW at ON position)
STP-E1 : 7.5-14.0 volts (Ignition SW on and brake pedal depressed)
Below 1.5 volts (Ignition SW on and brake pedal released)
KNK1-E1 : Pulse generation (Engine idling)
PSW-E1 : 9.0-14.0 volts (Ignition SW at ON position)
HA1A-E04 : Below 3.0 volts (Engine idling)
IGSW-E1 : 9.0-14.0 volts (Ignition SW at ON position)
MREL-E1 : 9.0-14.0 volts (Ignition SW at ON position)
G2+, NE+ -NE- :
Pulse generation (Engine idling)
OC1+ -OC1- : Pulse generation (Ignition SW at ON position)
HT1B-E1 : 9.0-14.0 volts (Engine idling)
Below 3.0 volts (Ignition SW at ON position)
A1A+ -E1 : 3.3 volts (Ignition SW at ON position)
OX1B-E1 : Pulse generation (Maintain engine speed at 2500 rpm for 90 sec. after warming up)
IGT1, IGT2, IGT3, IGT4-E1 : Pulse generation (Engine idling)
#1, #2, #3, #4-E01 : 9.0-14.0 volts (Ignition SW at ON position)
Pulse generation (Engine idling)

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A6	40 (2AZ-FE)	E6 B	42	K1	41 (2AZ-FE)
A10 A	42	E7 E	42	M1	41 (2AZ-FE)
A11 B	42	E8 D	42	O1	41 (2AZ-FE)
A17	42	E9 C	42	P1	41 (2AZ-FE)
A27	42	F12	44	P2	41 (2AZ-FE)
B9 A	42	G1	40 (2AZ-FE)	P5	44
B10 B	42	G5	43	S15	43
C1	40 (2AZ-FE)	H10	43	S27	41 (2AZ-FE)
C2	40 (2AZ-FE)	I8	41 (2AZ-FE)	S28 A	43
C6	40 (2AZ-FE)	I9	41 (2AZ-FE)	S29 B	43
C7	40 (2AZ-FE)	I10	41 (2AZ-FE)	S30 A	43
C11 A	42	I11	41 (2AZ-FE)	S31 B	43
C12 B	42	J2	41 (2AZ-FE)	T3	41 (2AZ-FE)
C17	44	J6	43	T13	41 (2AZ-FE)
D3	42	J7	43	T14	43
E2	40 (2AZ-FE)	J16	43	V4	41 (2AZ-FE)
E5 A	42	J19	44	V15	45

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
1	24	R/B No.1 (Lower Finish Panel)
2	22	Engine Room R/B (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1G		
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2D		
2F		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3D		
3E		
3F		
3J	31	
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4C		
4D		
4E		
4F		
4G		
4H		
4L	32	
4M		
4N		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

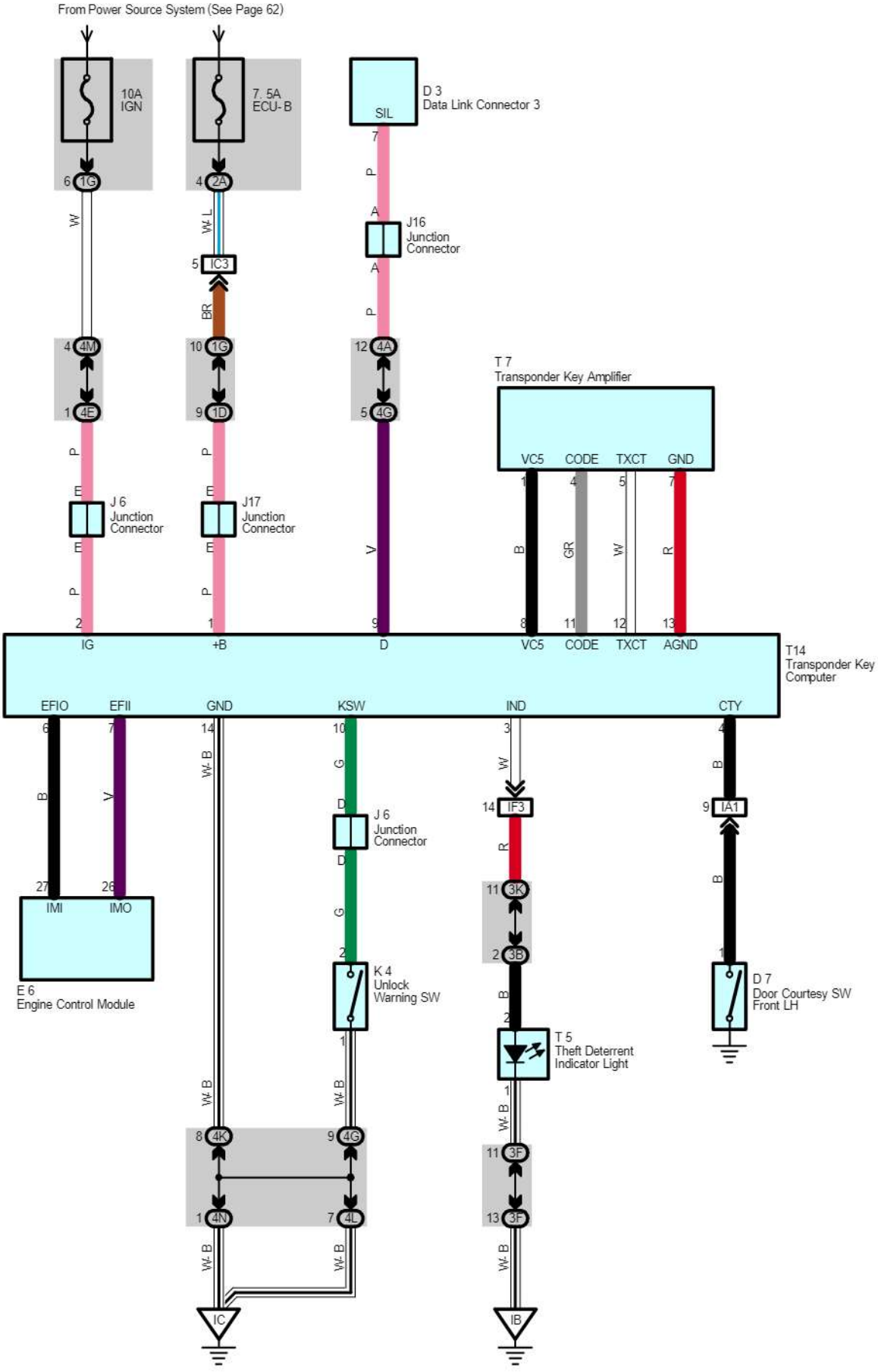
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB1	50 (2AZ-FE)	Engine Wire and Engine Room Main Wire (Front Side of Engine Room R/B)
EB2		
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IA2		
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC1	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC2		
IC3		
IC4		
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IL2		
IM1	54	Engine Wire and Cowl Wire (Right Kick Panel)
IO1	54	Cowl Wire and Floor Wire (Right Kick Panel)
BJ1	56	Floor Wire and Floor No.4 Wire (Right Side of Rear Floor Crossmember)

: GROUND POINTS

Code	See Page	Ground Points Location
EE	50 (2AZ-FE)	Intake Side of Cylinder Block
EF	50 (2AZ-FE)	Left Side of Cylinder Block
EH	50 (2AZ-FE)	Under the Left Headlight
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel
BB	56	Right Center Pillar
BC	56	Left Side of Rear Cross Member
BF	56	Near the Rear Side Marker Light RH

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E7	50 (2AZ-FE)	Engine Wire	I7	54	Cowl Wire
E8			I8		
E9			I9		
I6	54				


From Power Source System (See Page 62)
10A
IGN
7.5A
ECU-B
D 3
Data Link Connector 3
SIL
J16
Junction
Connector
J 6
Junction
Connector
J17
Junction
Connector
T 7
Transponder Key Amplifier
VC5
CODE
TXCT
GND
IG
+B
D
AGND
T14
Transponder Key
Computer
EFIO
EFII
GND
KSW
IND
CTY
IMI
IMO
E 6
Engine Control Module
K 4
Unlock
Warning SW
T 5
Theft Deterrent
Indicator Light
D 7
Door Courtesy SW
Front LH

Service Hints

T14 Transponder Key Computer

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

○ : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
D3	42	J16	43	T7	43
D7	44	J17	43	T14	43
E6	42	K4	43		
J6	43	T5	43		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1G		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3B	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3F		
3K	31	
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4E		
4G		
4K	32	
4L		
4M		
4N		

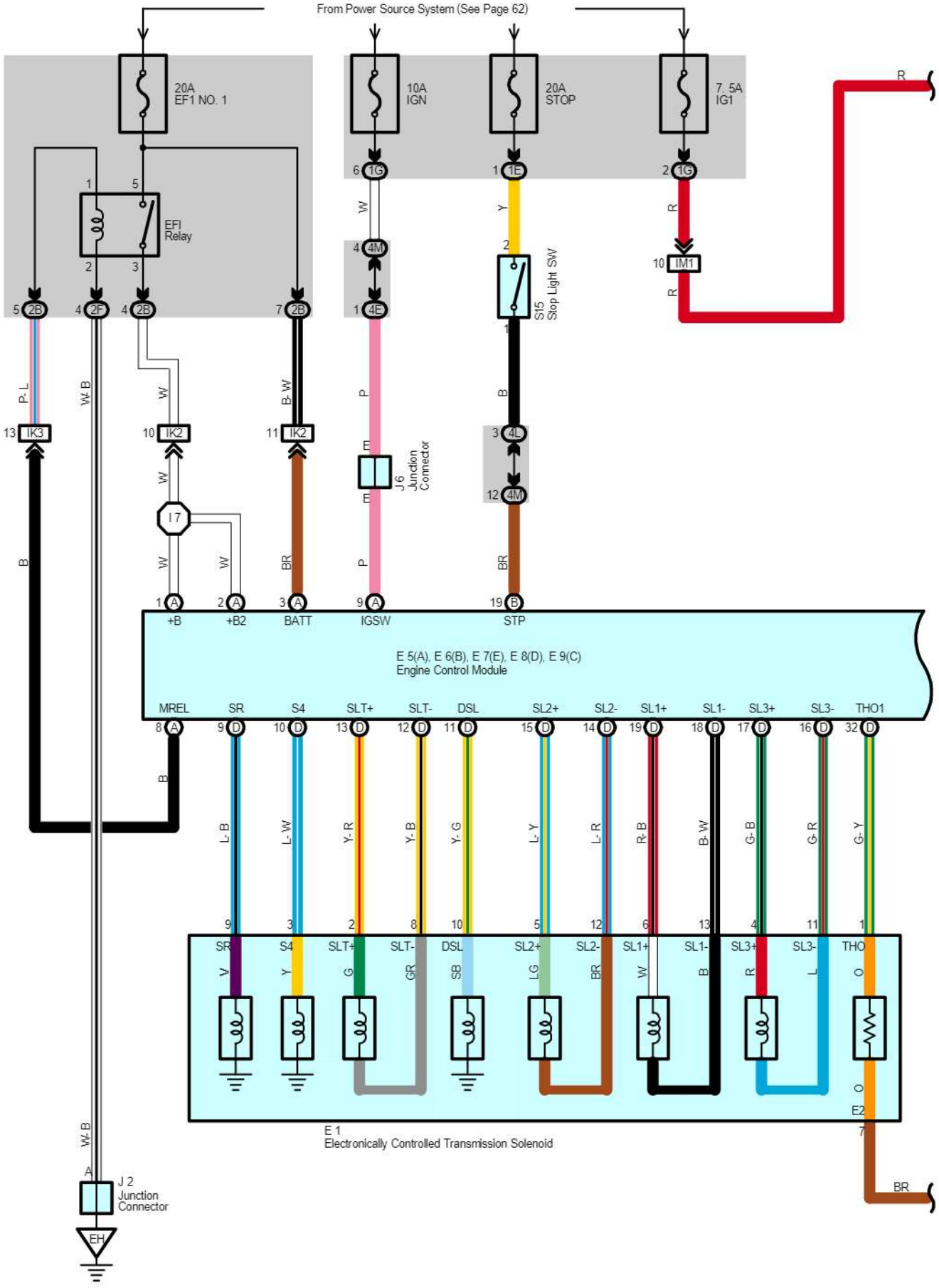
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

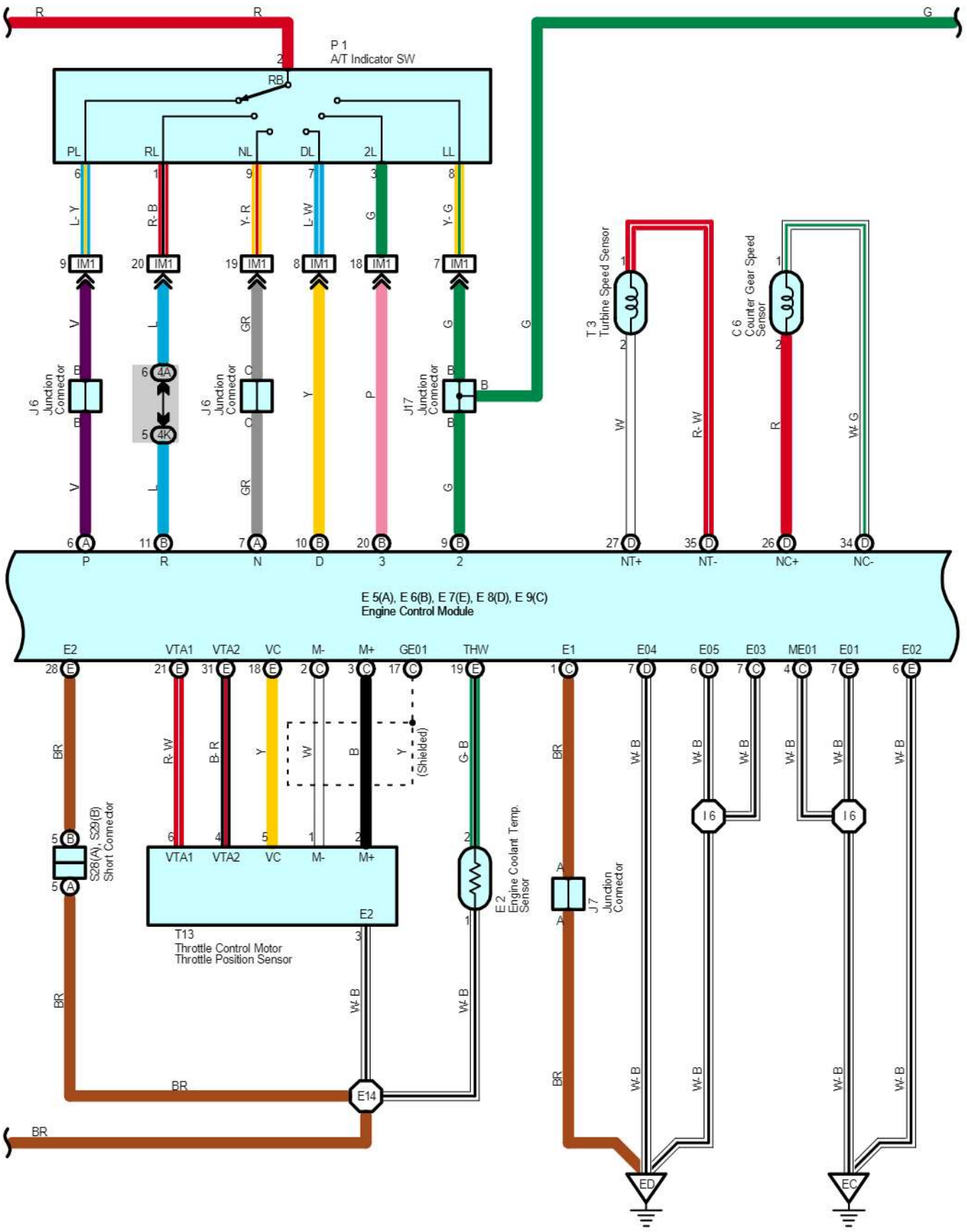
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)

▽ : GROUND POINTS

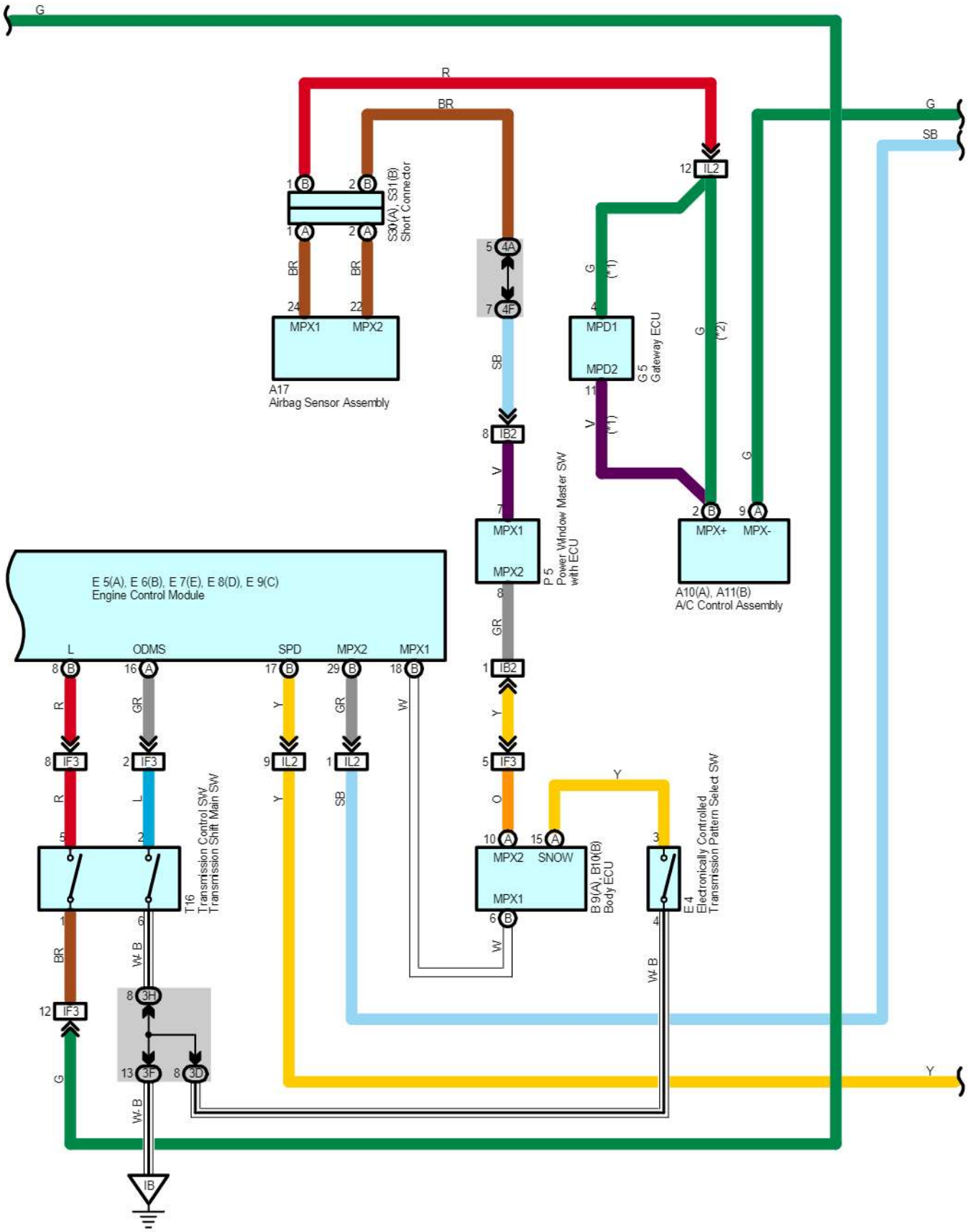
Code	See Page	Ground Points Location
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel

ECT and A/T Indicator for 3MZ-FE

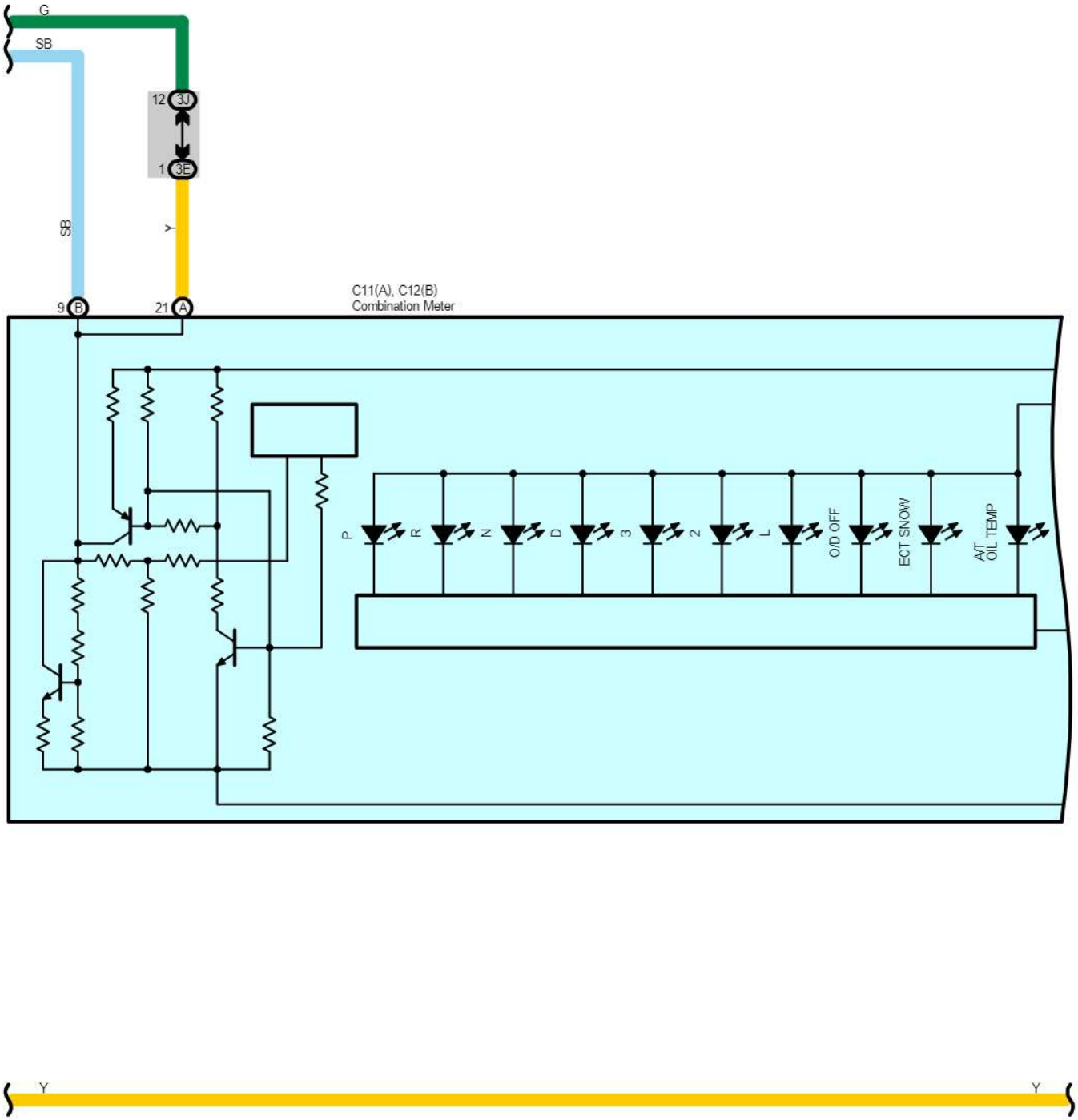



P 1
A/T Indicator SW
PL
RL
NL
DL
2L
LL
RB
IM1
J6 Junction Connector
J17 Junction Connector
T3 Turbine Speed Sensor
C6 Counter Gear Speed Sensor
P
R
N
D
3
2
NT+
NT-
NC+
NC-
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
E2
VTA1
VTA2
VC
M-
M+
GE01
THW
E1
E04
E05
E03
ME01
E01
E02
S28(A), S29(B) Short Connector
T13
Throttle Control Motor
Throttle Position Sensor
E2 Engine Coolant Temp. Sensor
J7 Junction Connector
(Shielded)
I6
E14
ED
EC

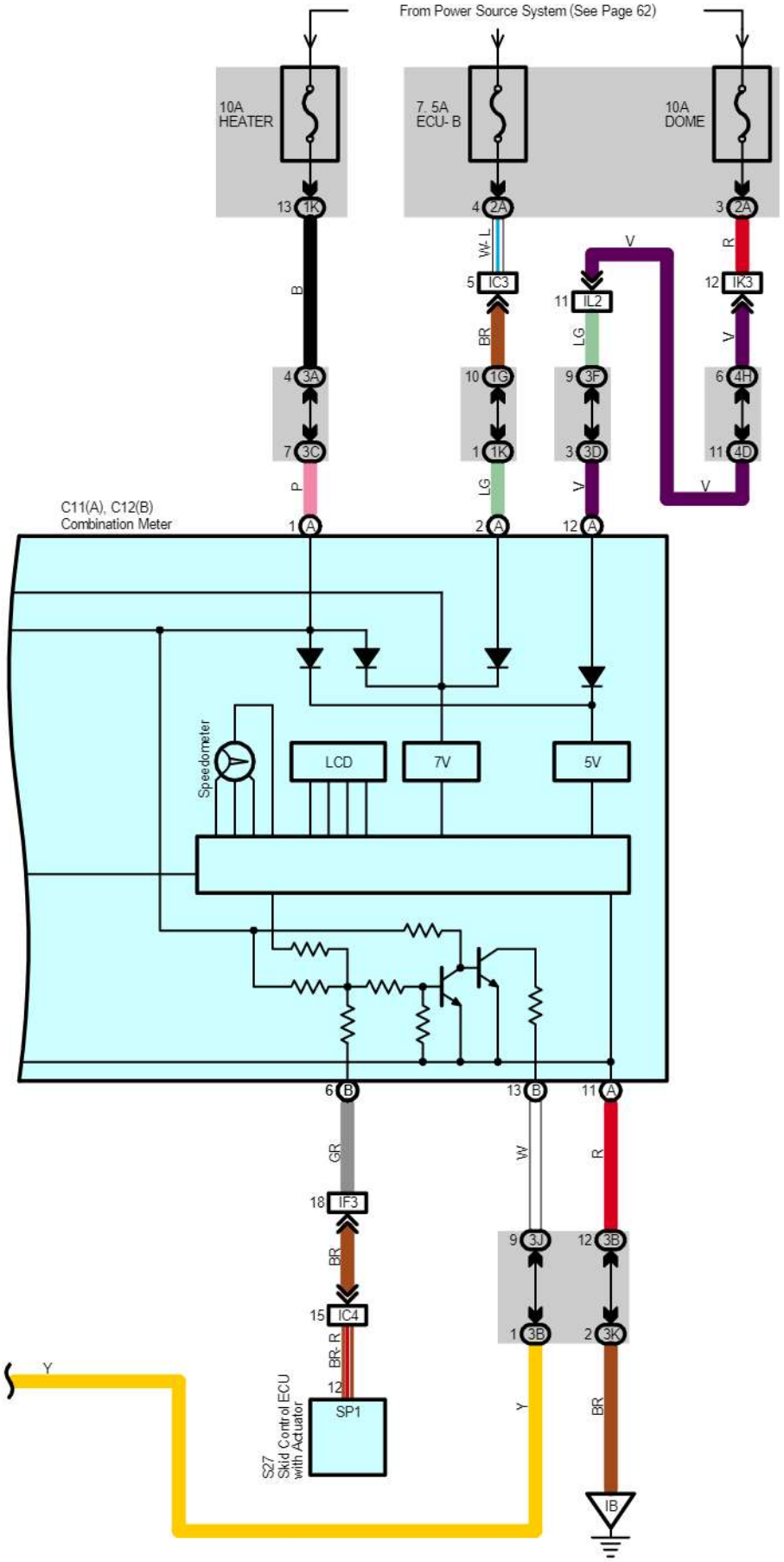
ECT and A/T Indicator for 3MZ-FE



* 1 : w/ Navigation System
* 2 : w/o Navigation System



ECT and A/T Indicator for 3MZ-FE



System Outline

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

1. Gear Shift Operation

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

2. Lock-Up Operation

When the engine control module decides based on each signal that the lock-up condition has been met, the current flows through TERMINAL DSL of the engine control module to TERMINAL 10 of the electronically controlled transmission solenoid to GROUND.

3. Stop Light SW Circuit

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

4. Overdrive Circuit

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

Service Hints

E4 Electronically Controlled Transmission Pattern Select SW

3-4 : Closed with the select SW at SNOW position

E5 (A), E6 (B), E7 (E), E8 (D), E9 (C) Engine Control Module

BATT-E1 : Always approx. 12 volts
MREL-E1 : Approx. 12 volts with the ignition SW ON position

P1 A/T Indicator SW

2-6 : Closed with the shift lever in P position
2-1 : Closed with the shift lever in R position
2-9 : Closed with the shift lever in N position
2-7 : Closed with the shift lever in D position
2-3 : Closed with the shift lever in 2 position
2-8 : Closed with the shift lever in L position

○ : PARTS LOCATION

Code		See Page	Code		See Page	Code		See Page
A10	A	42	E5	A	42	P5		44
A11	B	42	E6	B	42	S15		43
A17		42	E7	E	42	S27		39 (3MZ-FE)
B9	A	42	E8	D	42	S28	A	43
B10	B	42	E9	C	42	S29	B	43
C6		38 (3MZ-FE)	G5		43	S30	A	43
C11	A	42	J2		39 (3MZ-FE)	S31	B	43
C12	B	42	J6		43	T3		39 (3MZ-FE)
E1		38 (3MZ-FE)	J7		43	T13		39 (3MZ-FE)
E2		38 (3MZ-FE)	J17		43	T16		43
E4		42	P1		39 (3MZ-FE)			

ECT and A/T Indicator for 3MZ-FE

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1G		
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2F		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3D		
3E		
3F		
3H	31	
3J		
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4D		
4E		
4F		
4H		
4K	32	
4L		
4M		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC4		
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IM1	54	Engine Wire and Cowl Wire (Right Kick Panel)

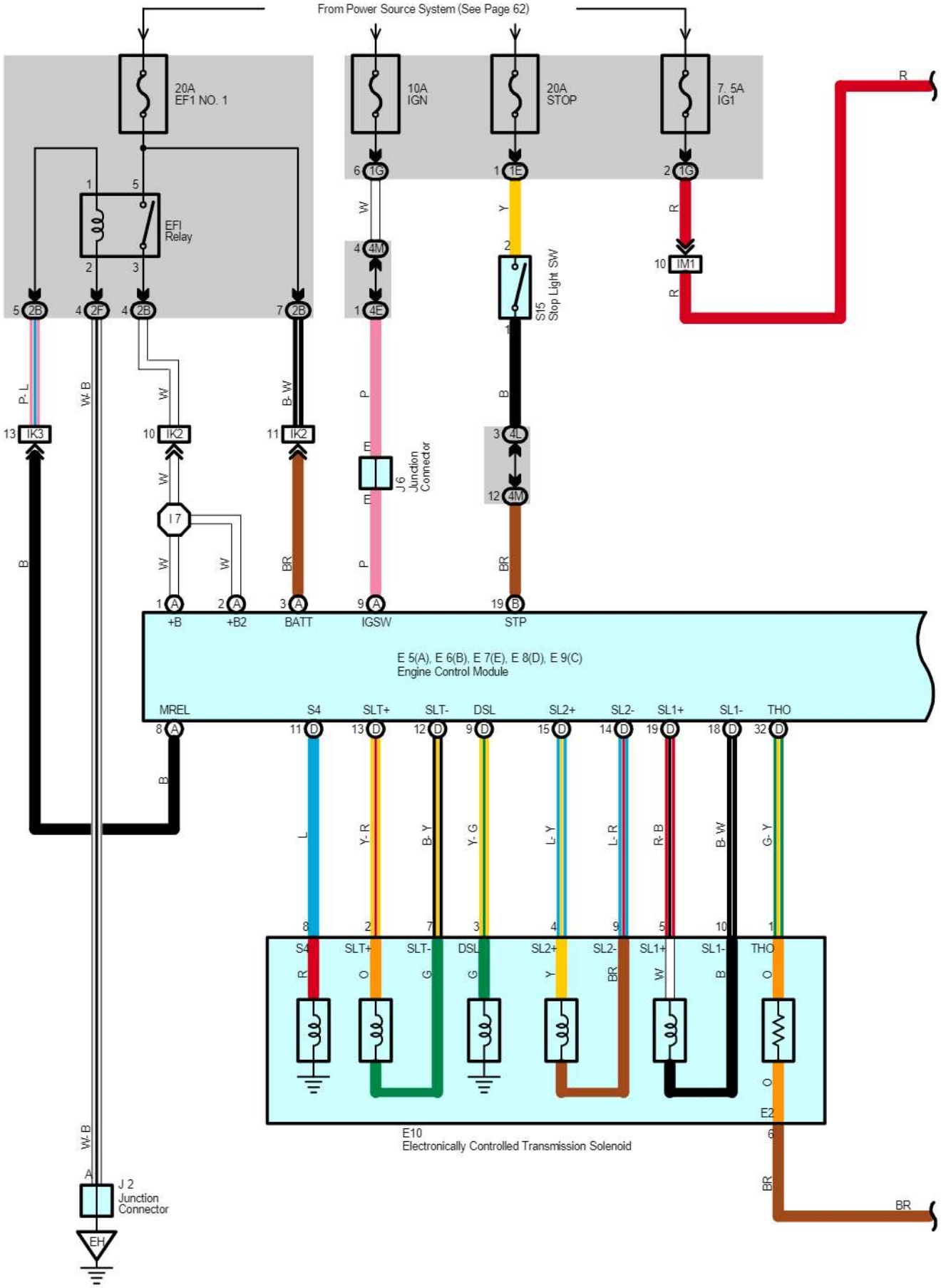
: GROUND POINTS

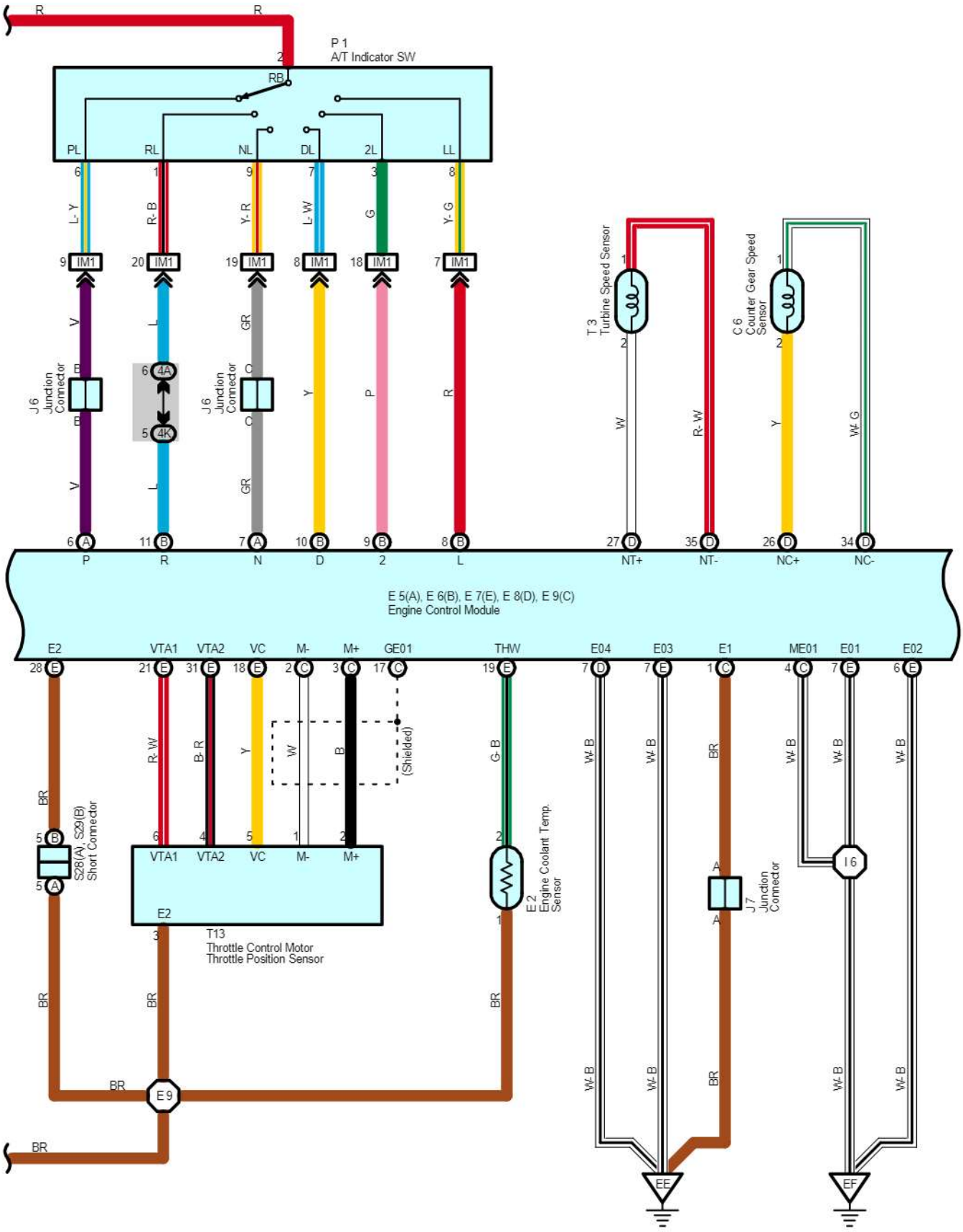
Code	See Page	Ground Points Location
EC	48 (3MZ-FE)	Left Side of Cylinder Head
ED	48 (3MZ-FE)	Rear Side of Cylinder Head
EH	48 (3MZ-FE)	Under the Left Headlight
IB	52	Right Instrument Panel Brace

: SPLICE POINTS

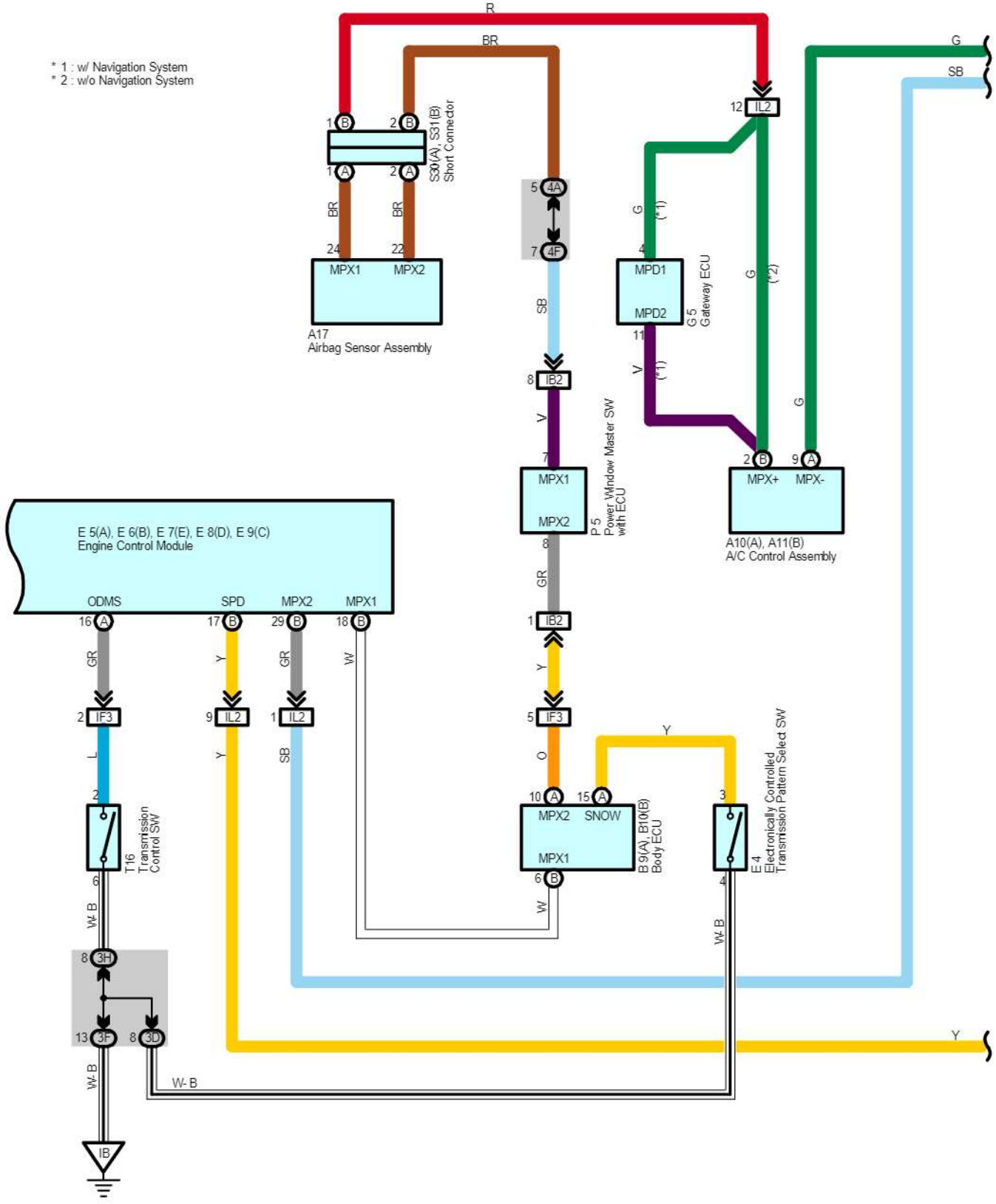
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E14	48 (3MZ-FE)	Engine Wire	I7	54	Cowl Wire
I6	54				

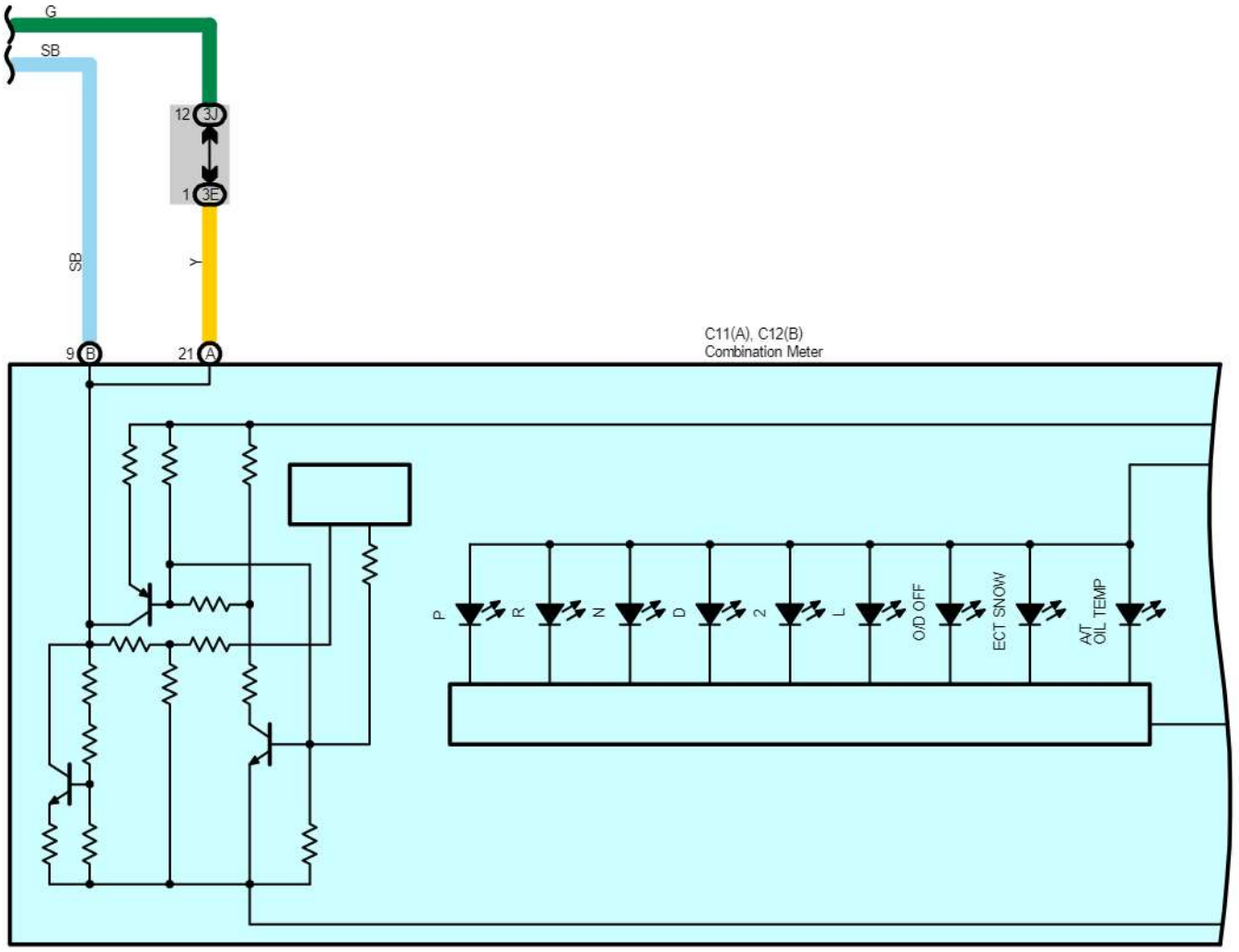
ECT and A/T Indicator for 2AZ-FE




P 1
A/T Indicator SW
PL
RL
NL
DL
2L
LL
IM1
J6 Junction Connector
T3 Turbine Speed Sensor
C6 Counter Gear Speed Sensor
P
R
N
D
2
L
NT+
NT-
NC+
NC-
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
E2
VTA1
VTA2
VC
M-
M+
GE01
THW
E04
E03
E1
ME01
E01
E02
(Shielded)
S28(A), S29(B) Short Connector
T13
Throttle Control Motor
Throttle Position Sensor
E2 Engine Coolant Temp. Sensor
J7 Junction Connector
I6
E9
EE
EF

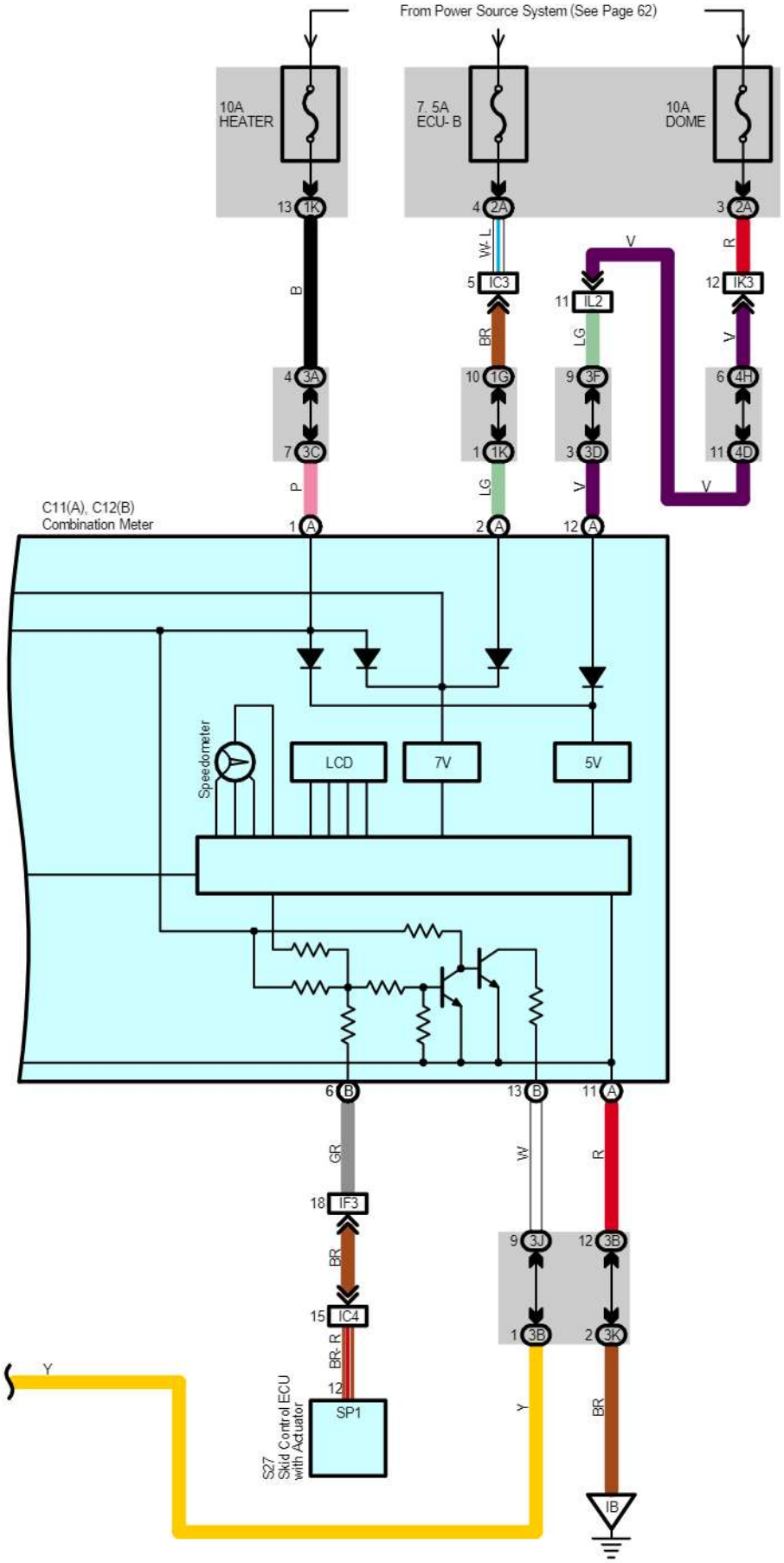
ECT and A/T Indicator for 2AZ-FE




G
SB
12
3J
1
3E
SB
Y
9
B
21
A
C11(A), C12(B)
Combination Meter
P
R
N
D
2
L
O/D OFF
ECT SNOW
A/T
OIL TEMP


Y
Y

ECT and A/T Indicator for 2AZ-FE



System Outline

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

1. Gear Shift Operation

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

2. Lock-Up Operation

When the engine control module decides based on each signal that the lock-up condition has been met, the current flows through TERMINAL DSL of the engine control module to TERMINAL 3 of the electronically controlled transmission solenoid to GROUND.

3. Stop Light SW Circuit

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

4. Overdrive Circuit

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

Service Hints

E4 Electronically Controlled Transmission Pattern Select SW

3-4 : Closed with the select SW at SNOW position

E5 (A), E6 (B), E7 (E), E8 (D), E9 (C) Engine Control Module

BATT-E1 : Always approx. 12 volts
MREL-E1 : Approx. 12 volts with the ignition SW ON position

P1 A/T Indicator SW

2-6 : Closed with the shift lever in P position
2-1 : Closed with the shift lever in R position
2-9 : Closed with the shift lever in N position
2-7 : Closed with the shift lever in D position
2-3 : Closed with the shift lever in 2 position
2-8 : Closed with the shift lever in L position

○ : PARTS LOCATION

Code		See Page	Code		See Page	Code		See Page
A10	A	42	E6	B	42	S15		43
A11	B	42	E7	E	42	S27		41 (2AZ-FE)
A17		42	E8	D	42	S28	A	43
B9	A	42	E9	C	42	S29	B	43
B10	B	42	E10		40 (2AZ-FE)	S30	A	43
C6		40 (2AZ-FE)	G5		43	S31	B	43
C11	A	42	J2		41 (2AZ-FE)	T3		41 (2AZ-FE)
C12	B	42	J6		43	T13		41 (2AZ-FE)
E2		40 (2AZ-FE)	J7		43	T16		43
E4		42	P1		41 (2AZ-FE)			
E5	A	42	P5		44			

ECT and A/T Indicator for 2AZ-FE



: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1G		
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2F		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3D		
3E		
3F		
3H	31	
3J		
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4D		
4E		
4F		
4H		
4K	32	
4L		
4M		



: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC4		
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IM1	54	Engine Wire and Cowl Wire (Right Kick Panel)



: GROUND POINTS

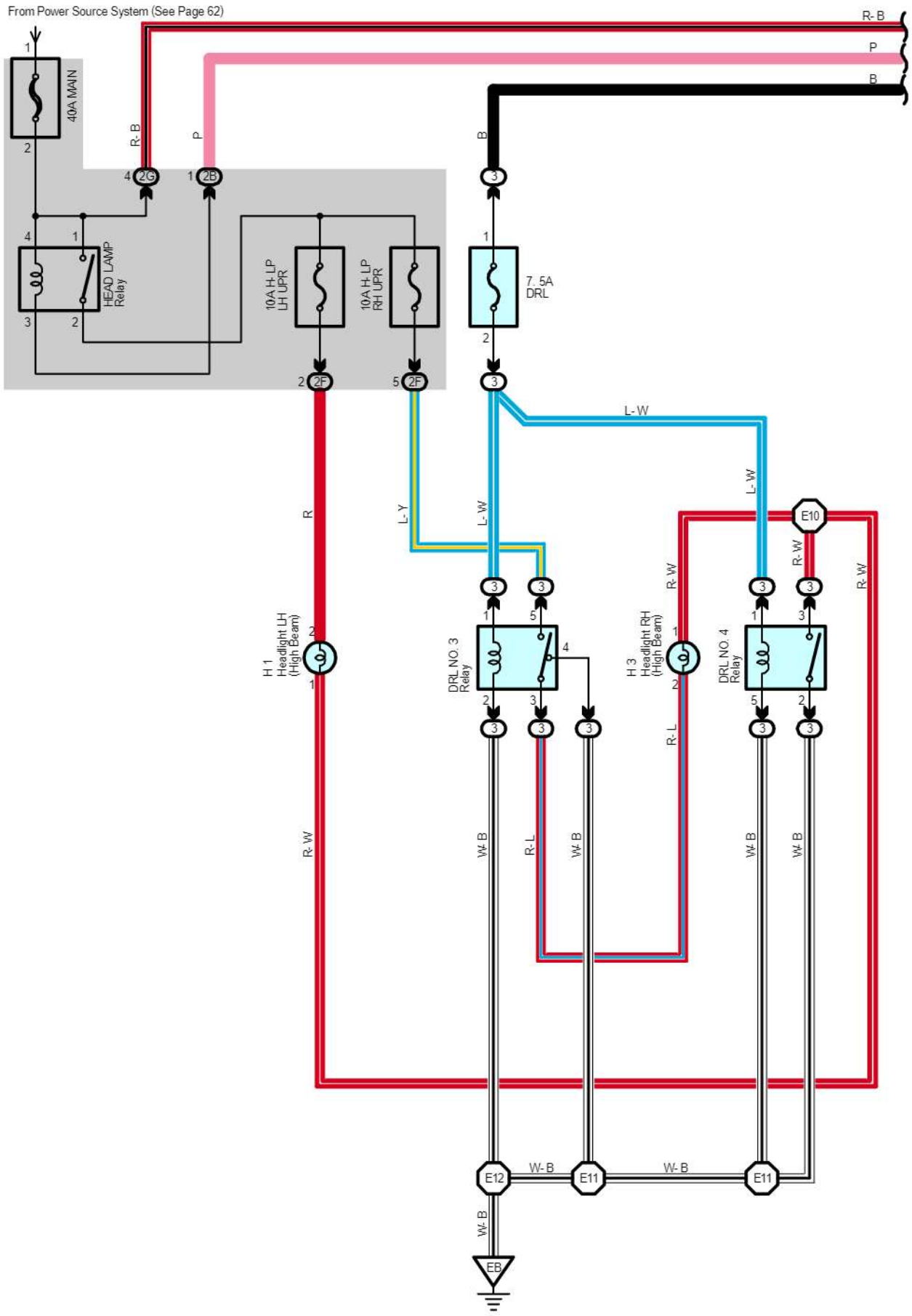
Code	See Page	Ground Points Location
EE	50 (2AZ-FE)	Intake Side of Cylinder Block
EF	50 (2AZ-FE)	Left Side of Cylinder Block
EH	50 (2AZ-FE)	Under the Left Headlight
IB	52	Right Instrument Panel Brace

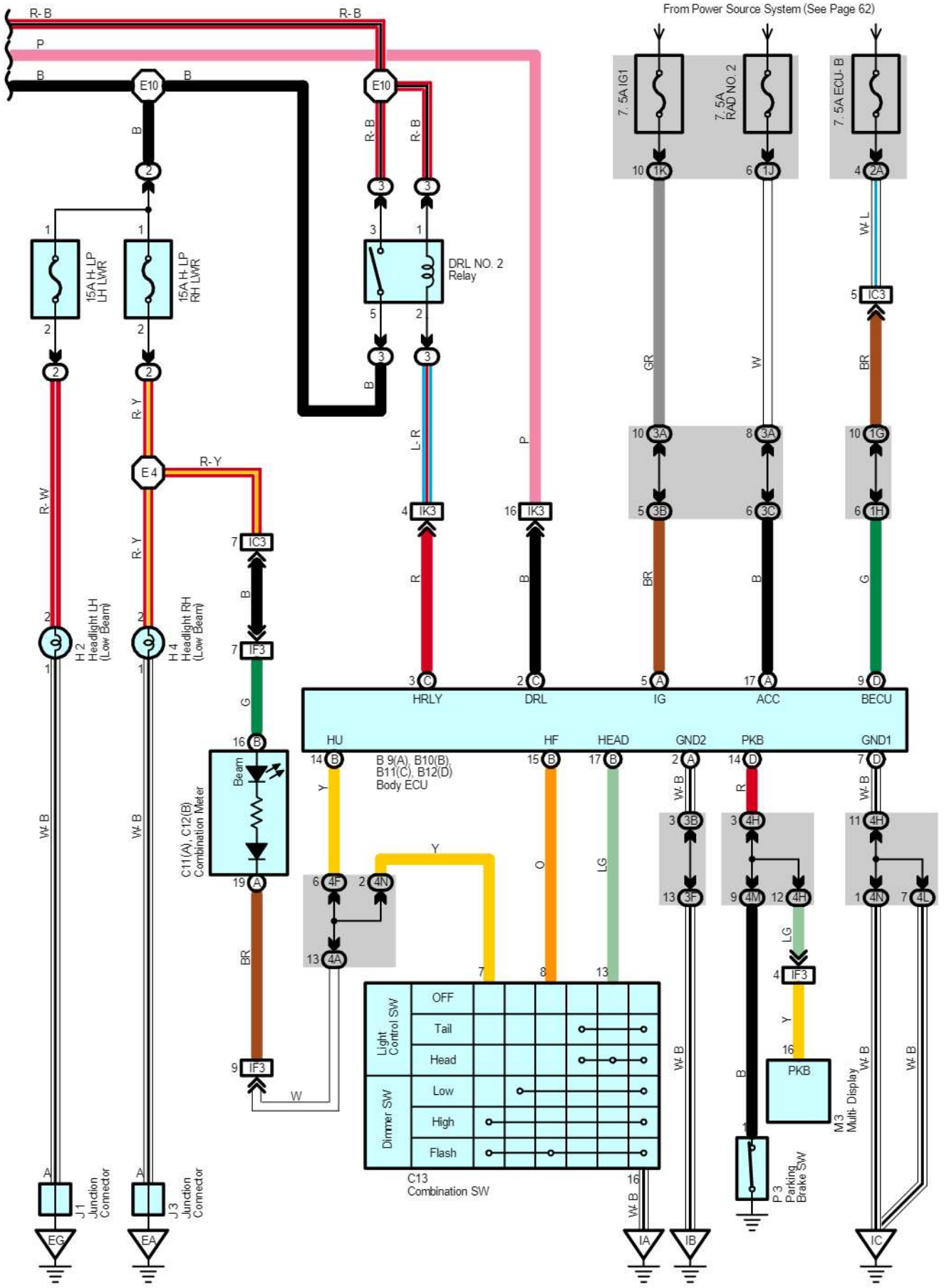


: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E9	50 (2AZ-FE)	Engine Wire	I7	54	Cowl Wire
I6	54				

Headlight with Daytime Running Light




From Power Source System (See Page 62)
R-B
P
B
E10
15A H-LP LH LWR
15A H-LP RH LWR
DRL NO. 2 Relay
7.5A IG1
7.5A RAD NO. 2
7.5A ECU-B
R-W
R-Y
L-R
GR
W
BR
G
H2 Headlight LH (Low Beam)
H4 Headlight RH (Low Beam)
E4
IC3
IF3
IK3
1K
1J
2A
3A
3B
3C
1G
1H
HRLY
DRL
IG
ACC
BECU
HU
HF
HEAD
GND2
PKB
GND1
B 9(A), B10(B), B11(C), B12(D) Body ECU
C11(A), C12(B) Combination Meter
Beam
4F
4N
4A
3F
4M
4H
4L
4I
W-B
O
LG
W
Light Control SW
Dimmer SW
OFF
Tail
Head
Low
High
Flash
C13 Combination SW
P3 Parking Brake SW
M3 Multi-Display
J1 Junction Connector
J3 Junction Connector
EG
EA
IA
IB
IC

Headlight with Daytime Running Light

System Outline

1. Daytime Running Light Operation

The headlight is turned on when all the following conditions are satisfied

- When the ignition switch is ON position
- When the generator is generating electricity
- When the light control SW is OFF position
- When the parking brake SW is OFF position

2. Headlight Operation

- The headlight comes on at the LOW position when the dimmer SW is turned to the low beam position with the light control SW being HEAD position.
- If the dimmer SW is turned to the HIGH position with the light control SW being HEAD position, the headlight comes on at the high beam position. Moreover, the high beam indicator light appears on the combination meter.
- Regardless of the light control SW positions, the headlight comes on at the low beam position when the dimmer SW is turned to FLASH position. Moreover, the high beam indicator light appears on the combination meter.

Service Hints

B9 (A), B10 (B), B12 (D) Body ECU

(D) 7-Ground : Always continuity
(D)14-Ground : Continuity with parking brake pedal depressed
(B)17-Ground : Continuity with the light control SW at HEAD position
(A) 2-Ground : Always continuity
(A) 5-Ground : Approx. 12 volts with the ignition SW at ON position

: PARTS LOCATION

Code		See Page	Code	See Page	Code	See Page
B9	A	42	H1	38 (3MZ-FE)	H4	40 (2AZ-FE)
B10	B	42		40 (2AZ-FE)	J1	39 (3MZ-FE)
B11	C	42	H2	38 (3MZ-FE)		41 (2AZ-FE)
B12	D	42		40 (2AZ-FE)	J3	39 (3MZ-FE)
C11	A	42	H3	38 (3MZ-FE)		41 (2AZ-FE)
C12	B	42		40 (2AZ-FE)	M3	43
C13		42	H4	38 (3MZ-FE)	P3	43

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1H		
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2F		
2G		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3F		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4F		
4H		
4L	32	
4M		
4N		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK3	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)

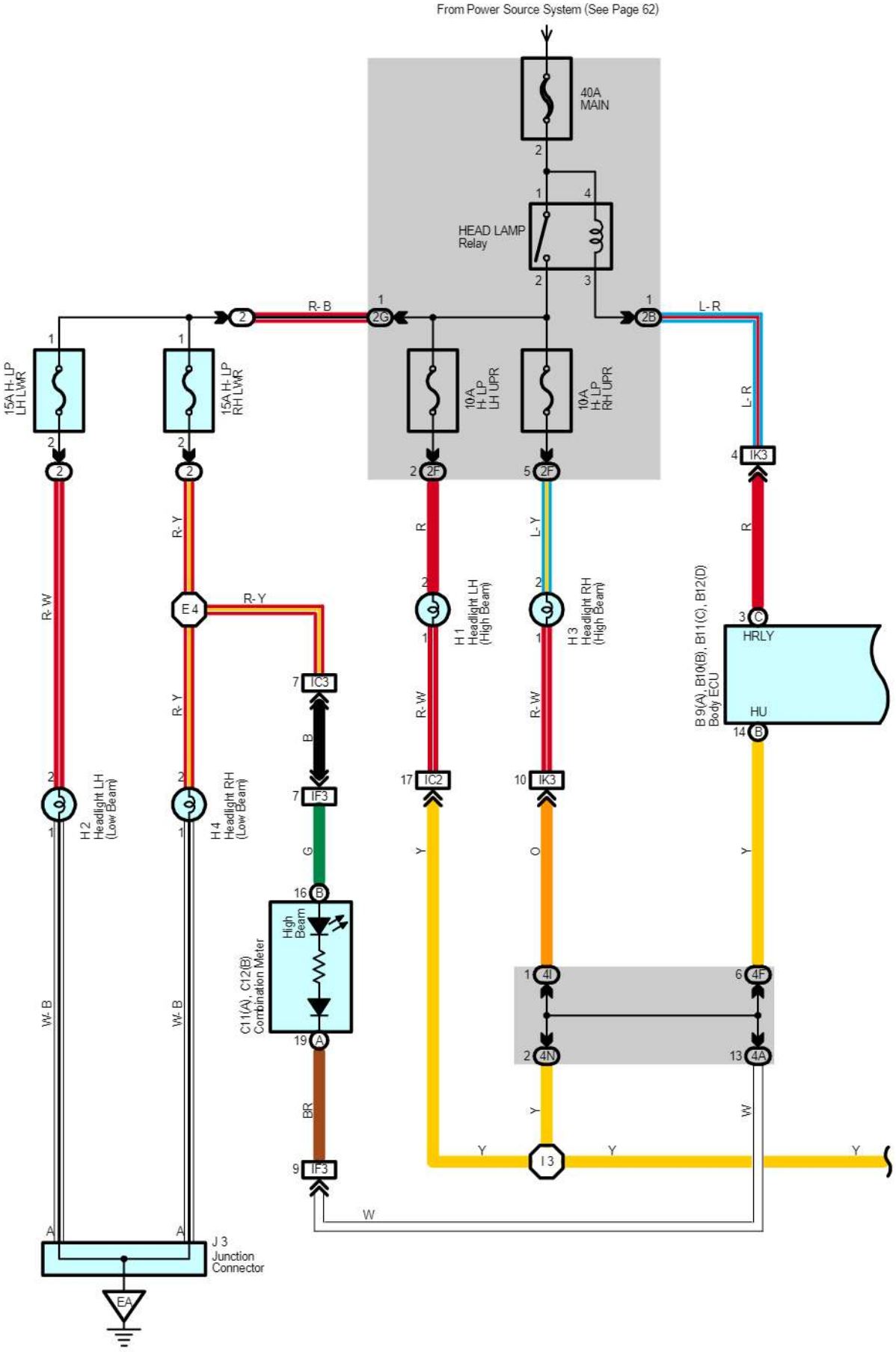
: GROUND POINTS

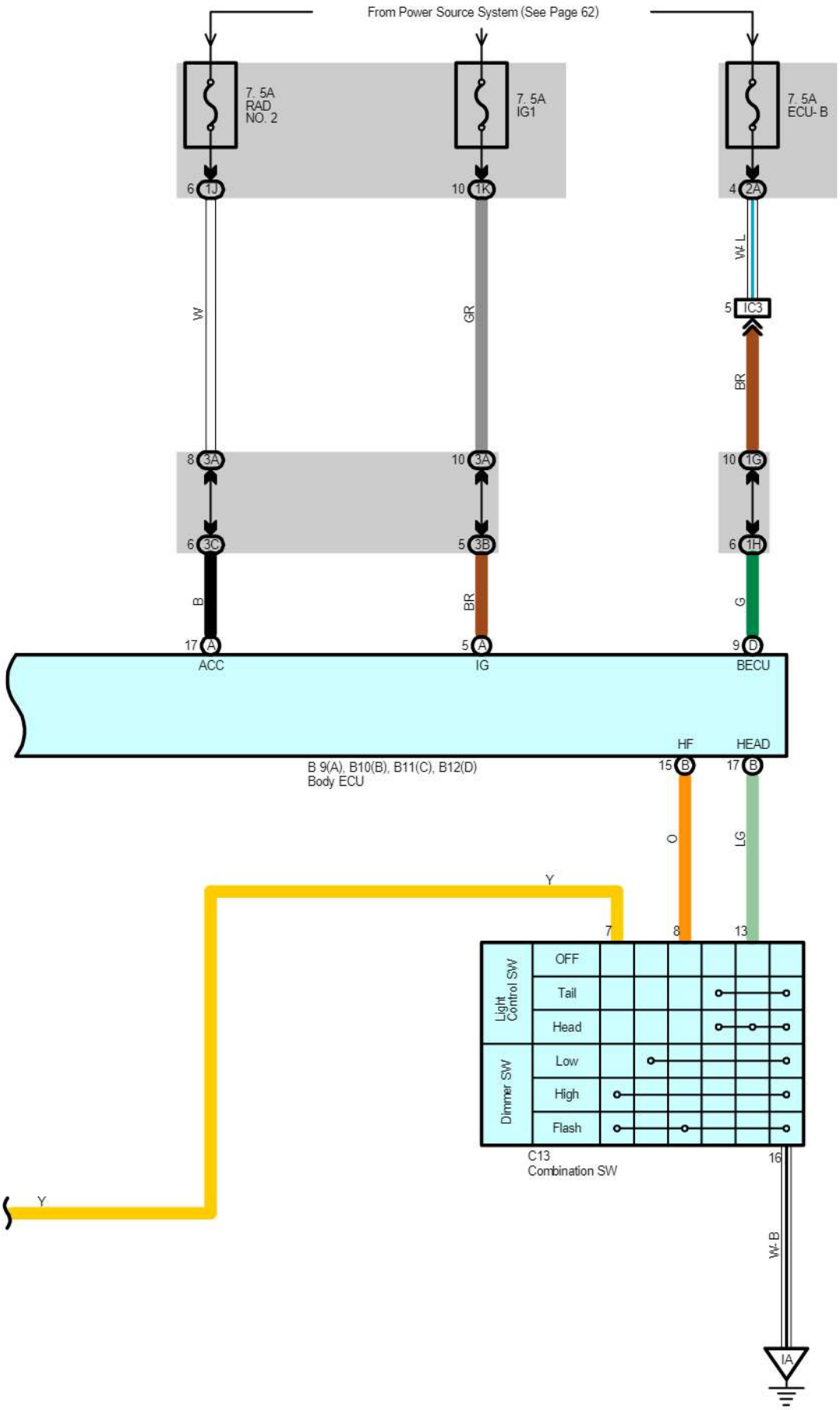
Code	See Page	Ground Points Location
EA	48 (3MZ-FE)	Right Front Fender Apron
	50 (2AZ-FE)	
EB	48 (3MZ-FE)	
	50 (2AZ-FE)	
EG	48 (3MZ-FE)	Under the Left Headlight
	50 (2AZ-FE)	
IA	52	Left Cowl Side Panel
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E4	48 (3MZ-FE)	Engine Room Main Wire	E11	48 (3MZ-FE)	Engine Room Main Wire
	50 (2AZ-FE)			50 (2AZ-FE)	
E10	48 (3MZ-FE)		E12	48 (3MZ-FE)	
	50 (2AZ-FE)			50 (2AZ-FE)	

Headlight without Daytime Running Light




From Power Source System (See Page 62)
7. 5A
RAD
NO. 2
7. 5A
IG1
7. 5A
ECU-B
6 1J
10 1K
4 2A
W
GR
W-L
5 IC3
BR
8 3A
10 3A
10 1G
6 3C
5 3B
6 1H
B
BR
G
17 A
5 A
9 D
ACC
IG
BECU
HF
HEAD
B 9(A), B10(B), B11(C), B12(D)
Body ECU
15 B
17 B
O
LG
Y
7
8
13
Light Control SW
OFF
Tail
Head
Dimmer SW
Low
High
Flash
C13
Combination SW
16
Y
W-B
IA

Headlight without Daytime Running Light

Service Hints

HEAD LAMP Relay

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

C13 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	42	C13	42	H3	40 (2AZ-FE)
B10	B	42	H1	38 (3MZ-FE)	H4	38 (3MZ-FE)
B11	C	42		40 (2AZ-FE)		40 (2AZ-FE)
B12	D	42	H2	38 (3MZ-FE)	J3	39 (3MZ-FE)
C11	A	42		40 (2AZ-FE)		41 (2AZ-FE)
C12	B	42	H3	38 (3MZ-FE)		

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1H		
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2F		
2G		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4F		
4I	32	
4N		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC2	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC3		
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK3	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)

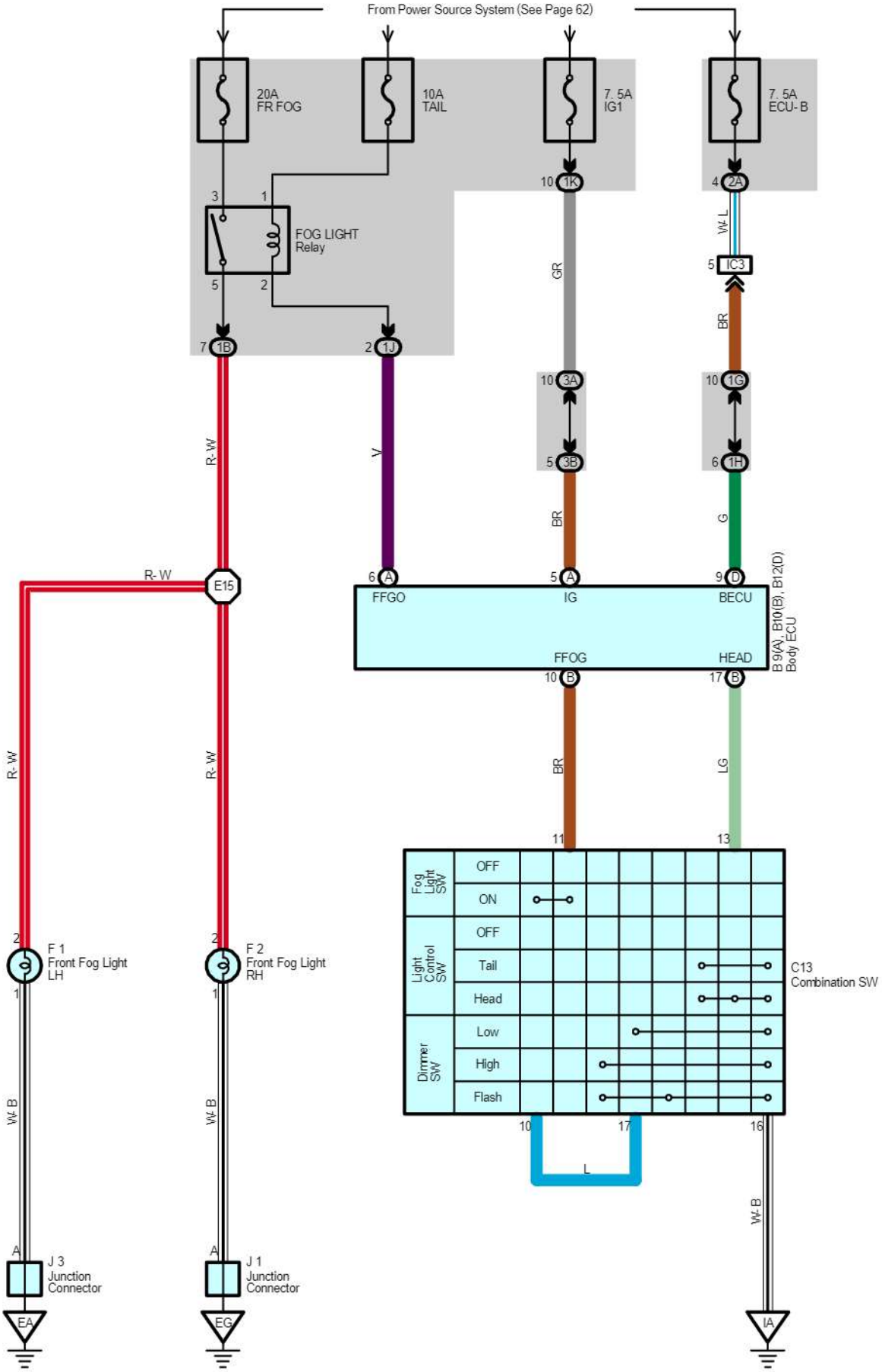
: GROUND POINTS

Code	See Page	Ground Points Location
EA	48 (3MZ-FE)	Right Front Fender Apron
	50 (2AZ-FE)	
IA	52	Left Cowl Side Panel

: **SPLICE POINTS**

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E4	48 (3MZ-FE)	Engine Room Main Wire	I3	54	Cowl Wire
	50 (2AZ-FE)				

Front Fog Light



Service Hints

FOG LIGHT Relay

3-5 : 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	42	F1	38 (3MZ-FE)	J1	39 (3MZ-FE)
B10	B	42		40 (2AZ-FE)		41 (2AZ-FE)
B12	D	42	F2	38 (3MZ-FE)	J3	39 (3MZ-FE)
C13		42		40 (2AZ-FE)		41 (2AZ-FE)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1H		
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

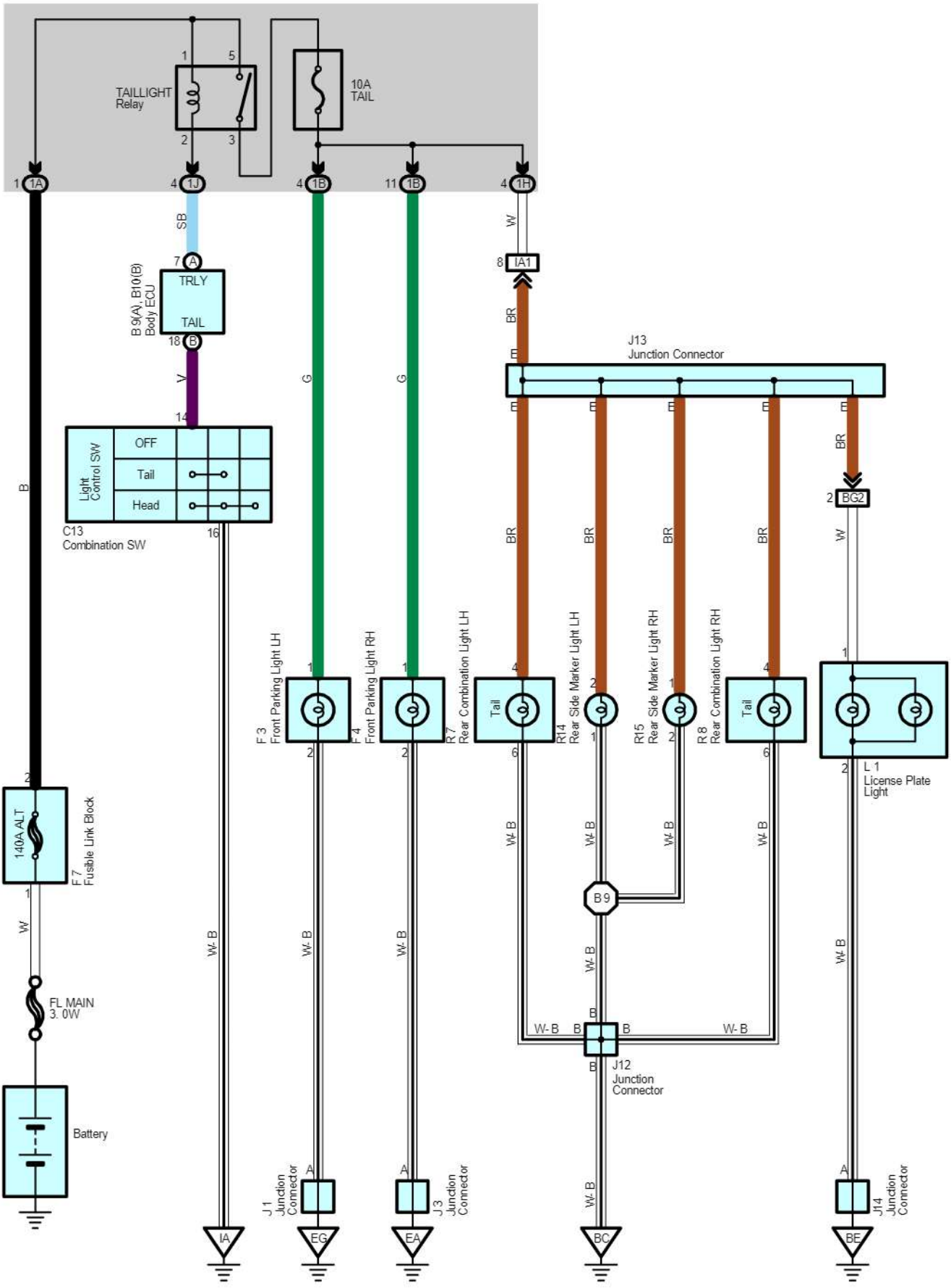
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
EA	48 (3MZ-FE)	Right Front Fender Apron
	50 (2AZ-FE)	
EG	48 (3MZ-FE)	Under the Left Headlight
	50 (2AZ-FE)	
IA	52	Left Cowl Side Panel

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E15	48 (3MZ-FE)	Engine Room Main Wire	E15	50 (2AZ-FE)	Engine Room Main Wire


TAILLIGHT Relay
10A TAIL
1A
1J
1B
1B
1H
SB
W
7 A
TRLY
TAIL
18 B
B 9(A), B10(B) Body ECU
8 IA1
BR
J13 Junction Connector
Y
G
G
14
Light Control SW
OFF
Tail
Head
C13 Combination SW
16
B
BR
BR
BR
BR
BR
2 BG2
W
F 3 Front Parking Light LH
F 4 Front Parking Light RH
R 7 Rear Combination Light LH
R14 Rear Side Marker Light LH
R15 Rear Side Marker Light RH
R 8 Rear Combination Light RH
Tail
Tail
L 1 License Plate Light
140A ALT
F 7 Fusible Link Block
W
W- B
W- B
W- B
W- B
W- B
W- B
W- B
W- B
B 9
FL MAIN 3. 0W
W- B
B
B
B
J12 Junction Connector
Battery
J1 Junction Connector
J3 Junction Connector
J14 Junction Connector
IA
EG
EA
BC
BE

Service Hints

TAILLIGHT Relay

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

C13 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	42	F7	38 (3MZ-FE)	J13	44
B10	B	42		40 (2AZ-FE)	J14	44
C13		42	J1	39 (3MZ-FE)	L1	44
F3		38 (3MZ-FE)		41 (2AZ-FE)	R7	45
		40 (2AZ-FE)	J3	39 (3MZ-FE)	R8	45
F4		38 (3MZ-FE)		41 (2AZ-FE)	R14	45
		40 (2AZ-FE)	J12	44	R15	45

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1B		
1H	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
BG2	56	Back Door No.1 Wire and Floor No.2 Wire (Rear Left of the Roof)

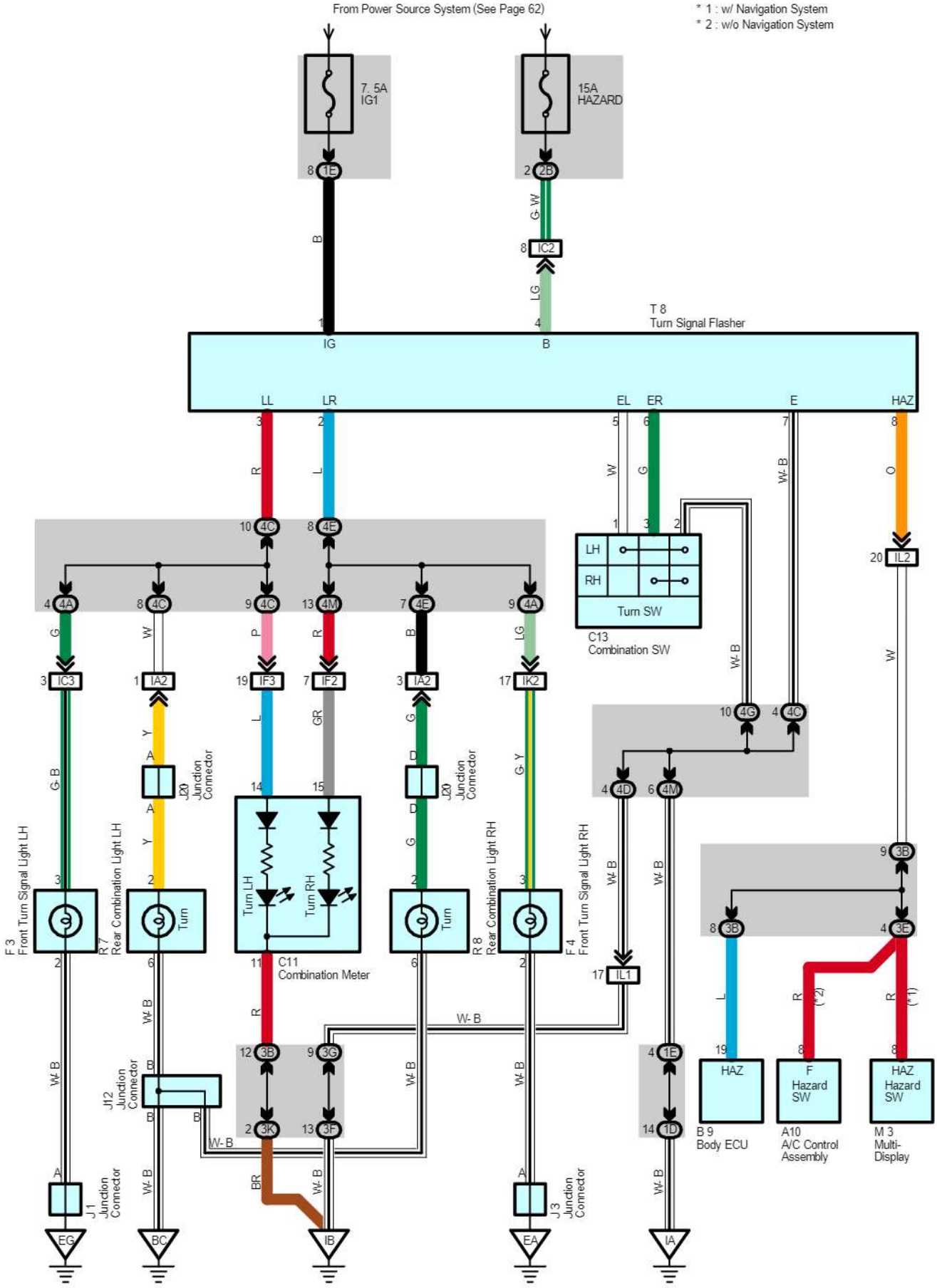
: GROUND POINTS

Code	See Page	Ground Points Location
EA	48 (3MZ-FE)	Right Front Fender Apron
	50 (2AZ-FE)	
EG	48 (3MZ-FE)	Under the Left Headlight
	50 (2AZ-FE)	
IA	52	Left Cowl Side Panel
BC	56	Left Side of Rear Cross Member
BE	56	Left Side of Back Door

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B9	56	Floor No.2 Wire			

Turn Signal and Hazard Warning Light



Service Hints

T8 Turn Signal Flasher

4-Ground : Always approx. 12 volts
7-Ground : Always continuity
1-Ground : Approx. 12 volts with the ignition SW at ON position
5-Ground : Continuity with the ignition SW at ON position and the turn signal SW at LEFT position
6-Ground : Continuity with the ignition SW at ON position and the turn signal SW at RIGHT position

○ : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A10	42	F4	38 (3MZ-FE)	J12	44
B9	42		40 (2AZ-FE)	J20	43
C11	42	J1	39 (3MZ-FE)	M3	43
C13	42		41 (2AZ-FE)	R7	45
F3	38 (3MZ-FE)	J3	39 (3MZ-FE)	R8	45
	40 (2AZ-FE)		41 (2AZ-FE)	T8	43

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
2B	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3B	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3E		
3F		
3G	31	
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4C		
4D		
4E		
4G		
4M	32	

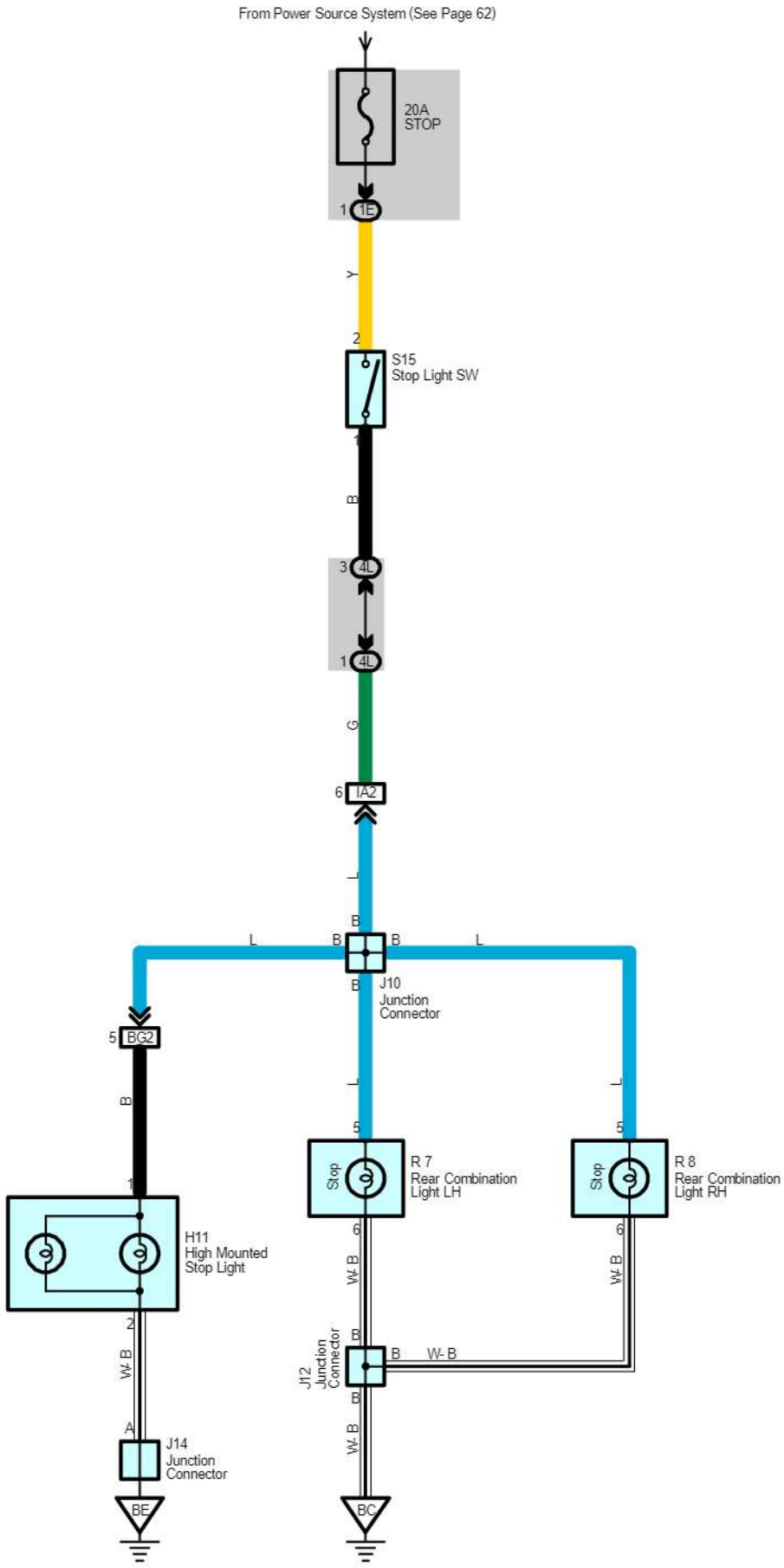
▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA2	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IC2	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC3		
IF2	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IF3		
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IL2		

▽ : GROUND POINTS

Code	See Page	Ground Points Location
EA	48 (3MZ-FE)	Right Front Fender Apron
	50 (2AZ-FE)	
EG	48 (3MZ-FE)	Under the Left Headlight
	50 (2AZ-FE)	
IA	52	Left Cowl Side Panel
IB	52	Right Instrument Panel Brace
BC	56	Left Side of Rear Cross Member

Stop Light


From Power Source System (See Page 62)
20A
STOP
1E
Y
2
S15
Stop Light SW
1
B
3
4L
1
4L
G
6
1A2
L
B
L
B
B
L
B
J10
Junction
Connector
5
BG2
B
1
L
5
L
5
Stop
R 7
Rear Combination
Light LH
Stop
R 8
Rear Combination
Light RH
6
W-B
6
W-B
H11
High Mounted
Stop Light
2
W-B
A
J14
Junction
Connector
BE
B
B
W-B
J12
Junction
Connector
B
W-B
BC

Service Hints

S15 Stop Light SW

2-1 : Closed with the brake pedal depressed

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
H11	44	J14	44	S15	43
J10	44	R7	45		
J12	44	R8	45		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

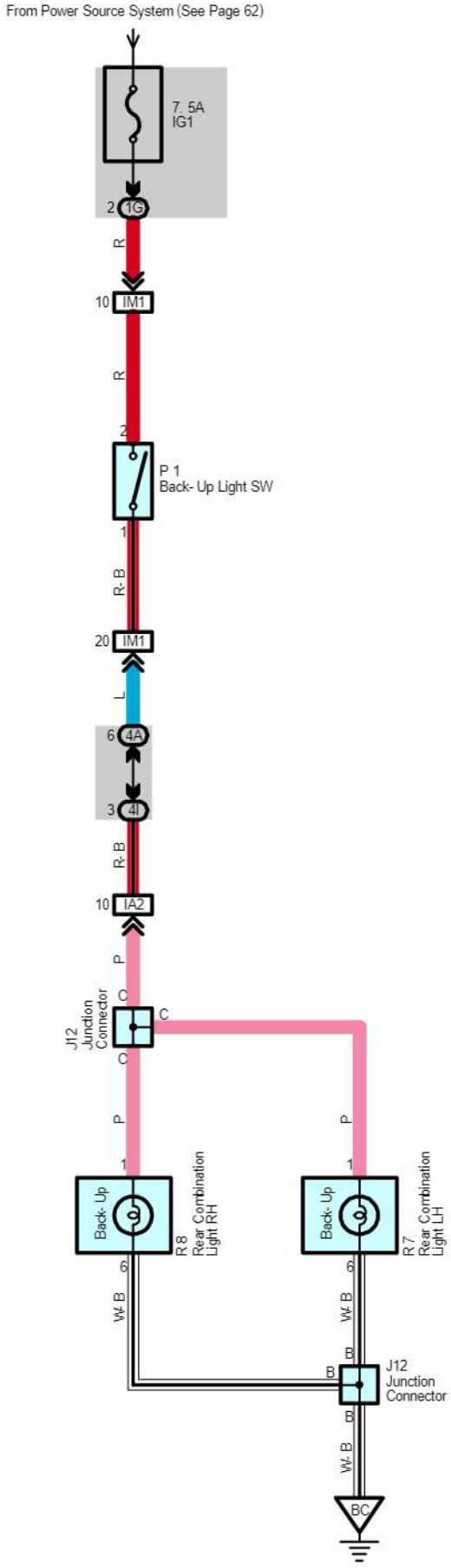
Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
4L	32	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA2	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
BG2	56	Back Door No.1 Wire and Floor No.2 Wire (Rear Left of the Roof)

: GROUND POINTS

Code	See Page	Ground Points Location
BC	56	Left Side of Rear Cross Member
BE	56	Left Side of Back Door


From Power Source System (See Page 62)
7. 5A
IG1
2
1G
R
10
IM1
R
2
P 1
Back- Up Light SW
1
R-B
20
IM1
L
6
4A
3
4I
R-B
10
IA2
P
C
J12
Junction
Connector
C
C
P
P
1
1
Back- Up
R 8
Rear Combination
Light RH
Back- Up
R 7
Rear Combination
Light LH
6
6
W-B
W-B
B
B
J12
Junction
Connector
B
W-B
BC

Service Hints

P1 Back-Up Light SW

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

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
J12	44	P1	41 (2AZ-FE)	R8	45
P1	39 (3MZ-FE)	R7	45		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

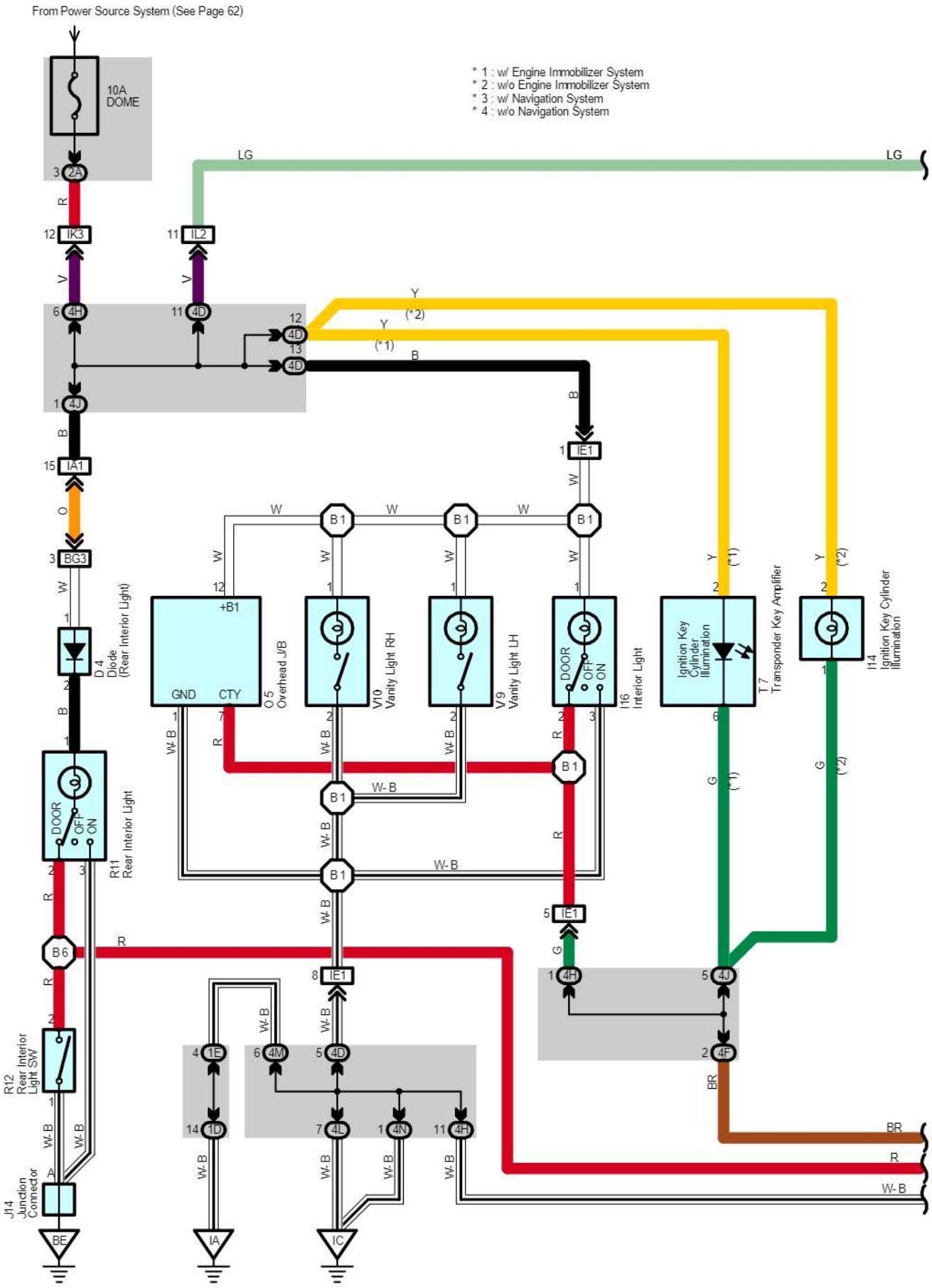
Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4I	32	

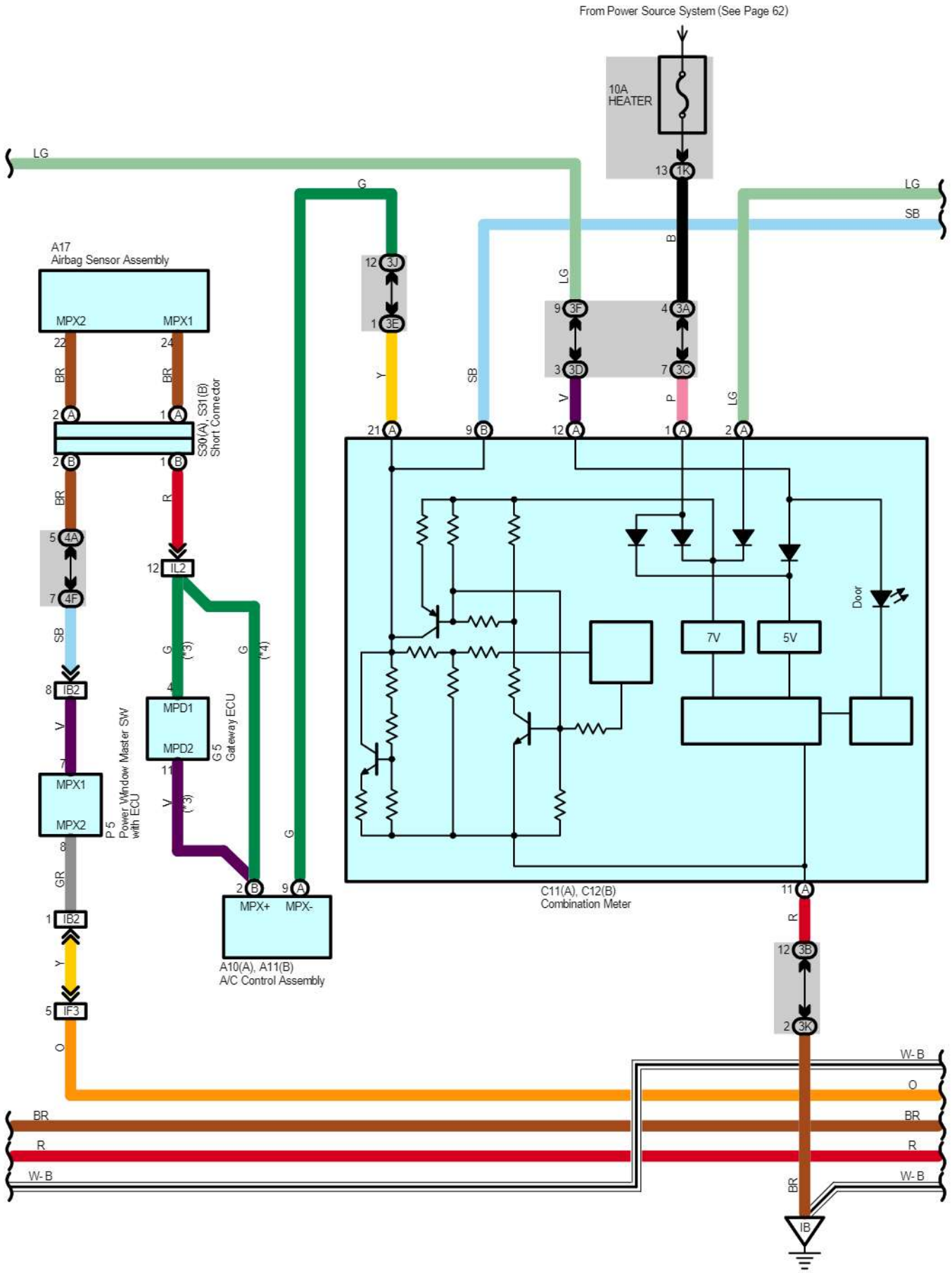
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

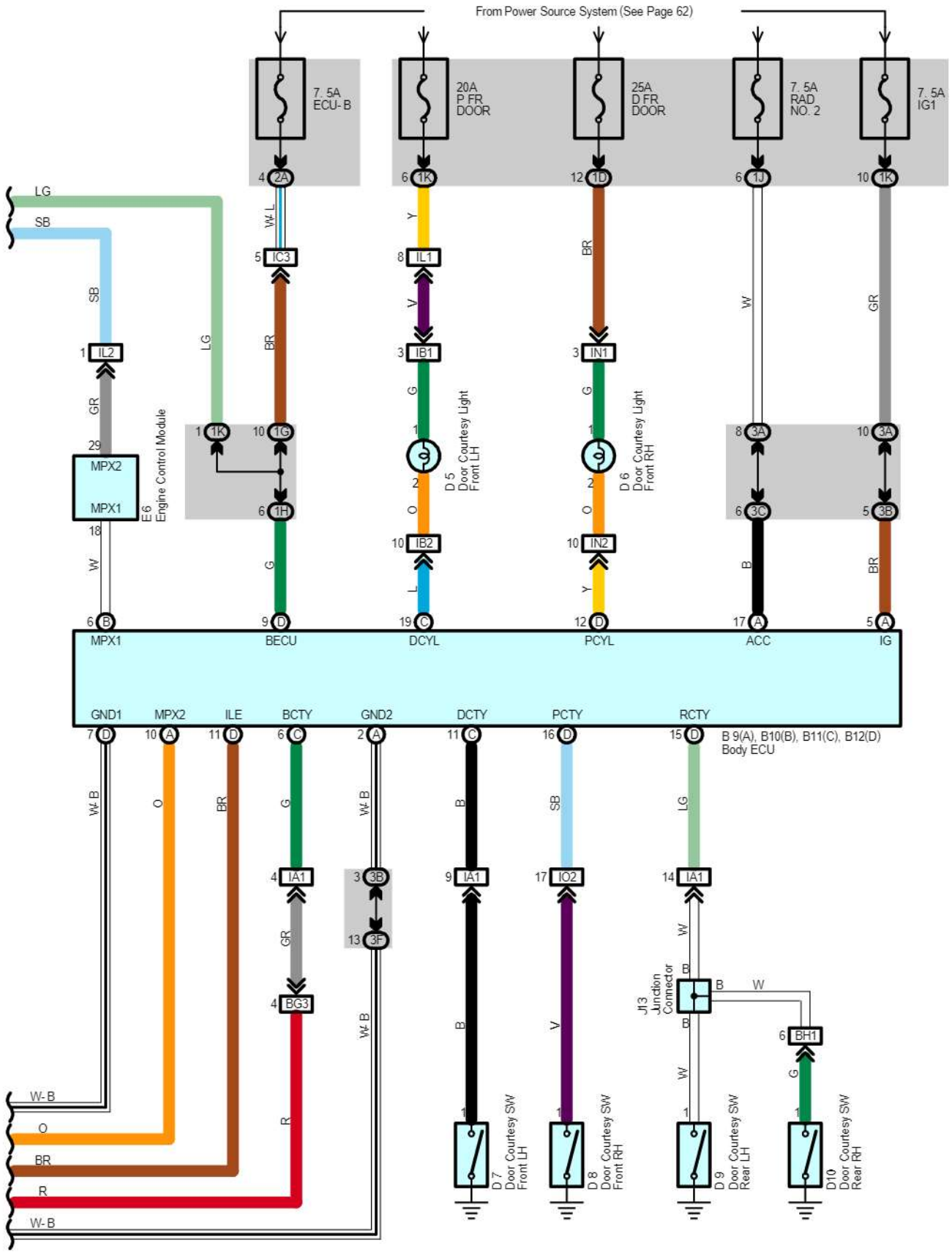
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA2	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IM1	54	Engine Wire and Cowl Wire (Right Kick Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
BC	56	Left Side of Rear Cross Member


From Power Source System (See Page 62)
* 1 : w/ Engine Immobilizer System
* 2 : w/o Engine Immobilizer System
* 3 : w/ Navigation System
* 4 : w/o Navigation System
10A DOME
3 2A
12 IK3
11 IL2
LG
6 4H
11 4D
12 4D
13 4D
1 4J
15 IA1
3 BG3
1 IE1
+B1
GND
CTY
O 5 Overhead J/B
V10 Vanity Light RH
V9 Vanity Light LH
DOOR
OFF
ON
I16 Interior Light
Ignition Key Cylinder Illumination
T 7 Transponder Key Amplifier
I14 Ignition Key Cylinder Illumination
D 4 Diode (Rear Interior Light)
R11 Rear Interior Light
B 6
R12 Rear Interior Light SW
J14 Junction Connector
BE
IA
IC
1E
14 1D
6 4M
5 4D
7 4L
1 4N
11 4H
1 4H
5 4J
2 4F
BR
R
W-B
G
Y
B
W


From Power Source System (See Page 62)
10A
HEATER
13 1K
LG
G
LG
SB
B
A17
Airbag Sensor Assembly
MPX2
MPX1
22
24
BR
BR
2 A
1 A
S30(A), S31(B)
Short Connector
2 B
1 B
BR
R
5 4A
7 4F
SB
8 IB2
V
7
MPX1
MPX2
8
GR
1 IB2
Y
5 IF3
O
P5
Power Window Master SW
with ECU
12 IL2
G (*3)
G (*4)
4
MPD1
MPD2
11
V (*3)
G5
Gateway ECU
12 3J
1 3E
Y
9 3F
3 3D
V
4 3A
7 3C
P
21 A
9 B
12 A
1 A
2 A
Door
7V
5V
C11(A), C12(B)
Combination Meter
11 A
R
12 3B
2 3K
2 B
9 A
MPX+
MPX-
A10(A), A11(B)
A/C Control Assembly
W-B
O
BR
R
W-B
BR
IB


From Power Source System (See Page 62)
7.5A ECU-B
20A P FR DOOR
25A D FR DOOR
7.5A RAD NO.2
7.5A IG1
4 2A
6 1K
12 1D
6 1J
10 1K
LG
SB
W-L
Y
BR
W
GR
5 IC3
8 IL1
3 IB1
3 IN1
8 3A
10 3A
1 IL2
1 1K
10 1G
6 1H
29
MPX2
MPX1
E6 Engine Control Module
18
W
G
V
O
L
B
6 3C
5 3B
D5 Door Courtesy Light Front LH
D6 Door Courtesy Light Front RH
10 IB2
10 IN2
6 B
9 D
19 C
12 D
17 A
5 A
MPX1
BECU
DCYL
PCYL
ACC
IG
GND1
MPX2
ILE
BCTY
GND2
DCTY
PCTY
RCTY
7 D
10 A
11 D
6 C
2 A
11 C
16 D
15 D
B 9(A), B10(B), B11(C), B12(D) Body ECU
W-B
4 IA1
3 3B
13 3F
9 IA1
17 IO2
14 IA1
4 BG3
J13 Junction Connector
6 BH1
D7 Door Courtesy SW Front LH
D8 Door Courtesy SW Front RH
D9 Door Courtesy SW Rear LH
D10 Door Courtesy SW Rear RH

System Outline

Illuminated Entry System

This system provides various functions listed below through communication control of the body ECU etc.

- Each relevant light lights up if any door is opened.
- If all the doors are closed with the ignition SW set at OFF after any door is opened, each light lights up for 15 sec., and then fades out when the time set on the timer has elapsed.
- If any door is unlocked from the driver or passenger side or if any door is unlocked with the unlock SW on the transmitter after all the doors are closed and locked, each light lights up for 15 sec., and then fades out when the time set on the timer has elapsed.
- If the ignition SW is turned to the ACC or ON position while each light is being lit by the timer, the timer lighting is cancelled and the light fades out.
- If all the doors are closed with the ignition SW set at ACC or ON after any door is opened, the timer lighting is cancelled and the light fades out.
- Each light above is the interior light, ignition key cylinder light, and door courtesy lights.

Service Hints

D7, D8, D9, D10 Door Courtesy SW Front LH, RH, Rear LH, RH

1-Ground : Closed with the door open

R12 Rear Interior Light SW

1-2 : Closed with the back door open

B9 (A), B12 (D) Body ECU

(D) 9-Ground : Always approx. 12 volts
(A) 5-Ground : Approx. 12 volts with the ignition SW at ON position
(A)17-Ground : Approx. 12 volts with the ignition SW at ACC or ON position

○ : PARTS LOCATION

Code		See Page	Code	See Page	Code		See Page
A10	A	42	D6	44	O5		44
A11	B	42	D7	44	P5		44
A17		42	D8	44	R11		45
B9	A	42	D9	44	R12		45
B10	B	42	D10	44	S30	A	43
B11	C	42	E6	42	S31	B	43
B12	D	42	G5	43	T7		43
C11	A	42	I14	43	V9		45
C12	B	42	I16	44	V10		45
D4		44	J13	44			
D5		44	J14	44			

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
1G		
1H		
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3D		
3E		
3F		
3J	31	
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4D		
4F		
4H		
4J	32	
4L		
4M		
4N		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

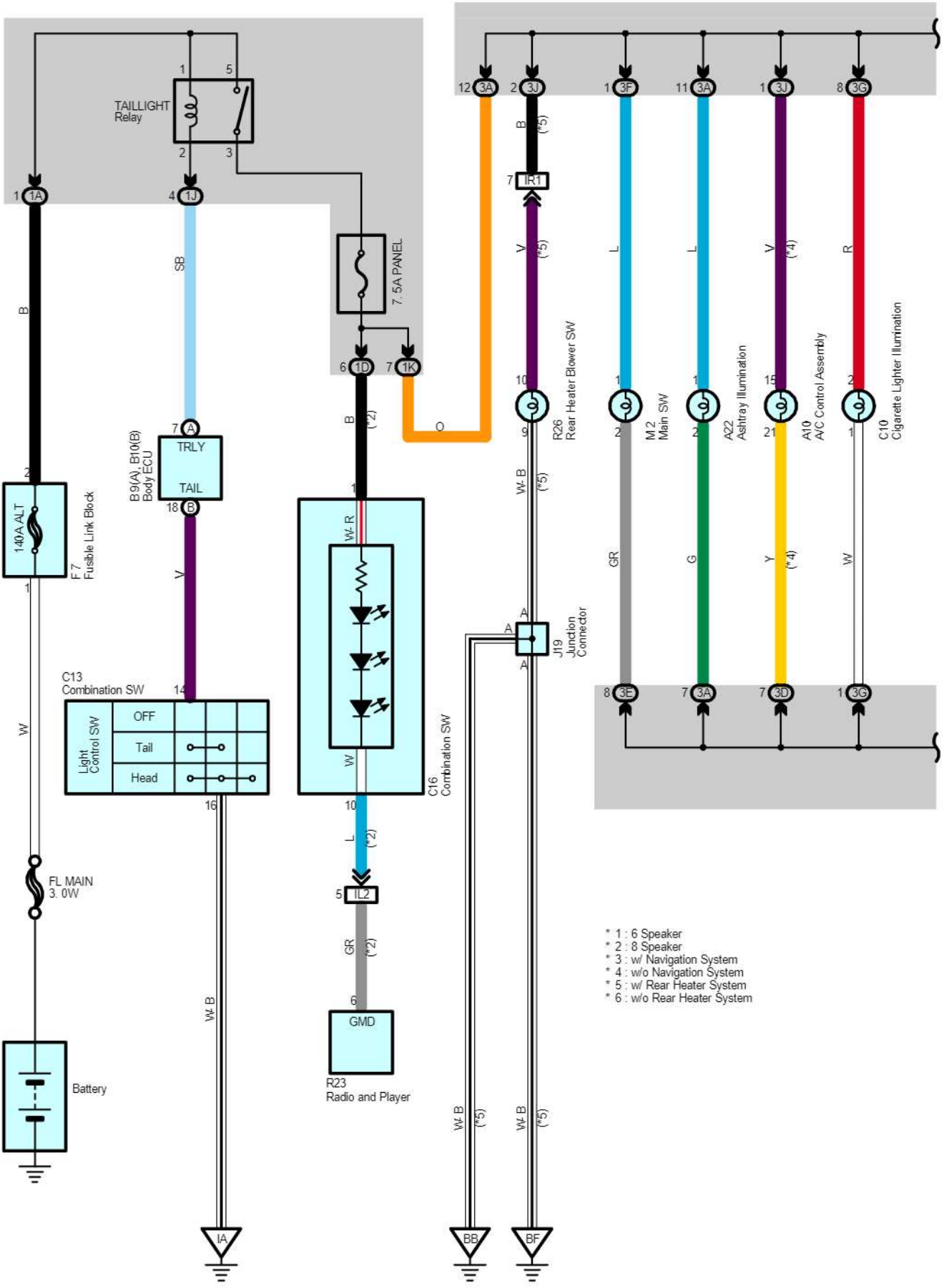
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IB1	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IB2		
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IE1	52	Roof Wire and Cowl Wire (Near the Bottom of Left Front Pillar)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK3	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IL2		
IN1	54	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IN2		
IO2	54	Cowl Wire and Floor Wire (Right Kick Panel)
BG3	56	Back Door No.1 Wire and Floor No.2 Wire (Rear Left of the Roof)
BH1	56	Floor No.2 Wire and Floor Wire (Near the Rear Side Marker Light RH)

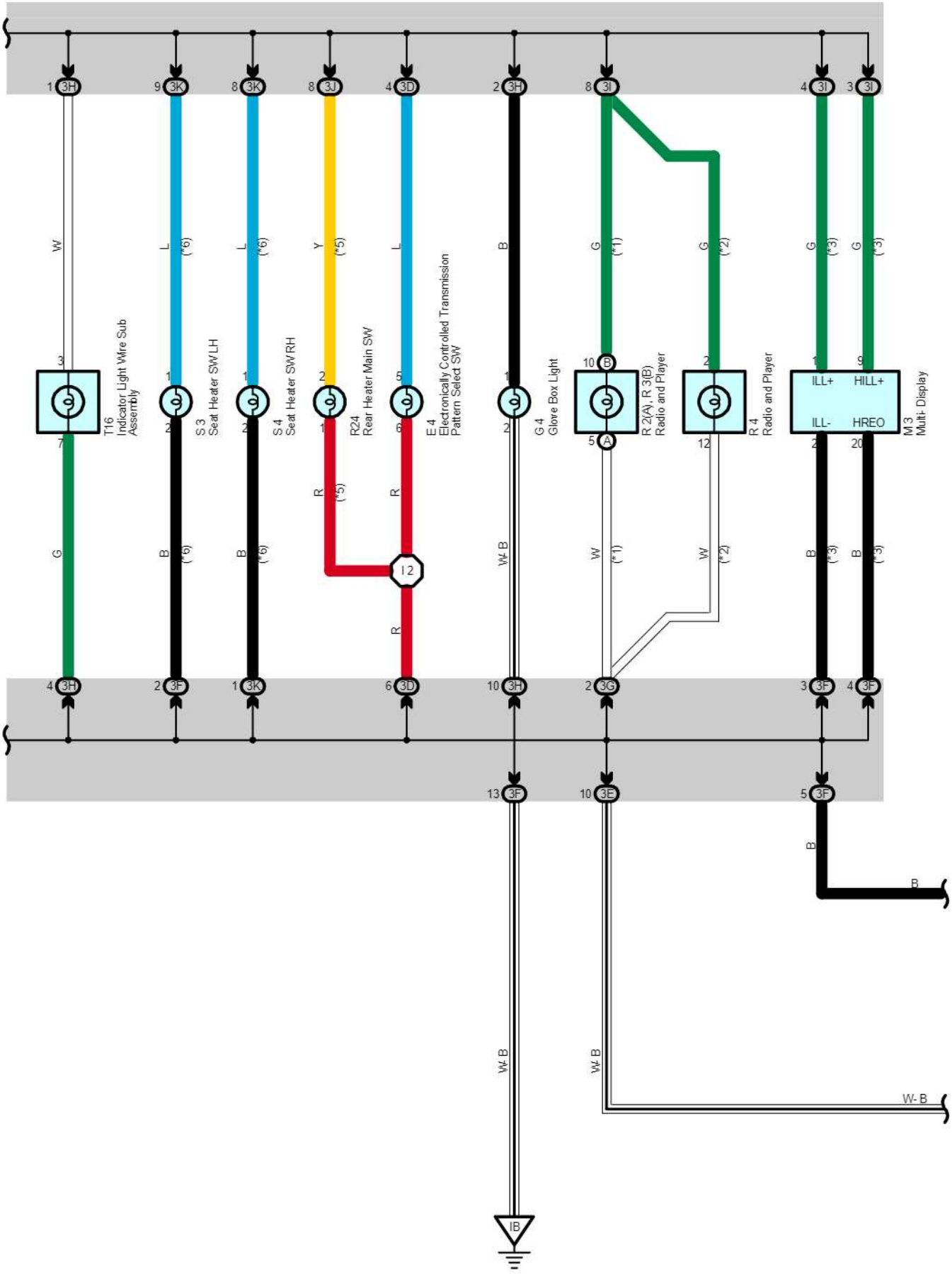
: GROUND POINTS

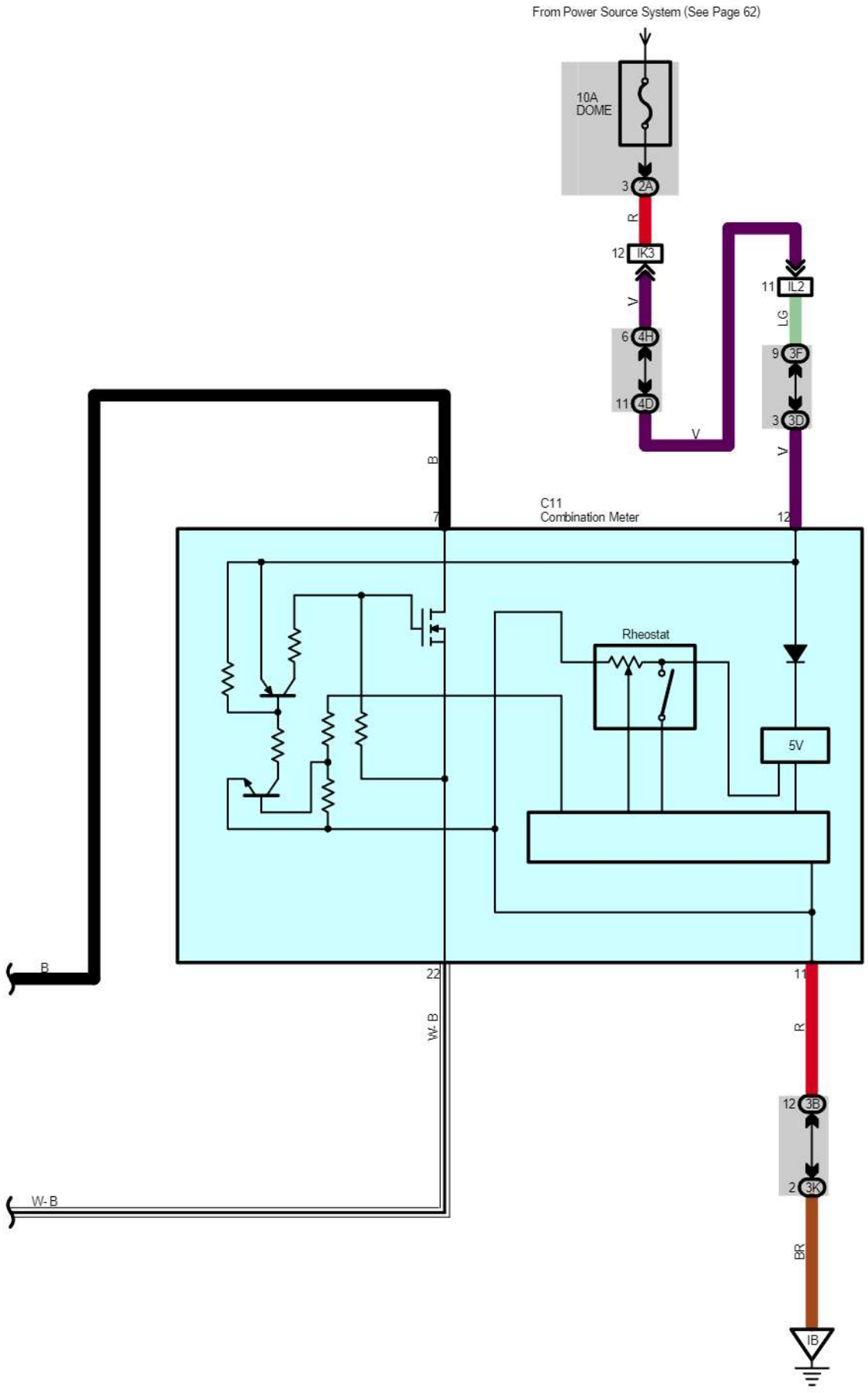
Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel
BE	56	Left Side of Back Door

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B1	56	Roof Wire	B6	56	Back Door No.1 Wire


TAILLIGHT Relay
7.5A PANEL
140A ALT
F7 Fusible Link Block
B9(A), B10(B) Body ECU
TRLY
TAIL
C13 Combination SW
Light Control SW
OFF
Tail
Head
FL MAIN 3.0W
Battery
C16 Combination SW
IL2
GMD
R23 Radio and Player
IA
BB
BF
R26 Rear Heater Blower SW
J19 Junction Connector
M2 Main SW
A22 Ashtray Illumination
A10 A/C Control Assembly
C10 Cigarette Lighter Illumination
* 1 : 6 Speaker
* 2 : 8 Speaker
* 3 : w/ Navigation System
* 4 : w/o Navigation System
* 5 : w/ Rear Heater System
* 6 : w/o Rear Heater System


1 3H
9 3K
8 3K
8 3J
4 3D
2 3H
8 3I
4 3I
3 3I
W
L (*6)
L (*6)
Y (*5)
L
B
G (*1)
G (*2)
G (*3)
G (*3)
T16
Indicator Light Wire Sub Assembly
S 3
Seat Heater SW LH
S 4
Seat Heater SW RH
R24
Rear Heater Main SW
E 4
Electronically Controlled Transmission Pattern Select SW
G 4
Glove Box Light
R 2(A), R 3(B)
Radio and Player
R 4
Radio and Player
M3
Multi- Display
ILL+
HILL+
ILL-
HREO
R (*5)
R
G
B (*6)
B (*6)
I2
W- B
W (*1)
W (*2)
B (*3)
B (*3)
4 3H
2 3F
1 3K
6 3D
10 3H
2 3G
3 3F
4 3F
13 3F
10 3E
5 3F
B
W- B
W- B
W- B
IB


From Power Source System (See Page 62)
10A
DOME
3
2A
R
12
IK3
V
6
4H
11
4D
V
11
IL2
LG
9
3F
3
3D
V
B
7
C11
Combination Meter
12
Rheostat
5V
B
22
W-B
W-B
11
R
12
3B
2
3K
BR
IB

Service Hints

TAILLIGHT Relay

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

C13 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
A10	42	E4	42	R3 B	43
A22	42	F7	38 (3MZ-FE)	R4	43
B9 A	42		40 (2AZ-FE)	R23	43
B10 B	42	G4	43	R24	43
C10	42	J19	44	R26	45
C11	42	M2	43	S3	43
C13	42	M3	43	S4	43
C16	42	R2 A	43	T16	43

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3D		
3E		
3F		
3G	31	
3H		
3I		
3J		
3K		
4D	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4H		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

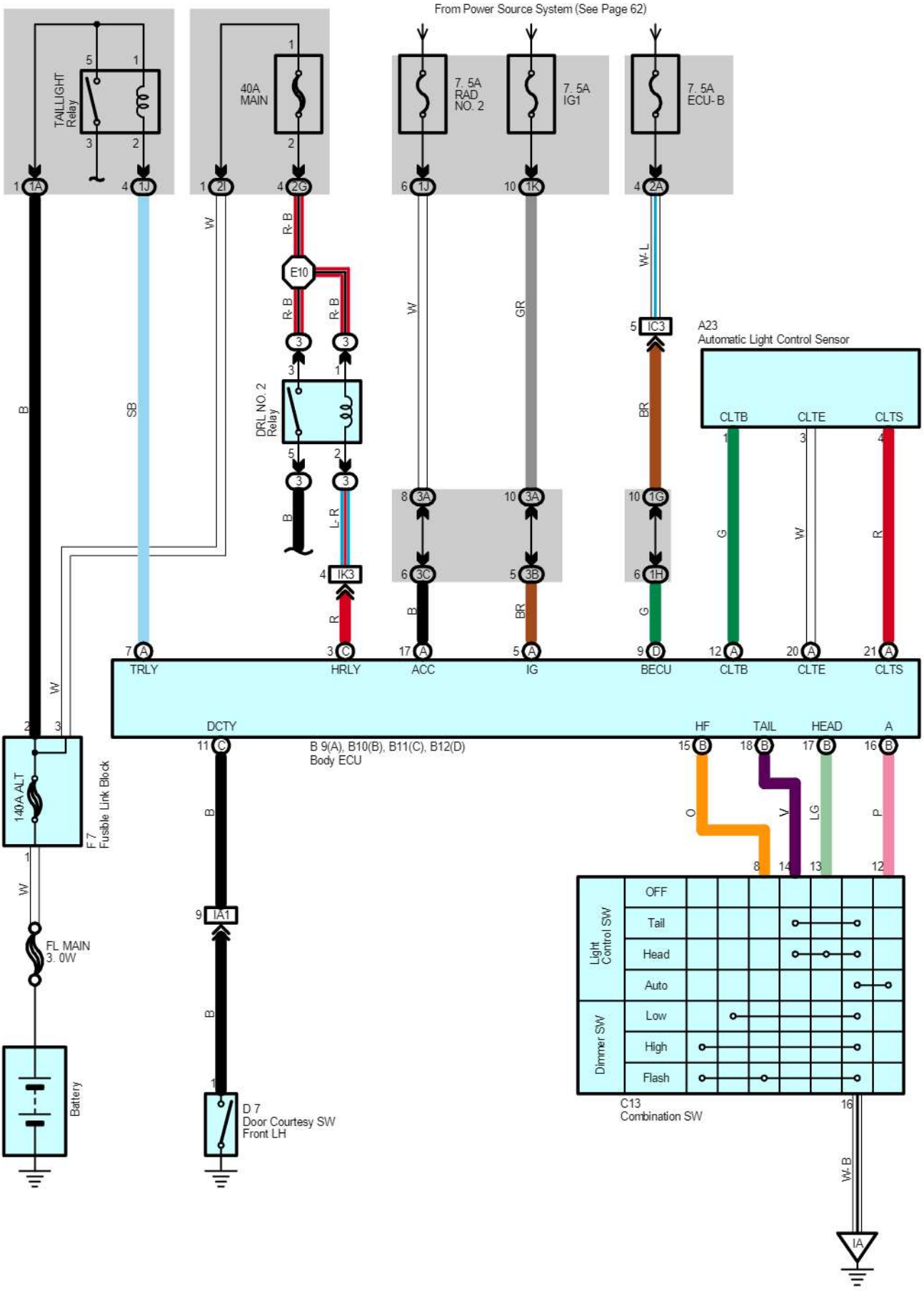
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IK3	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IR1	54	Instrument Panel Wire and Floor Wire (Under the Shift Lever)

: GROUND POINTS

Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel
IB	52	Right Instrument Panel Brace
BB	56	Right Center Pillar
BF	56	Near the Rear Side Marker Light RH

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I2	54	Instrument Panel Wire			


From Power Source System (See Page 62)
TAILLIGHT Relay
40A MAIN
7. 5A RAD NO. 2
7. 5A IG1
7. 5A ECU-B
DRL NO. 2 Relay
A23
Automatic Light Control Sensor
CLTB
CLTE
CLTS
TRLY
HRLY
ACC
IG
BECU
DCTY
HF
TAIL
HEAD
A
B 9(A), B10(B), B11(C), B12(D)
Body ECU
140A ALT
F 7
Fusible Link Block
FL MAIN
3. 0W
Battery
D 7
Door Courtesy SW
Front LH
Light Control SW
OFF
Tail
Head
Auto
Dimmer SW
Low
High
Flash
C13
Combination SW
IA

System Outline

Automatic light control is designed for turning taillights and headlights on/off automatically according to the surroundings brightness when the light control SW is on AUTO position under the condition that the ignition SW is on.

Automatic Light Control Operation

When the surrounding darkens (Darker than the value set for taillight lightning), taillight is automatically turned on under the condition that the ignition SW is on with the light control SW being on AUTO position. When further darkens (Darker than the value set for headlight lightning), the headlight is automatically turned on.
In addition, if the brightness reaches the value set for turning the each light off, each light is turned off.

Service Hints

C13 Combination SW

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

D7 Door Courtesy SW Front LH

1-Ground : Closed with the door open

: PARTS LOCATION

Code		See Page	Code		See Page	Code	See Page
A23		42	B11	C	42	D7	44
B9	A	42	B12	D	42	F7	38 (3MZ-FE)
B10	B	42	C13		42		

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1H		
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2G		
2I		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

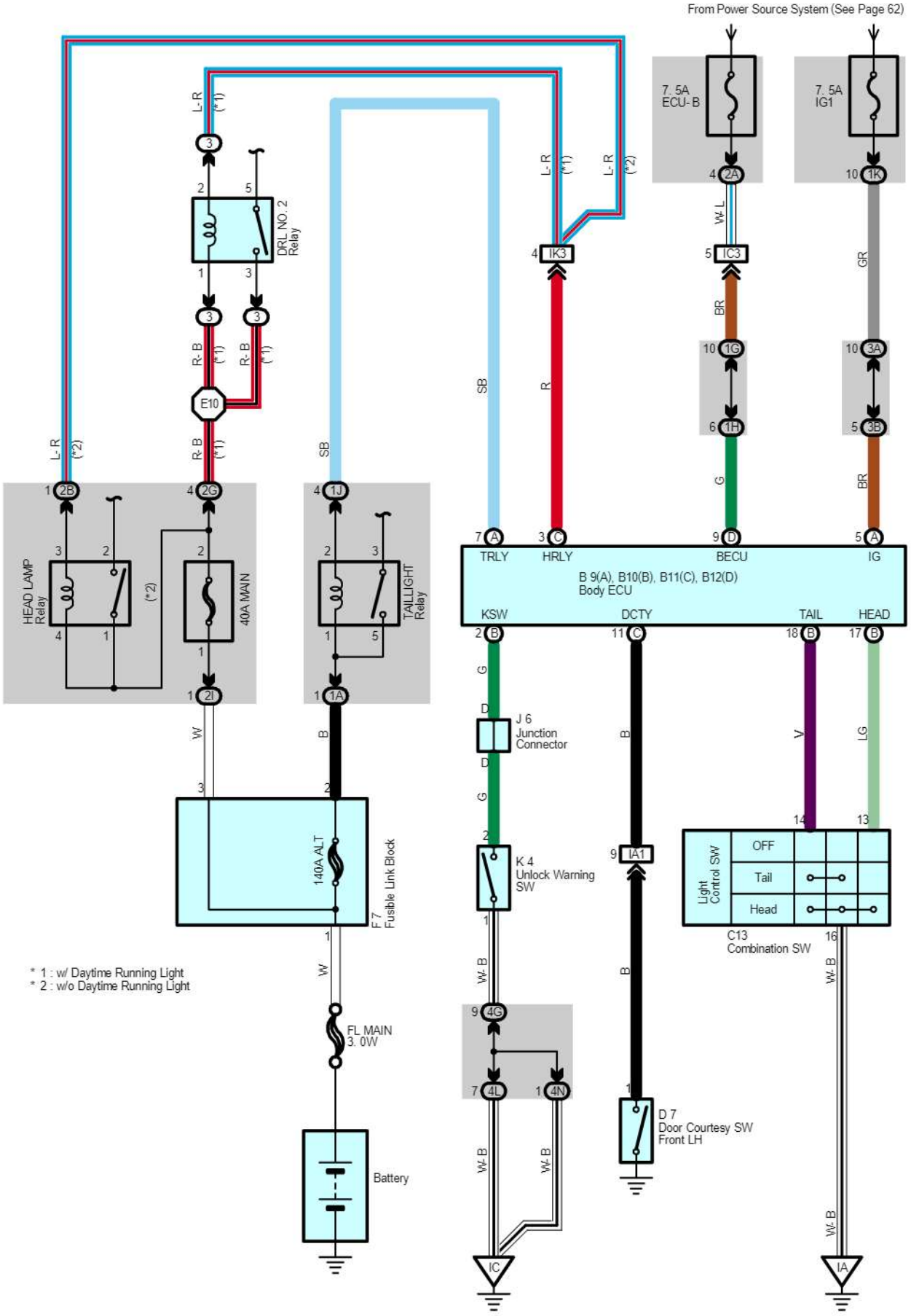
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IK3	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E10	48 (3MZ-FE)	Engine Room Main Wire			


From Power Source System (See Page 62)
7.5A ECU-B
7.5A IG1
DRL NO. 2 Relay
HEAD LAMP Relay
40A MAIN
TAILLIGHT Relay
E10
B 9(A), B10(B), B11(C), B12(D) Body ECU
TRLY
HRLY
BECU
IG
KSW
DCTY
TAIL
HEAD
J 6 Junction Connector
K 4 Unlock Warning SW
D 7 Door Courtesy SW Front LH
Light Control SW
OFF
Tail
Head
C13 Combination SW
F 7 Fusible Link Block
140A ALT
FL MAIN 3.0W
Battery
* 1 : w/ Daytime Running Light
* 2 : w/o Daytime Running Light

System Outline

With the ignition SW turned on, the current flows to TERMINAL (A) 5 of the body ECU through IG1 fuse.
Voltage is applied at all times to TERMINAL (A) 7 of the body ECU through the TAILLIGHT relay. Coil side, and to TERMINAL (C) 3 through the HEAD LAMP relay coil side (w/o daytime running light) or through the DRL NO.2 relay (w/ daytime running light).

1. Normal Lighting Operation

<Turn taillight on>
With the light control SW turned to TAIL position, a signal is input into TERMINAL (B) 18 of the body ECU. Due to this signal, the current flowing to TERMINAL (A) 7 of the body ECU flows to TERMINAL (B) 18 to TERMINAL 14 of the light control SW to TERMINAL 16 to GROUND, and TAILLIGHT relay causes taillights to turn on.

<Turn headlight on>
With the light control SW turned to HEAD position, a signal is input into TERMINALS (B) 17 and (B) 18 of the body ECU. Due to this signal, the current flowing to TERMINAL (C) 3 of the body ECU flows to TERMINAL (B) 17 to TERMINAL 13 of the light control SW to TERMINAL 16 to GROUND in the headlight circuit, and causes TAILLIGHT and HEAD LAMP (w/o daytime running light) or DRL NO.2 relay (w/ daytime running light) 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 (A) 5 of the body ECU), when the driver's door is opened (Input signal goes to TERMINAL (C) 11 of the body ECU), the ECU operates and the current is cut off which flows from TERMINAL (A) 7 of the body ECU to TERMINAL (B) 18 in taillight circuit and from TERMINAL (C) 3 to TERMINAL (B) 17 in headlight circuit.
As a result, all lights are turned off automatically.

Service Hints

B9 (A), B10 (B), B12 (D) Body ECU

(D) 9-Ground : Always approx. 12 volts
(A) 5-Ground : Approx. 12 volts with the ignition SW at ON position
(B)17-Ground : Continuity with the light control SW at HEAD position

K4 Unlock Warning SW

2-1 : Closed with the ignition key in the cylinder

: PARTS LOCATION

Code		See Page	Code	See Page	Code	See Page
B9	A	42	C13	42	J6	43
B10	B	42	D7	44	K4	43
B11	C	42	F7	38 (3MZ-FE)		
B12	D	42		40 (2AZ-FE)		

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1H		
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2G		
2I		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
4G	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4L	32	
4N		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

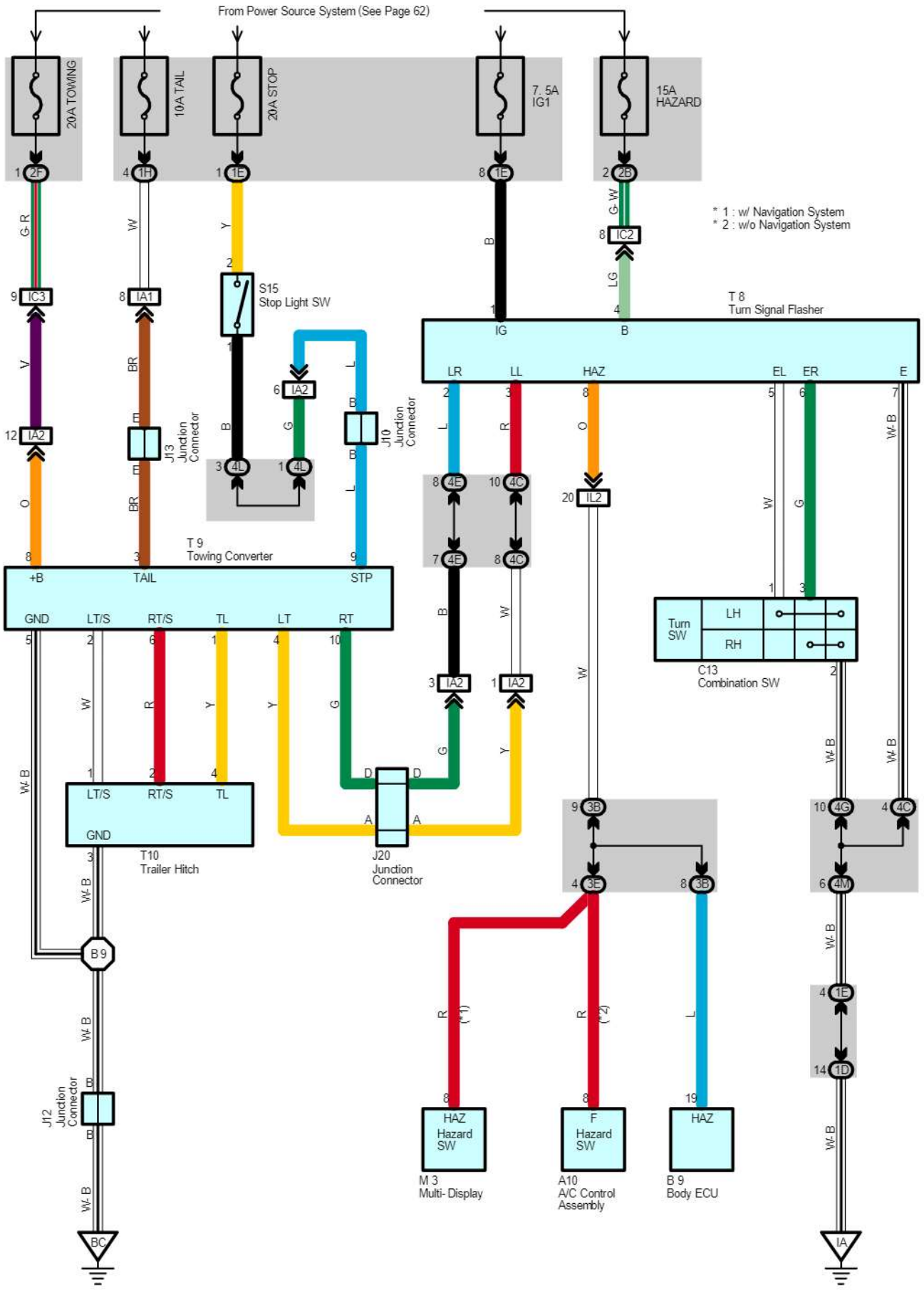
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IK3	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel
IC	52	Right Cowl Side Panel

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E10	48 (3MZ-FE)	Engine Room Main Wire	E10	50 (2AZ-FE)	Engine Room Main Wire


From Power Source System (See Page 62)
20A TOWING
10A TAIL
20A STOP
7. 5A IG1
15A HAZARD
* 1 : w/ Navigation System
* 2 : w/o Navigation System
S15 Stop Light SW
T 8 Turn Signal Flasher
IG
B
LR
LL
HAZ
EL
ER
E
J13 Junction Connector
J10 Junction Connector
T 9 Towing Converter
+B
TAIL
STP
GND
LT/S
RT/S
TL
LT
RT
Turn SW
LH
RH
C13 Combination SW
T10 Trailer Hitch
J20 Junction Connector
J12 Junction Connector
B 9
BC
IA
HAZ Hazard SW
M 3 Multi- Display
F Hazard SW
A10 A/C Control Assembly
HAZ
B 9 Body ECU

Service Hints

T9 Towing Converter

3-Ground : Approx. 12 volts with the light control SW at TAIL or HEAD position
8-Ground : Always approx. 12 volts
5-Ground : Always continuity
9-Ground : Approx. 12 volts with the stop light SW on

S15 Stop Light SW

1-2 : Closed with the brake pedal depressed

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A10	42	J12	44	S15	43
B9	42	J13	44	T8	43
C13	42	J20	43	T9	45
J10	44	M3	43	T10	45

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
1H		
2B	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2F		
3B	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3E		
4C	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4E		
4G		
4L	32	
4M		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IA2		
IC2	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC3		
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)

: GROUND POINTS

Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel
BC	56	Left Side of Rear Cross Member

: SPLICE POINTS

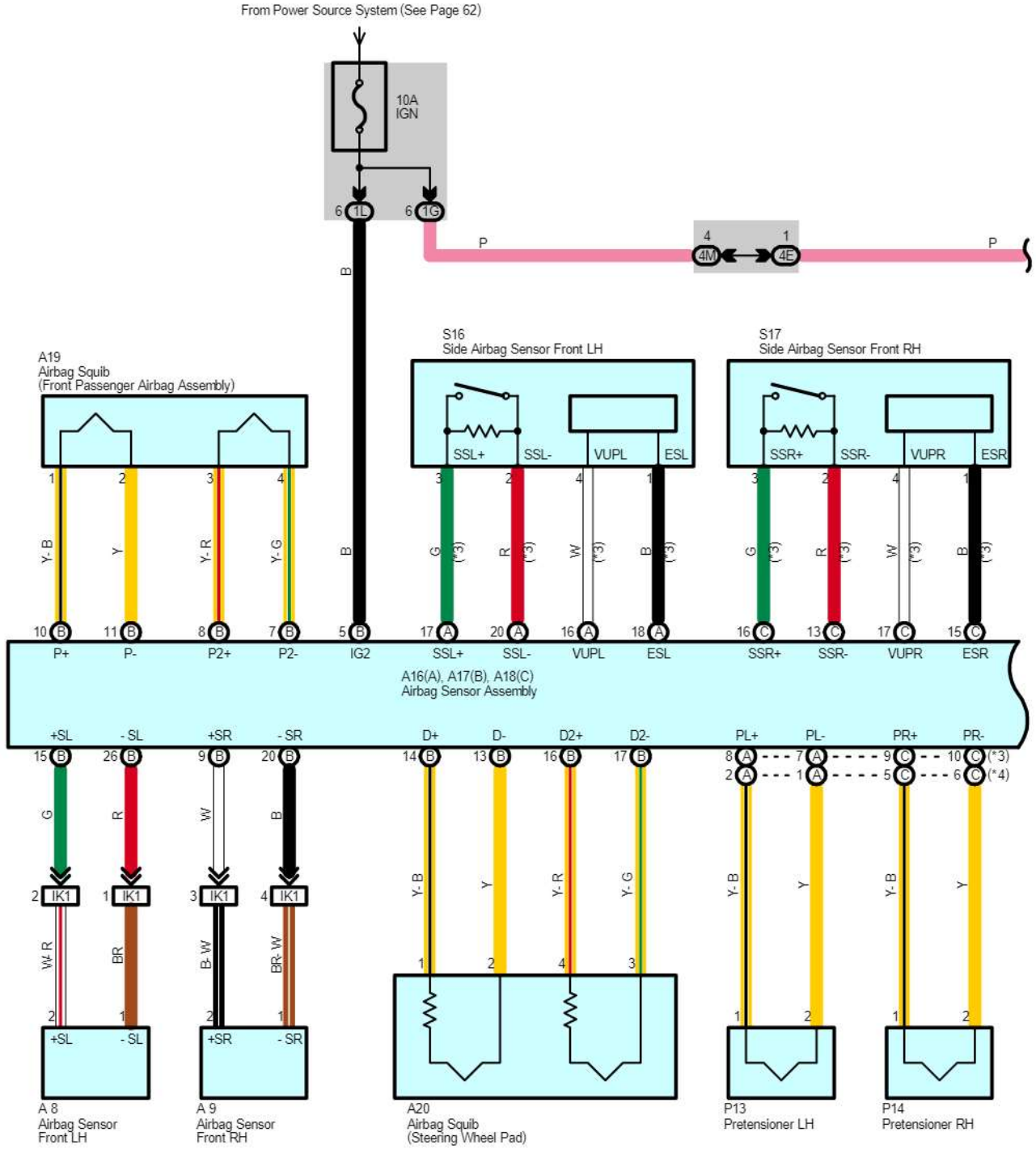
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B9	56	Floor No.2 Wire			

MEMO

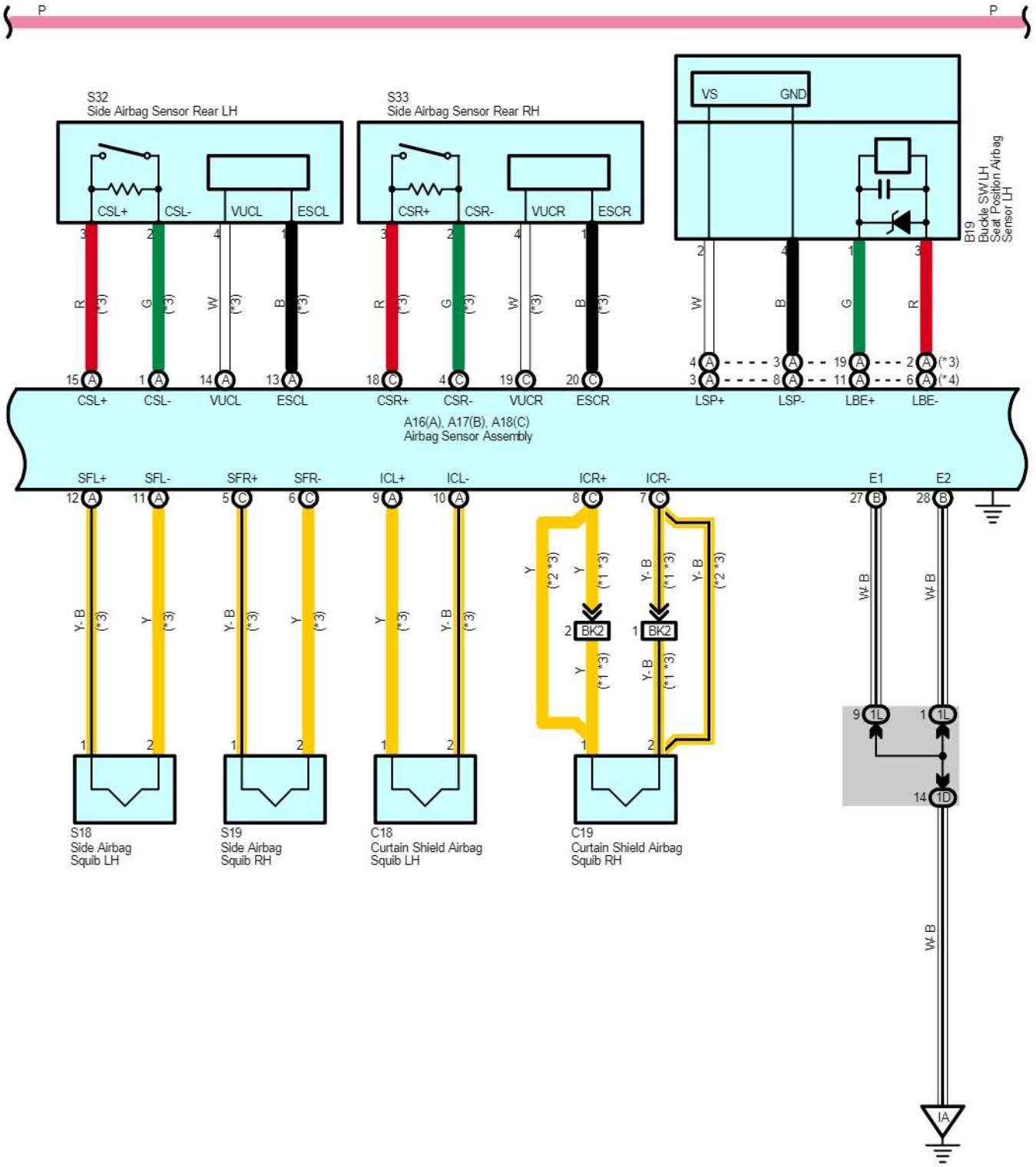
NOTICE: When inspecting or repairing the SRS, perform service in accordance with the following precautionary instructions and the procedure, and precautions in the Repair Manual applicable for the model year.

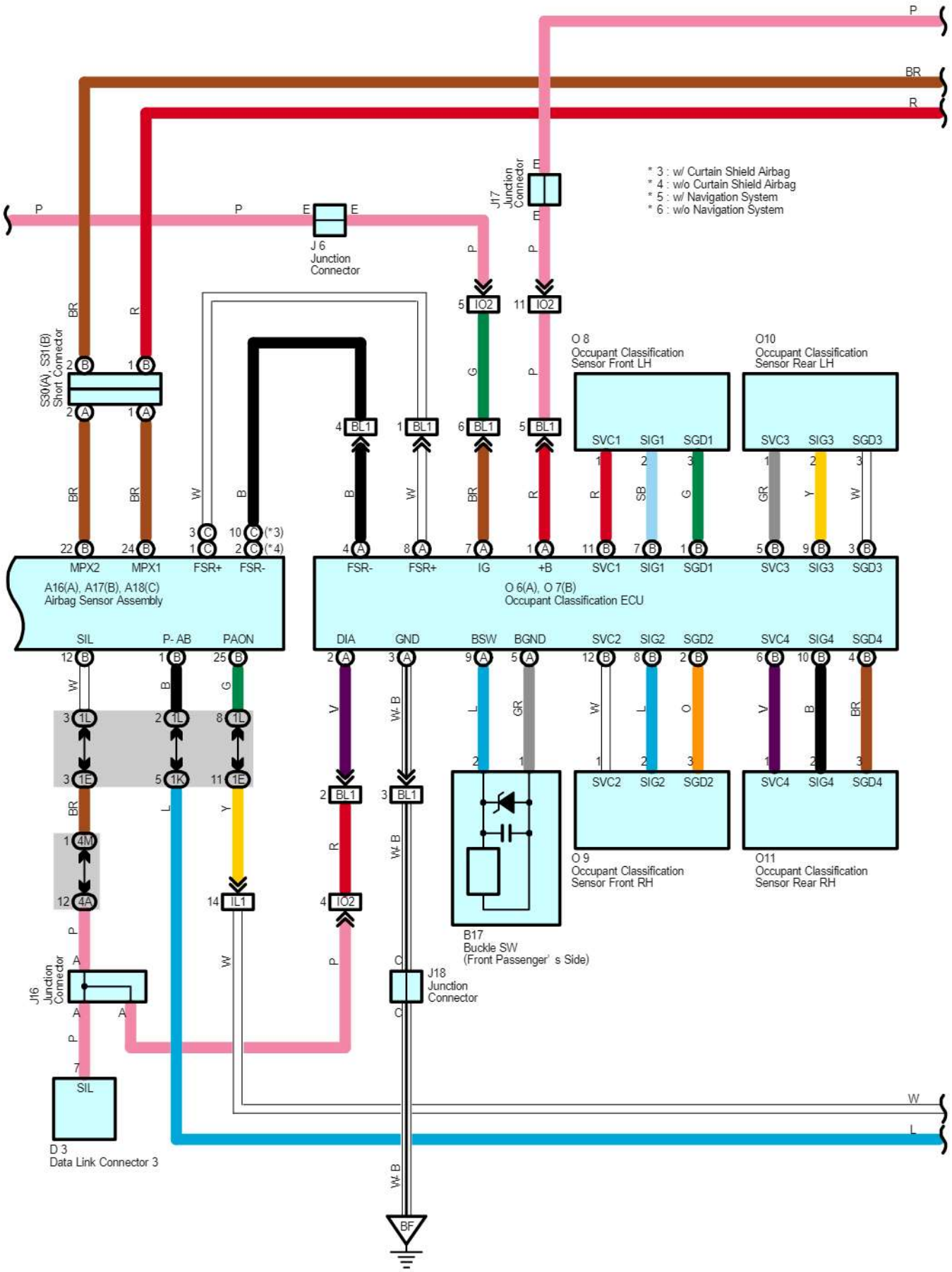
- Malfunction symptoms of the SRS are difficult to confirm, so the DTCs become the most important source of information when troubleshooting. When troubleshooting the SRS, always inspect the DTCs before disconnecting the battery.
- **Work must be started more than 90 seconds after the ignition SW is 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 kΩ/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.

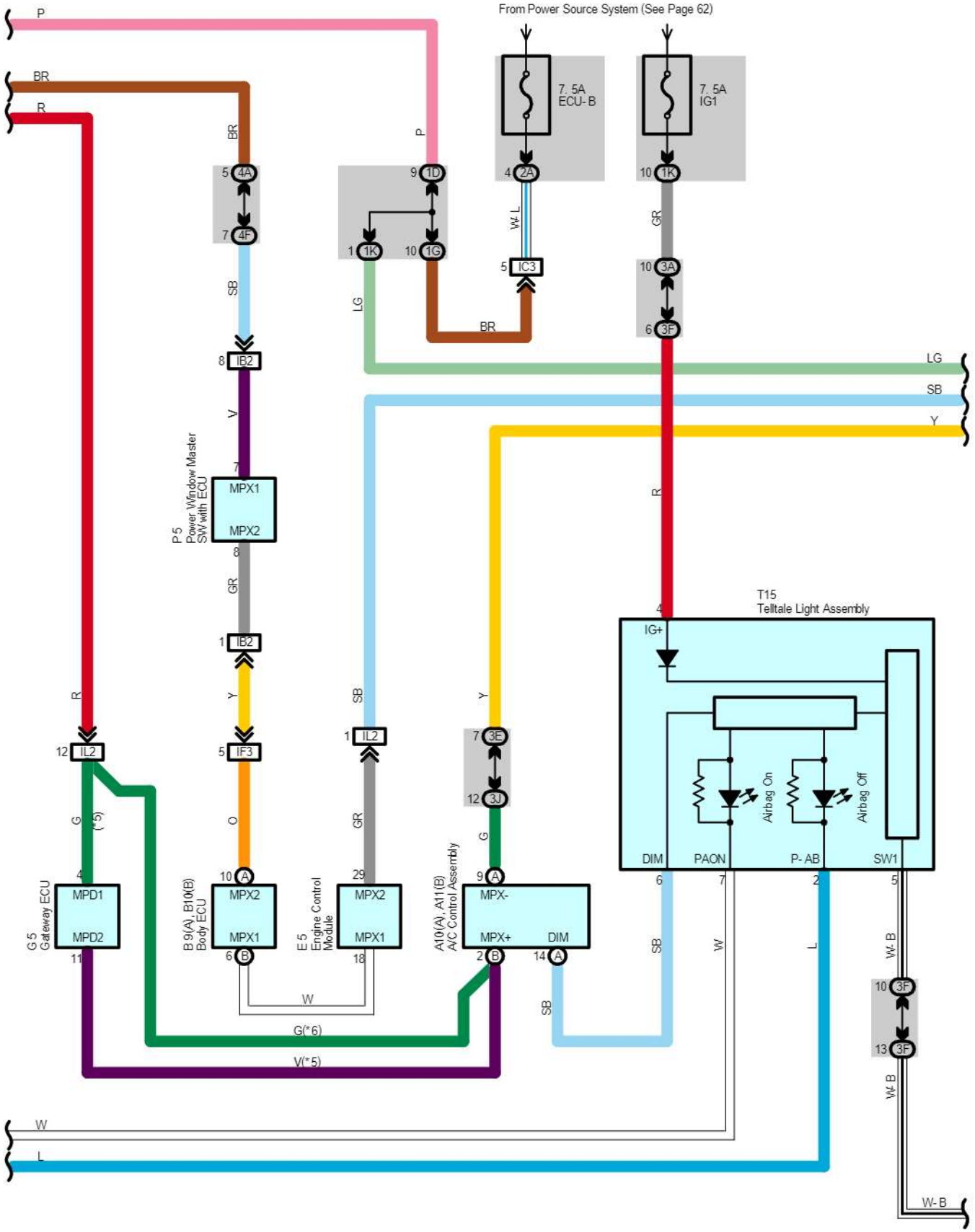
* Steering wheel pad
* Front passenger airbag assembly
* Side airbag assembly
* Curtain shield airbag assembly
* Seat belt pretensioner
* Center airbag sensor assembly
* Front airbag sensor assembly
* Side airbag sensor assembly

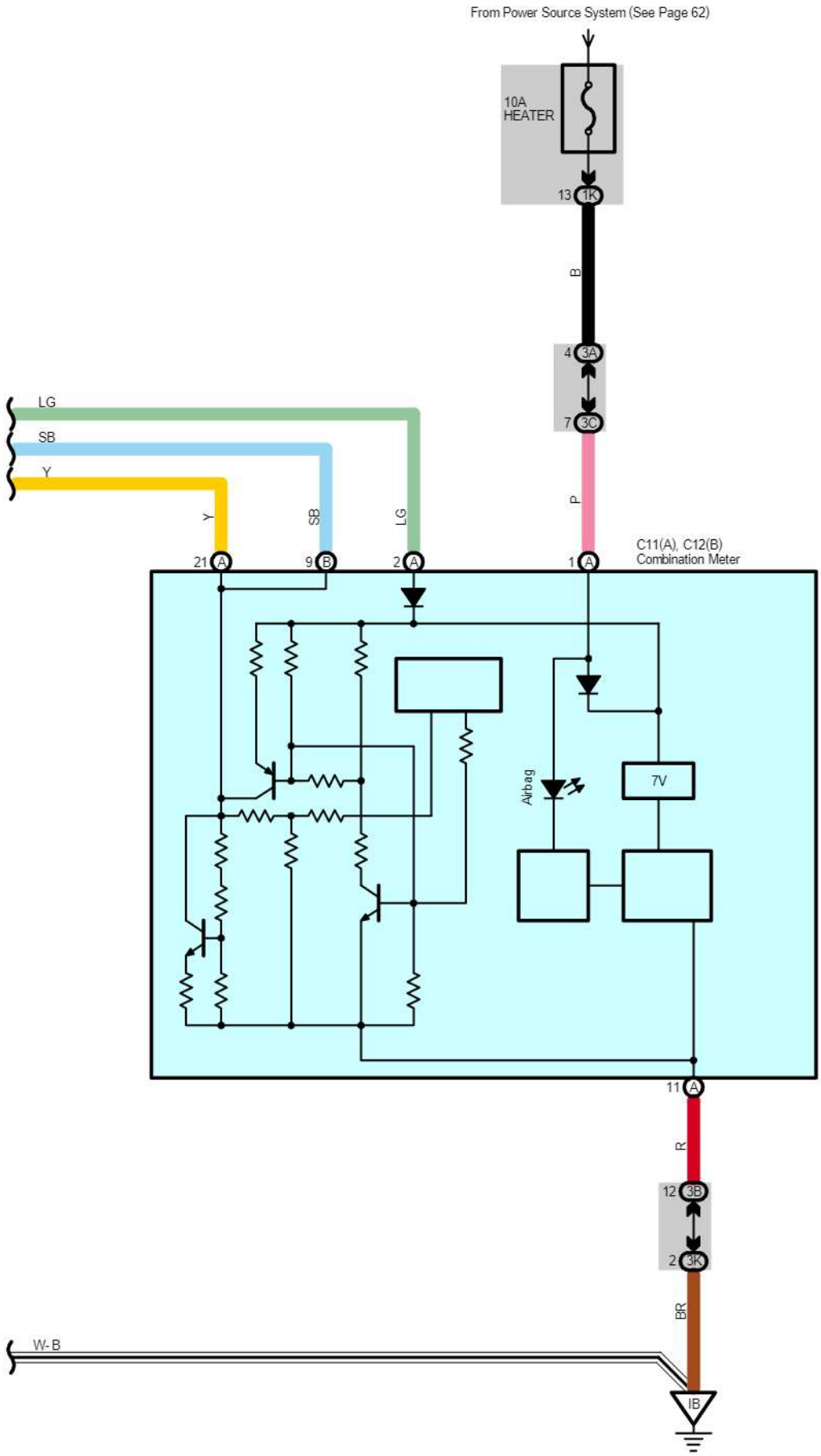

From Power Source System (See Page 62)
10A
IGN
6 1L
6 1G
P
4 4M
1 4E
P
B
A19
Airbag Squib
(Front Passenger Airbag Assembly)
S16
Side Airbag Sensor Front LH
S17
Side Airbag Sensor Front RH
SSL+
SSL-
VUPL
ESL
SSR+
SSR-
VUPR
ESR
Y-B
Y
Y-R
Y-G
G
R
W
B
(*3)
10 P+
11 P-
8 P2+
7 P2-
5 IG2
17 SSL+
20 SSL-
16 VUPL
18 ESL
16 SSR+
13 SSR-
17 VUPR
15 ESR
A16(A), A17(B), A18(C)
Airbag Sensor Assembly
+SL
- SL
+SR
- SR
D+
D-
D2+
D2-
PL+
PL-
PR+
PR-
15 G
26 R
9 W
20 B
14 Y-B
13 Y
16 Y-R
17 Y-G
8 Y-B
7 Y
9 Y-B
10 Y
(*3)
2 IK1
1 IK1
3 IK1
4 IK1
W-R
BR
B-W
BR-W
2 +SL
1 - SL
3 +SR
4 - SR
1
2
4
3
2 A
1 A
5 C
6 C
(*4)
A 8
Airbag Sensor
Front LH
A 9
Airbag Sensor
Front RH
A20
Airbag Squib
(Steering Wheel Pad)
P13
Pretensioner LH
P14
Pretensioner RH

* 1 : w/ Rear Seat Entertainment System
* 2 : w/o Rear Seat Entertainment System
* 3 : w/ Curtain Shield Airbag
* 4 : w/o Curtain Shield Airbag




P
BR
R
* 3 : w/ Curtain Shield Airbag
* 4 : w/o Curtain Shield Airbag
* 5 : w/ Navigation System
* 6 : w/o Navigation System
J17 Junction Connector
J 6 Junction Connector
S30(A), S31(B) Short Connector
O 8 Occupant Classification Sensor Front LH
O10 Occupant Classification Sensor Rear LH
SVC1 SIG1 SGD1
SVC3 SIG3 SGD3
MPX2 MPX1 FSR+ FSR- FSR- FSR+ IG +B SVC1 SIG1 SGD1 SVC3 SIG3 SGD3
A16(A), A17(B), A18(C) Airbag Sensor Assembly
O 6(A), O 7(B) Occupant Classification ECU
SIL P- AB PAON DIA GND BSW BGND SVC2 SIG2 SGD2 SVC4 SIG4 SGD4
B17 Buckle SW (Front Passenger' s Side)
O 9 Occupant Classification Sensor Front RH
O11 Occupant Classification Sensor Rear RH
J16 Junction Connector
J18 Junction Connector
D 3 Data Link Connector 3
SIL
BF
W
L


From Power Source System (See Page 62)
7.5A ECU-B
7.5A IG1
P
BR
R
LG
SB
Y
W-L
GR
W
L
W-B
G(*6)
V(*5)
G(*5)
O
IB2
IL2
IF3
1D
1K
1G
2A
3A
3F
3E
3J
IC3
4A
4F
P5 Power Window Master SW with ECU
MPX1
MPX2
G5 Gateway ECU
MPD1
MPD2
B9(A), B10(B) Body ECU
E5 Engine Control Module
A10(A), A11(B) A/C Control Assembly
MPX-
MPX+
DIM
T15 Telltale Light Assembly
IG+
Airbag On
Airbag Off
PAON
P-AB
SW1


From Power Source System (See Page 62)
10A
HEATER
13 1K
B
4 3A
7 3C
P
LG
SB
Y
Y
SB
LG
21 A
9 B
2 A
1 A
C11(A), C12(B)
Combination Meter
Airbag
7V
11 A
R
12 3B
2 3K
BR
W-B
IB

System Outline

The SRS is a driver and front passenger protection device which has a supplemental role to the seat belts.
When the ignition SW is turned to ON, the current from the IGN fuse flows to TERMINAL (B) 5 of the airbag sensor assembly.
If an accident occurs while driving, when the frontal impact exceeds a set level, the current from the IGN fuse flows to TERMINALS (B) 14, (B) 16, (B) 10, (B) 8, (A) 8 (w/ curtain shield airbag), or (A) 2 (w/o curtain shield airbag) and (C) 9 (w/ curtain shield airbag), or (C) 5 (w/o curtain shield airbag) of the airbag sensor assembly to the airbag squibs and the pretensioners to TERMINALS (B) 13, (B) 17, (B) 11, (B) 7, (A) 7 (w/ curtain shield airbag), or (A) 1 (w/o curtain shield airbag) and (C) 10 (w/ curtain shield airbag), or (C) 6 (w/o curtain shield airbag) of the airbag sensor assembly to TERMINAL (B) 27, (B) 28 or BODY GROUND to GROUND, so that current flows to the airbag squibs and the pretensioners and causes them to operate.
When the side impact also exceeds a set level, the current from the IGN fuse flows to TERMINALS (A) 12, (C) 5, (A) 9 and (C) 8 of the airbag sensor assembly to the side airbag squibs and the curtain shield airbag squibs TERMINALS (A) 11, (C) 6, (A) 10 and (C) 7 of the airbag sensor assembly to TERMINAL (B) 27, (B) 28 or BODY GROUND to GROUND, causing side airbag squibs and curtain shield airbag squibs 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 front passenger.
Side airbags are instantaneously expanded to soften the shock of side to the driver and front passenger.
The curtain shield airbag can ease an impact on the head of the front and rear passengers and reduce risks of injury.
In a head-on crash, the driver moves forward and may strike his/her lower limbs against the instrument panel, the key cylinder, etc.
The pretensioners make sure of the seat belt restrainability.

○ : PARTS LOCATION

Code		See Page
A8		38 (3MZ-FE)
		40 (2AZ-FE)
A9		38 (3MZ-FE)
		40 (2AZ-FE)
A10	A	42
A11	B	42
A16	A	42
A17	B	42
A18	C	42
A19		42
A20		42
B9	A	42
B10	B	42
B17		46 (w/ Power Seat)
		47 (w/o Power Seat)
B19		46 (w/ Power Seat)
C11	A	42
C12	B	42
C18		44
C19		44
D3		42
E5		42
G5		43
J6		43
J16		43
J17		43
J18		44
O6	A	46 (w/ Power Seat)
		47 (w/o Power Seat)
O7	B	46 (w/ Power Seat)
		47 (w/o Power Seat)
O8		46 (w/ Power Seat)
		47 (w/o Power Seat)
O9		46 (w/ Power Seat)
		47 (w/o Power Seat)
O10		46 (w/ Power Seat)
O10		47 (w/o Power Seat)
O11		46 (w/ Power Seat)
		47 (w/o Power Seat)
P5		44
P13		44
P14		44
S16		45
S17		45
S18		46 (w/ Power Seat)
		47 (w/o Power Seat)
S19		46 (w/ Power Seat)
		47 (w/o Power Seat)
S30	A	43
S31	B	43
S32		45
S33		45
T15		43

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

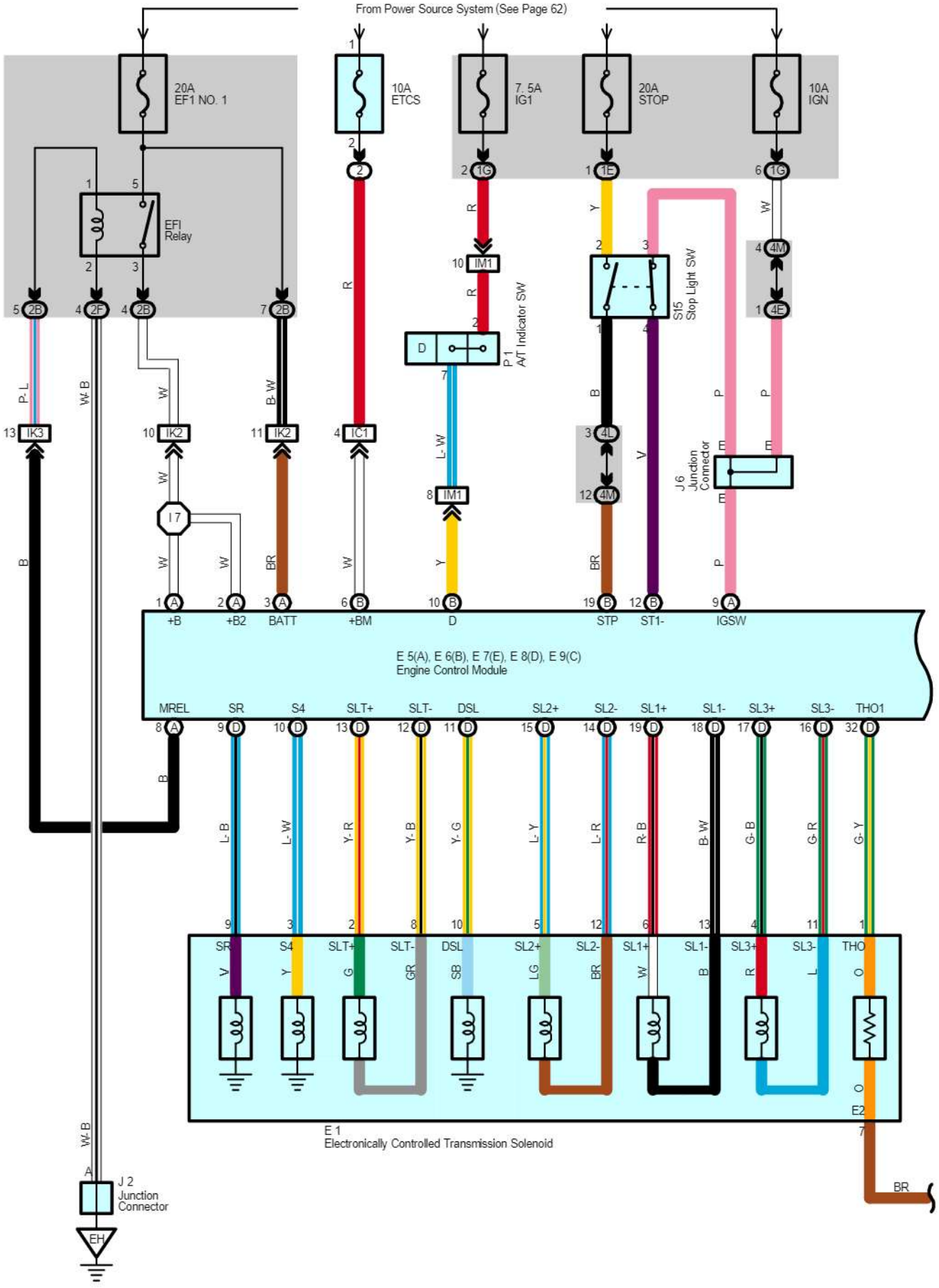
Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
1G		
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1L	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3E		
3F		
3J	31	
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4E		
4F		
4M	32	

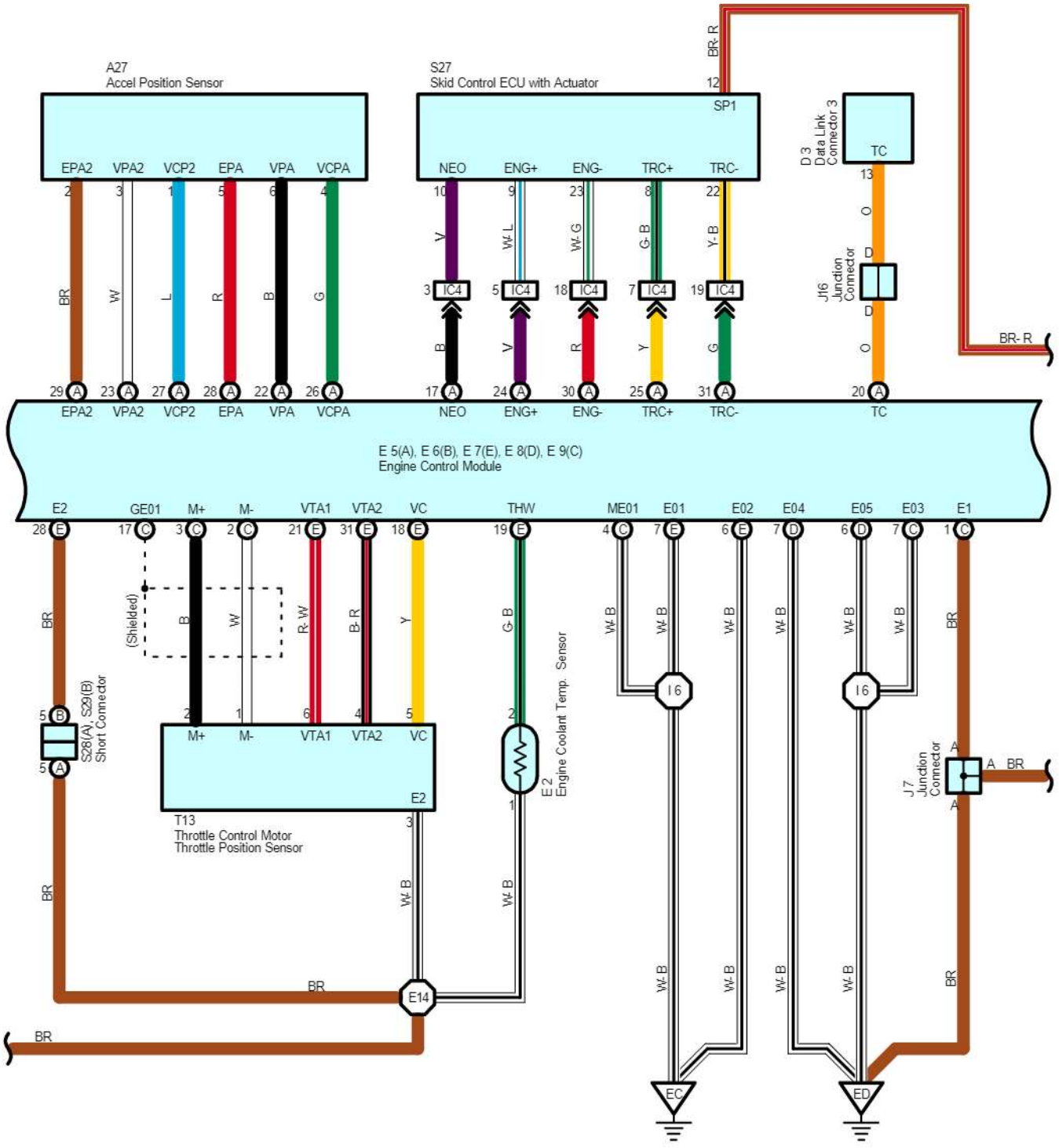
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

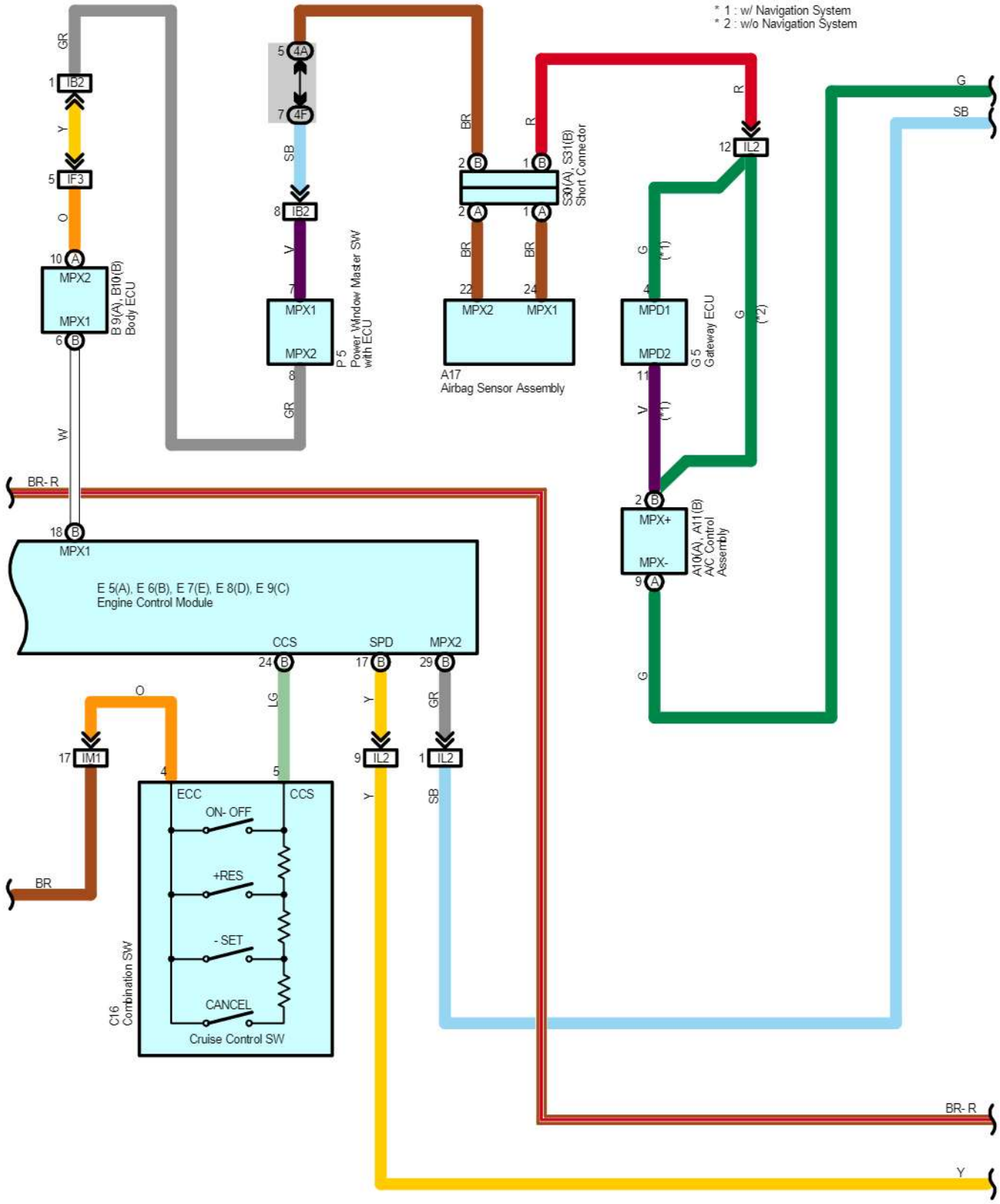
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK1	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IL2		
IO2	54	Cowl Wire and Floor Wire (Right Kick Panel)
BK2	56	Roof No.2 Wire and Floor Wire (Right Rear Quarter Panel)
BL1	58	Floor Wire and Front Seat RH Wire (Under the Front Passenger's Seat)

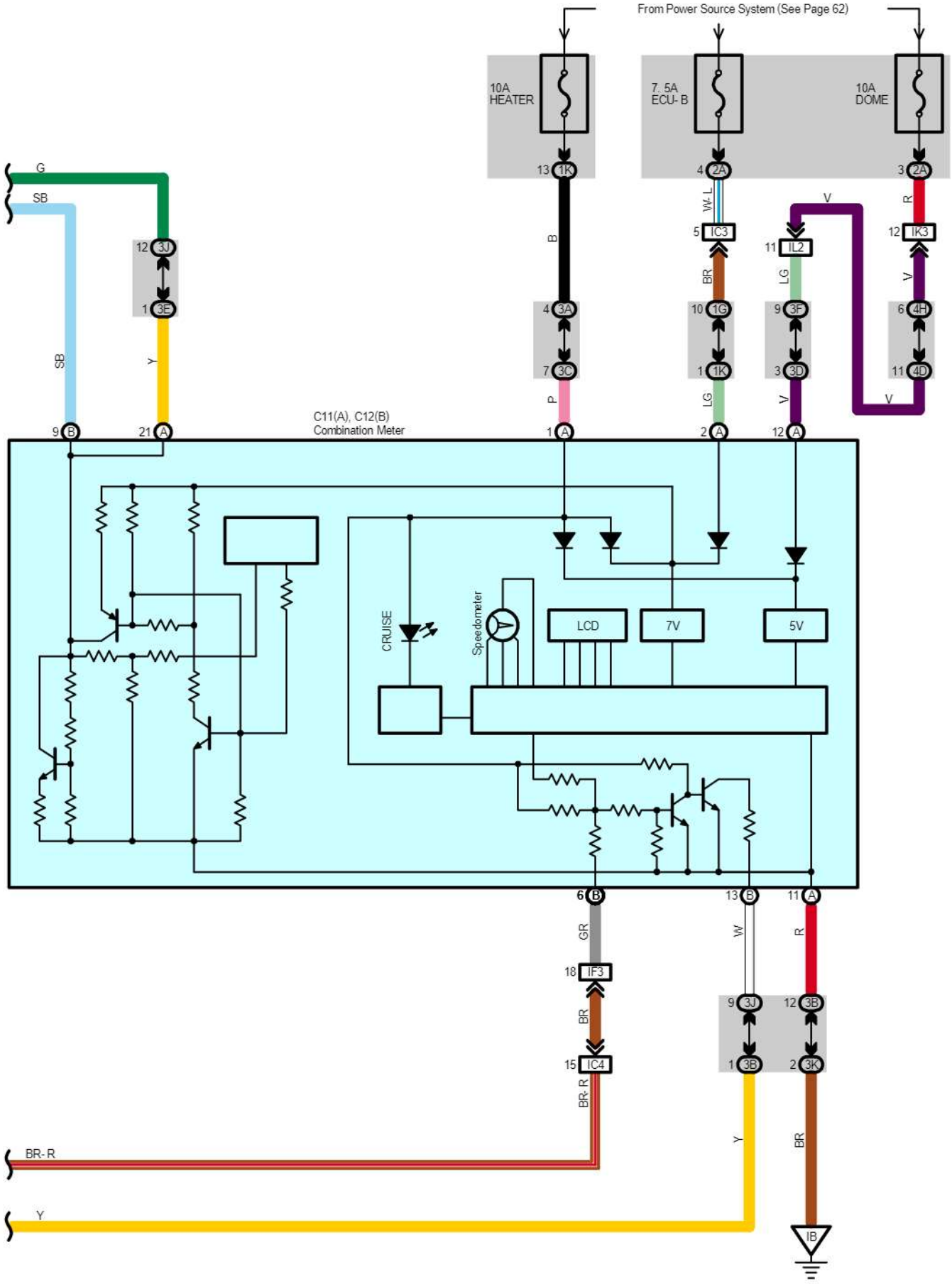
: GROUND POINTS

Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel
IB	52	Right Instrument Panel Brace
BF	56	Near the Rear Side Marker Light RH


From Power Source System (See Page 62)
20A EF1 NO. 1
10A ETCS
7. 5A IG1
20A STOP
10A IGN
EFI Relay
A/T Indicator SW
Stop Light SW
J6 Junction Connector
+B
+B2
BATT
+BM
D
STP
ST1-
IGSW
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
MREL
SR
S4
SLT+
SLT-
DSL
SL2+
SL2-
SL1+
SL1-
SL3+
SL3-
THO1
E 1
Electronically Controlled Transmission Solenoid
J 2 Junction Connector
EH
E2


A27
Accel Position Sensor
EPA2
VPA2
VCP2
EPA
VPA
VCPA
S27
Skid Control ECU with Actuator
SP1
NEO
ENG+
ENG-
TRC+
TRC-
BR-R
D3
Data Link
Connector 3
TC
J16
Junction
Connector
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
E2
GE01
M+
M-
VTA1
VTA2
VC
THW
ME01
E01
E02
E04
E05
E03
E1
(Shielded)
S28(A), S29(B)
Short Connector
T13
Throttle Control Motor
Throttle Position Sensor
E2
Engine Coolant Temp. Sensor
I6
J7
Junction
Connector
E14
EC
ED
BR


* 1 : w/ Navigation System
* 2 : w/o Navigation System
GR
1 IB2
Y
5 IF3
O
10 A
MPX2
MPX1
6 B
B 9(A), B10(B)
Body ECU
W
BR- R
18 B
MPX1
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
CCS
SPD
MPX2
24 B
17 B
29 B
LG
Y
GR
O
17 IM1
4
5
9 IL2
1 IL2
ECC
CCS
ON- OFF
+RES
- SET
CANCEL
Cruise Control SW
C16
Combination SW
BR
SB
Y
5 4A
7 4F
SB
8 IB2
V
7
MPX1
MPX2
8
GR
P 5
Power Window Master SW
with ECU
BR
2 B
1 B
2 A
1 A
S30(A), S31(B)
Short Connector
BR
BR
22
24
MPX2
MPX1
A17
Airbag Sensor Assembly
R
12 IL2
G
(*1)
4
MPD1
MPD2
11
G 5
Gateway ECU
G
(*2)
V
(*1)
2 B
MPX+
MPX-
9 A
A10(A), A11(B)
A/C Control
Assembly
G
G
SB
BR- R
Y


From Power Source System (See Page 62)
10A HEATER
7. 5A ECU- B
10A DOME
13 1K
4 2A
3 2A
G
SB
12 3J
1 3E
SB
Y
B
W- L
R
5 IC3
11 IL2
12 IK3
V
BR
LG
V
V
4 3A
10 1G
9 3F
6 4H
7 3C
1 1K
3 3D
11 4D
P
LG
V
V
C11(A), C12(B)
Combination Meter
9 B
21 A
1 A
2 A
12 A
CRUISE
Speedometer
LCD
7V
5V
6 B
13 B
11 A
GR
W
R
18 IF3
9 3J
12 3B
BR
15 IC4
1 3B
2 3K
BR- R
Y
BR
BR- R
Y
IB

Cruise Control for 3MZ-FE

System Outline

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

1. Set Operation

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

2. Set Speed Control

When the - SET SW is operated with the ON-OFF SW turned on during travelling, the constant vehicle speed is controlled.

3. Coast Control

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

4. Accel Control

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

5. Resume Control

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

6. Manual Cancel Mechanism

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

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

7. Auto Cancel Function

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

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

8. Overdrive Control Function

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

Service Hints

E5 (A), E6 (B), E7 (E), E8 (D), E9 (C) Engine Control Module

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

C16 Combination SW

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

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A10 A	42	E2	38 (3MZ-FE)	P1	39 (3MZ-FE)
A11 B	42	E5 A	42	P5	44
A17	42	E6 B	42	S15	43
A27	42	E7 E	42	S27	39 (3MZ-FE)
B9 A	42	E8 D	42	S28 A	43
B10 B	42	E9 C	42	S29 B	43
C11 A	42	G5	43	S30 A	43
C12 B	42	J2	39 (3MZ-FE)	S31 B	43
C16	42	J6	43	T13	39 (3MZ-FE)
D3	42	J7	43		
E1	38 (3MZ-FE)	J16	43		

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1G		
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2F		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3D		
3E		
3F		
3J	31	
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4D		
4E		
4F		
4H		
4L	32	
4M		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

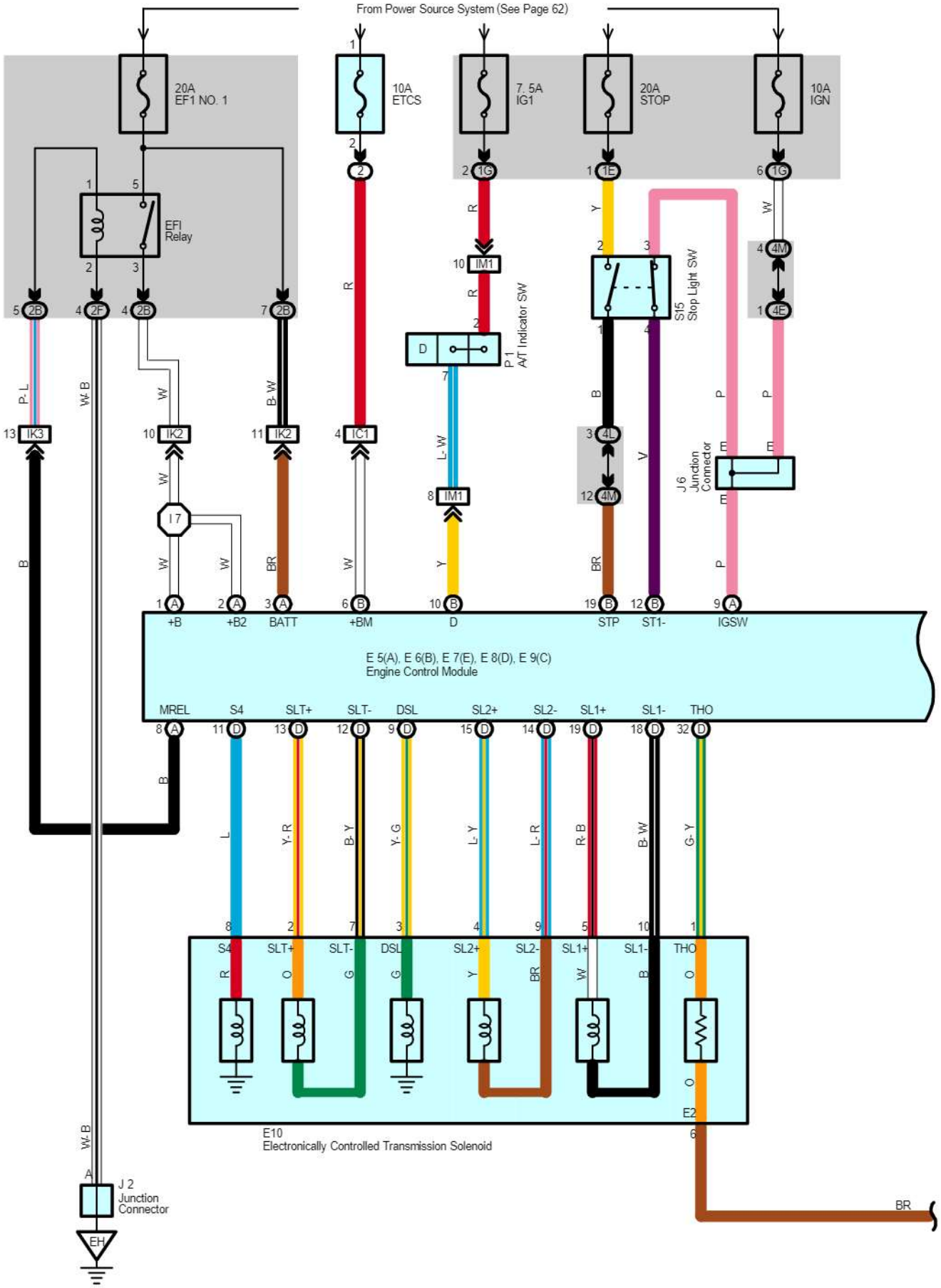
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC1	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC3		
IC4		
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IM1	54	Engine Wire and Cowl Wire (Right Kick Panel)

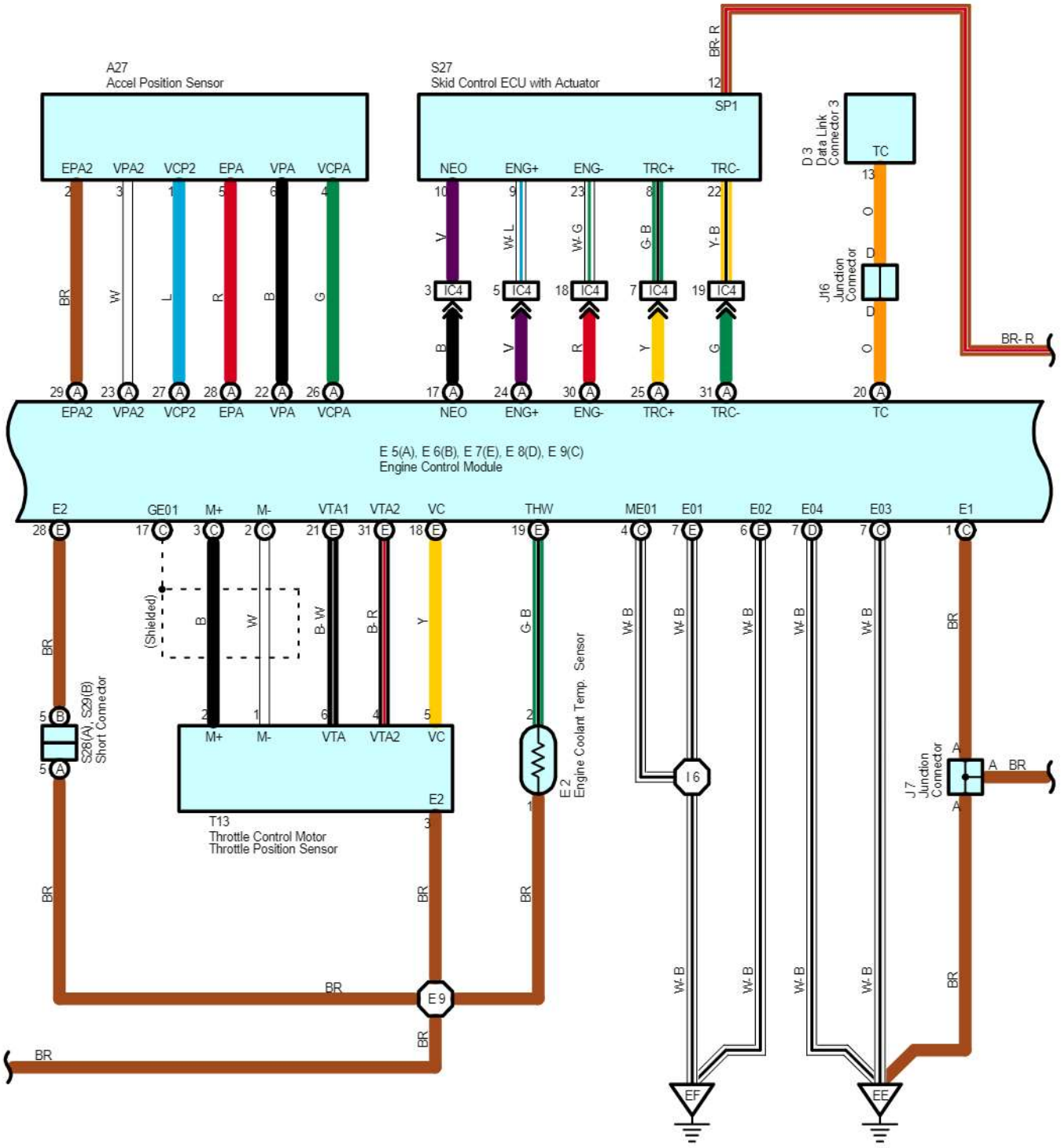
: GROUND POINTS

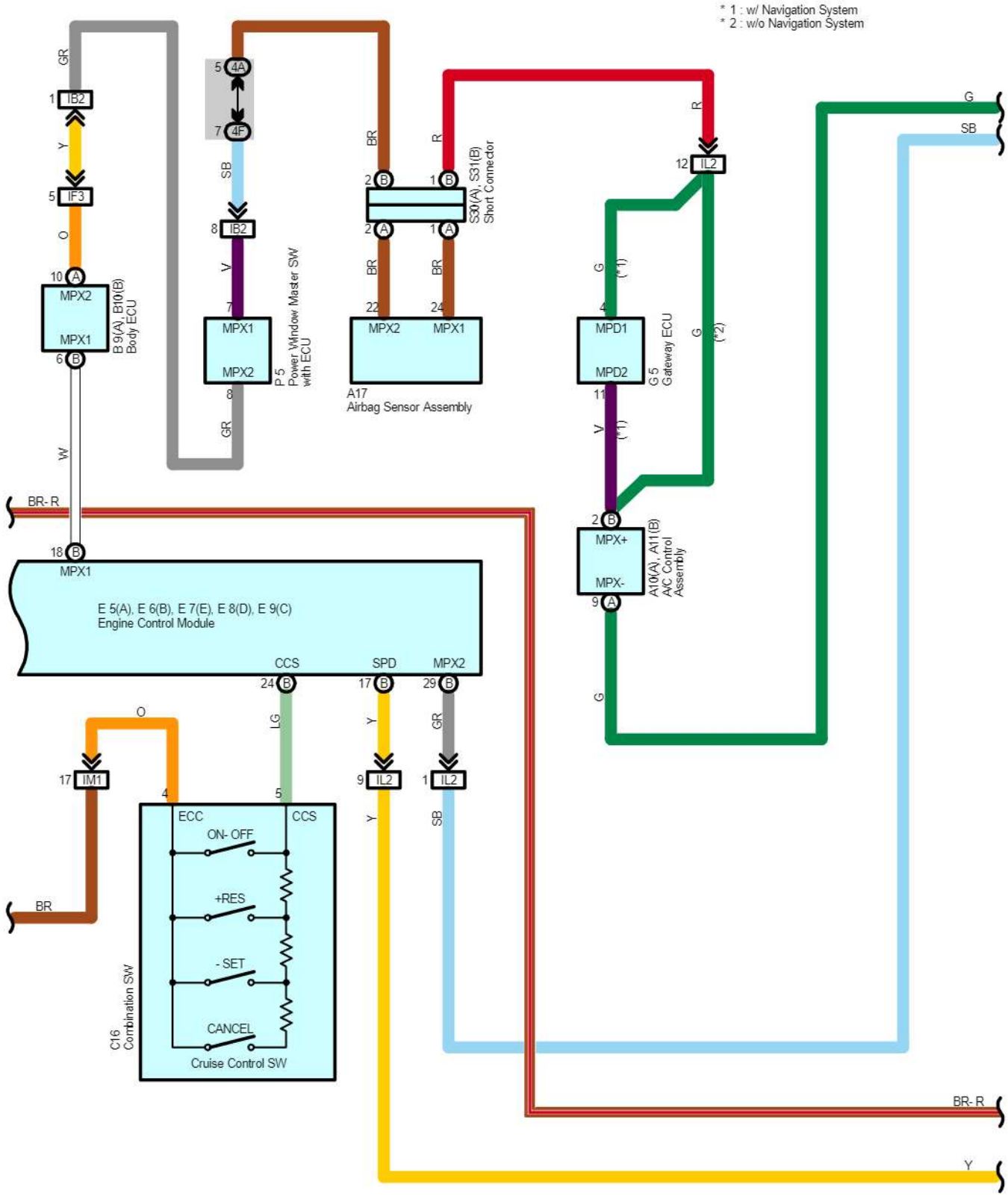
Code	See Page	Ground Points Location
EC	48 (3MZ-FE)	Left Side of Cylinder Head
ED	48 (3MZ-FE)	Rear Side of Cylinder Head
EH	48 (3MZ-FE)	Under the Left Headlight
IB	52	Right Instrument Panel Brace

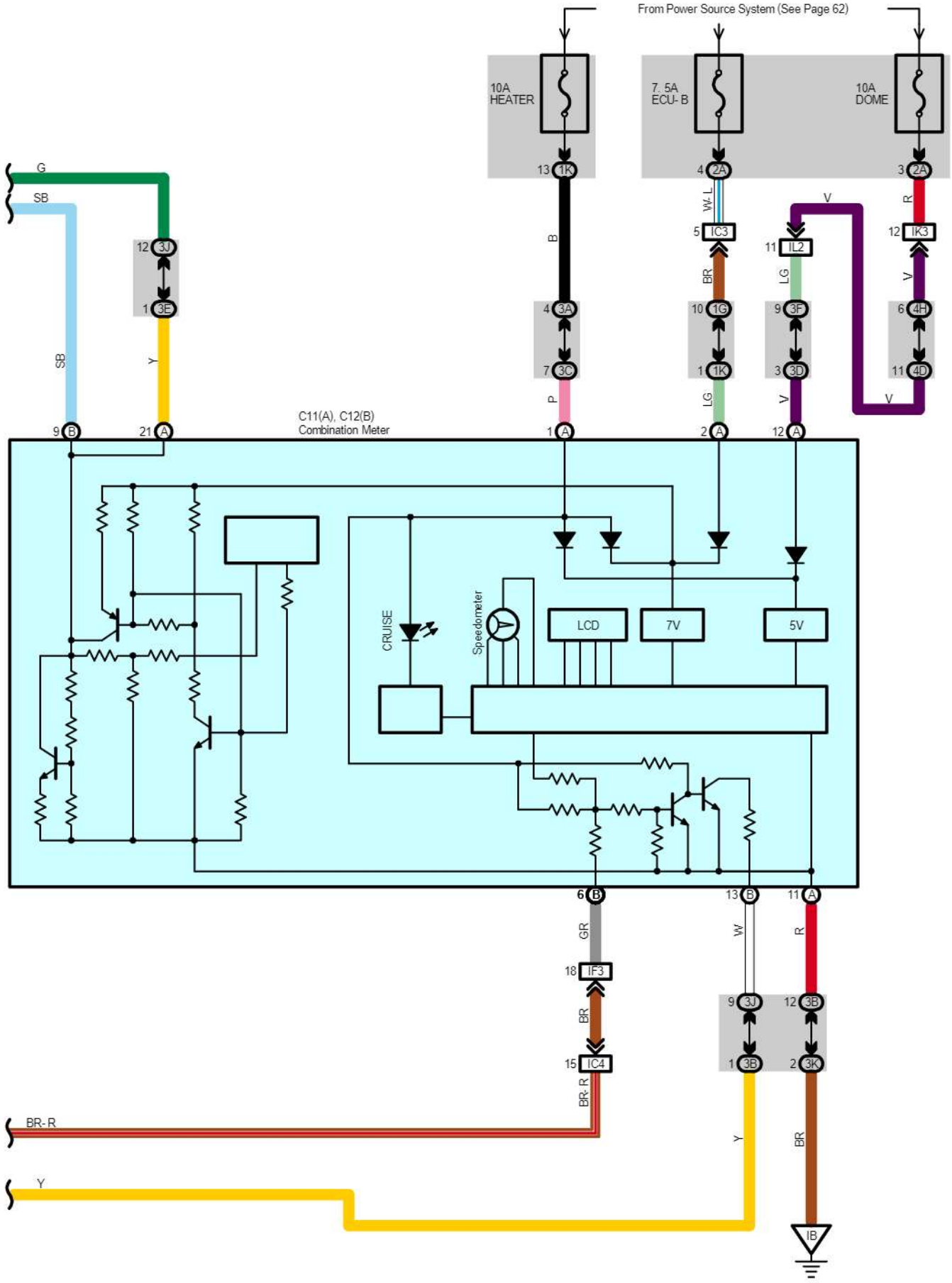
: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E14	48 (3MZ-FE)	Engine Wire	I7	54	Cowl Wire
I6	54				


From Power Source System (See Page 62)
20A EF1 NO. 1
10A ETCS
7. 5A IG1
20A STOP
10A IGN
EFI Relay
A/T Indicator SW
Stop Light SW
J6 Junction Connector
J 2 Junction Connector
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C) Engine Control Module
+B
+B2
BATT
+BM
D
STP
ST1-
IGSW
MREL
S4
SLT+
SLT-
DSL
SL2+
SL2-
SL1+
SL1-
THO
E10 Electronically Controlled Transmission Solenoid
E2
EH


A27
Accel Position Sensor
EPA2
VPA2
VCP2
EPA
VPA
VCPA
S27
Skid Control ECU with Actuator
SP1
NEO
ENG+
ENG-
TRC+
TRC-
BR-R
D3
Data Link
Connector 3
TC
J16
Junction
Connector
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
E2
GE01
M+
M-
VTA1
VTA2
VC
THW
ME01
E01
E02
E04
E03
E1
(Shielded)
S28(A), S29(B)
Short Connector
T13
Throttle Control Motor
Throttle Position Sensor
E 2
Engine Coolant Temp. Sensor
J7
Junction
Connector
I6
E9
EF
EE


* 1 : w/ Navigation System
* 2 : w/o Navigation System
GR
1 IB2
Y
5 IF3
O
10 A
MPX2
MPX1
6 B
B 9(A), B10(B)
Body ECU
W
BR- R
18 B
MPX1
E 5(A), E 6(B), E 7(E), E 8(D), E 9(C)
Engine Control Module
CCS
SPD
MPX2
24 B
17 B
29 B
LG
Y
GR
O
17 IM1
4
5
9 IL2
1 IL2
ECC
CCS
ON- OFF
+RES
- SET
CANCEL
Cruise Control SW
C16
Combination SW
BR
SB
Y
5 4A
7 4F
SB
8 IB2
V
7
MPX1
MPX2
8
GR
P 5
Power Window Master SW
with ECU
BR
2 B
1 B
2 A
1 A
S30(A), S31(B)
Short Connector
BR
BR
22
24
MPX2
MPX1
A17
Airbag Sensor Assembly
R
R
12 IL2
G
(*1)
4
MPD1
MPD2
11
V
(*1)
G
(*2)
G 5
Gateway ECU
2 B
MPX+
MPX-
9 A
A10(A), A11(B)
A/C Control
Assembly
G
G
SB
BR- R
Y


From Power Source System (See Page 62)
10A HEATER
7. 5A ECU- B
10A DOME
13 1K
4 2A
3 2A
G
SB
12 3J
1 3E
SB
Y
B
W- L
R
5 IC3
11 IL2
12 IK3
V
BR
LG
V
V
4 3A
10 1G
9 3F
6 4H
7 3C
1 1K
3 3D
11 4D
P
LG
V
V
C11(A), C12(B)
Combination Meter
9 B
21 A
1 A
2 A
12 A
CRUISE
Speedometer
LCD
7V
5V
6 B
13 B
11 A
GR
W
R
18 IF3
9 3J
12 3B
BR
15 IC4
1 3B
2 3K
BR- R
Y
BR
BR- R
Y
IB

Cruise Control for 2AZ-FE

System Outline

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

1. Set Operation

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

2. Set Speed Control

When the - SET SW is operated with the ON-OFF SW turned on during travelling, the constant vehicle speed is controlled.

3. Coast Control

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

4. Accel Control

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

5. Resume Control

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

6. Manual Cancel Mechanism

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

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

7. Auto Cancel Function

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

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

8. Overdrive Control Function

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

Service Hints

E5 (A), E6 (B), E7 (E), E8 (D), E9 (C) Engine Control Module

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

C16 Combination SW

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

: PARTS LOCATION

Code		See Page	Code		See Page	Code		See Page
A10	A	42	E5	A	42	P1		41 (2AZ-FE)
A11	B	42	E6	B	42	P5		44
A17		42	E7	E	42	S15		43
A27		42	E8	D	42	S27		41 (2AZ-FE)
B9	A	42	E9	C	42	S28	A	43
B10	B	42	E10		40 (2AZ-FE)	S29	B	43
C11	A	42	G5		43	S30	A	43
C12	B	42	J2		41 (2AZ-FE)	S31	B	43
C16		42	J6		43	T13		41 (2AZ-FE)
D3		42	J7		43			
E2		40 (2AZ-FE)	J16		43			

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1G		
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2F		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3D		
3E		
3F		
3J	31	
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4D		
4E		
4F		
4H		
4L	32	
4M		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

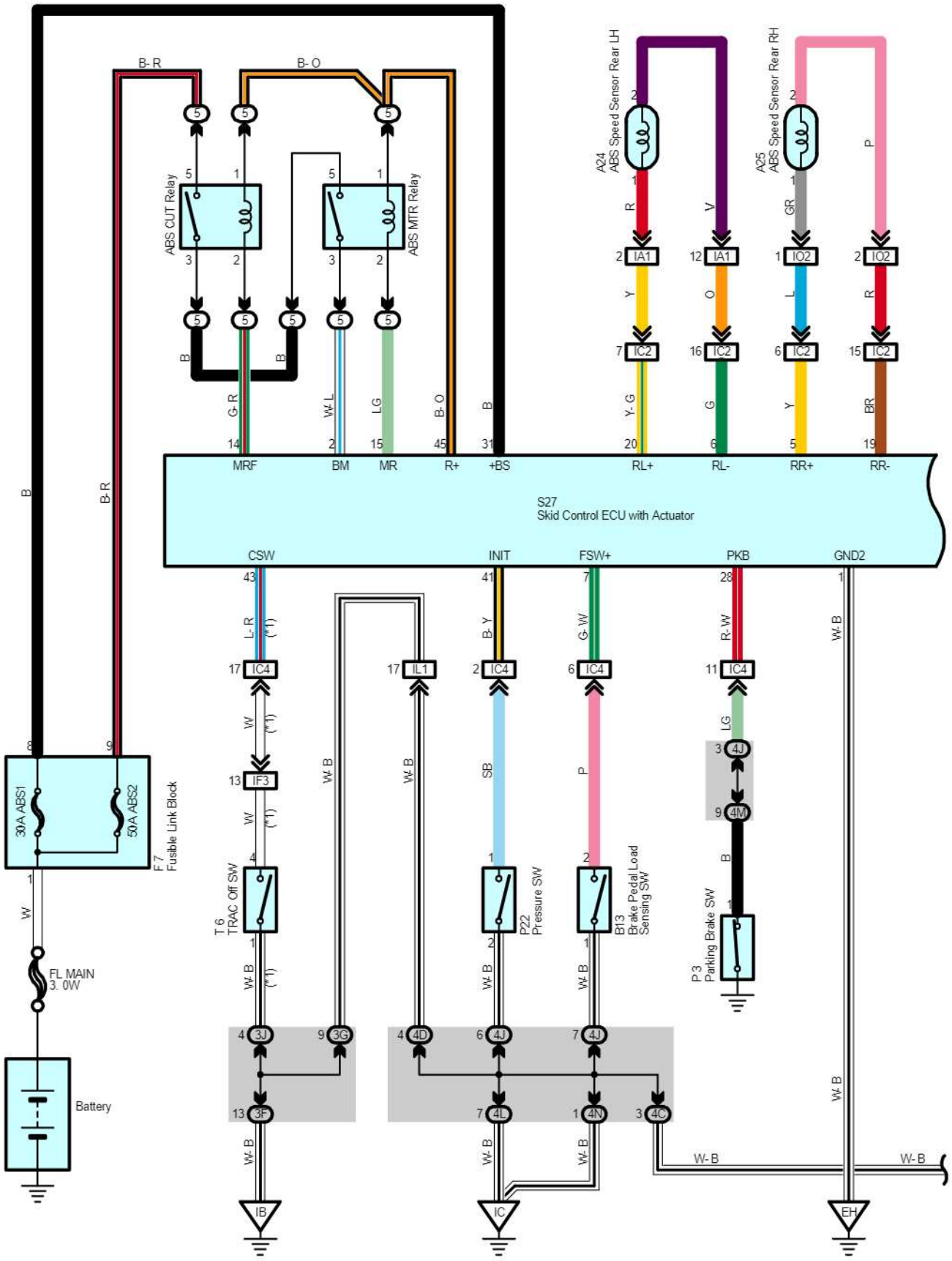
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC1	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC3		
IC4		
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IM1	54	Engine Wire and Cowl Wire (Right Kick Panel)

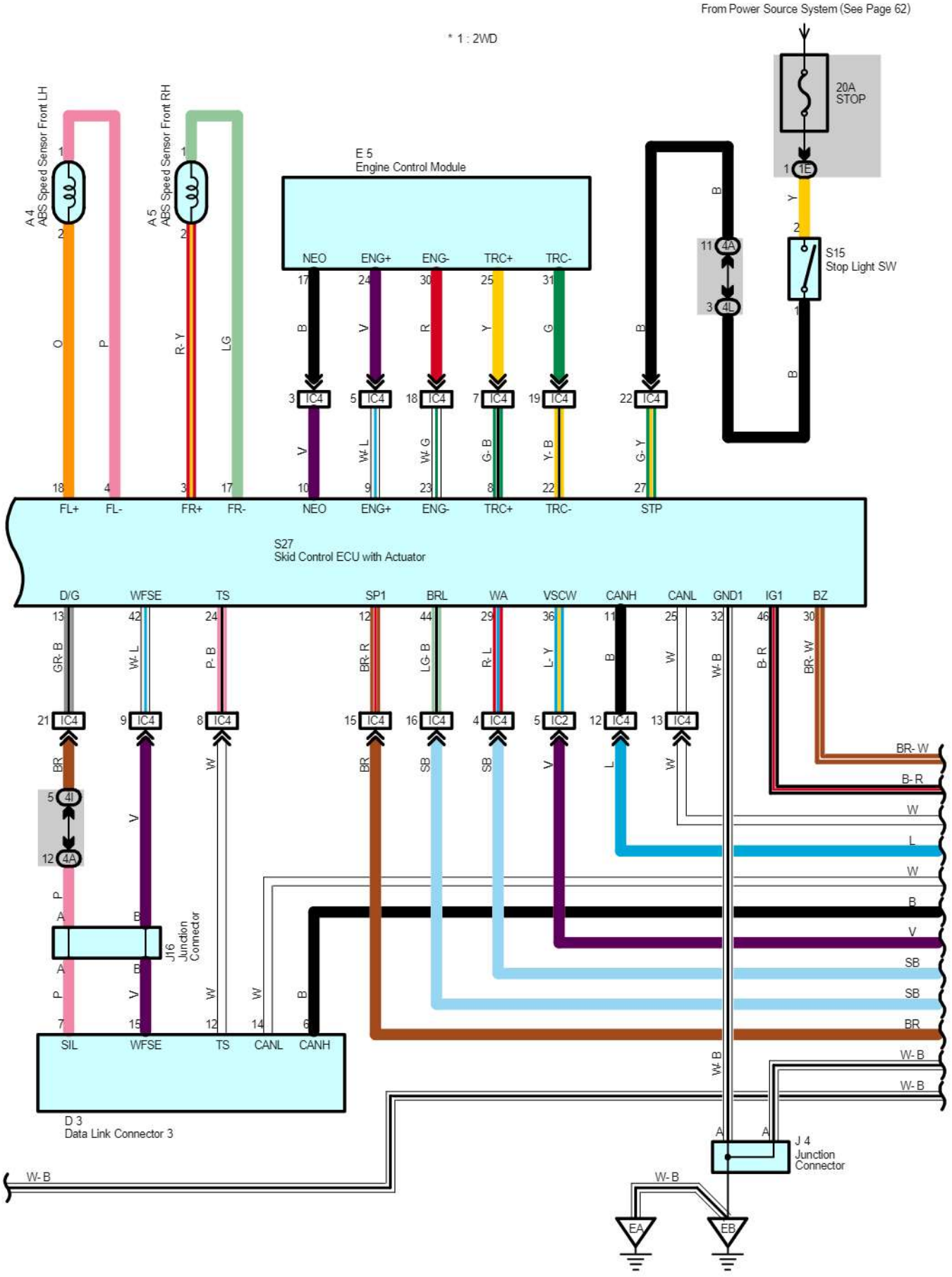
: GROUND POINTS

Code	See Page	Ground Points Location
EE	50 (2AZ-FE)	Intake Side of Cylinder Block
EF	50 (2AZ-FE)	Left Side of Cylinder Block
EH	50 (2AZ-FE)	Under the Left Headlight
IB	52	Right Instrument Panel Brace

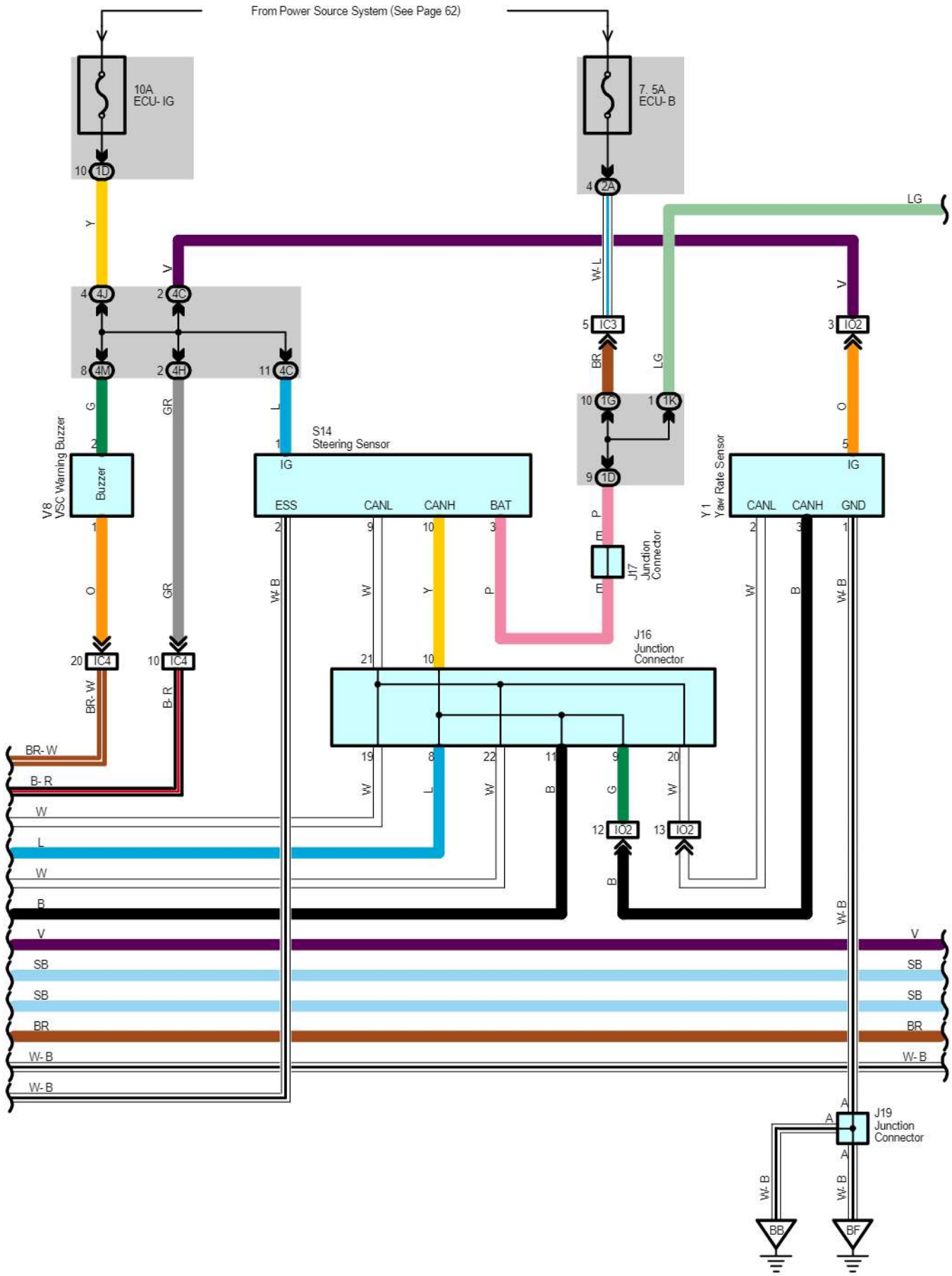
: SPLICE POINTS

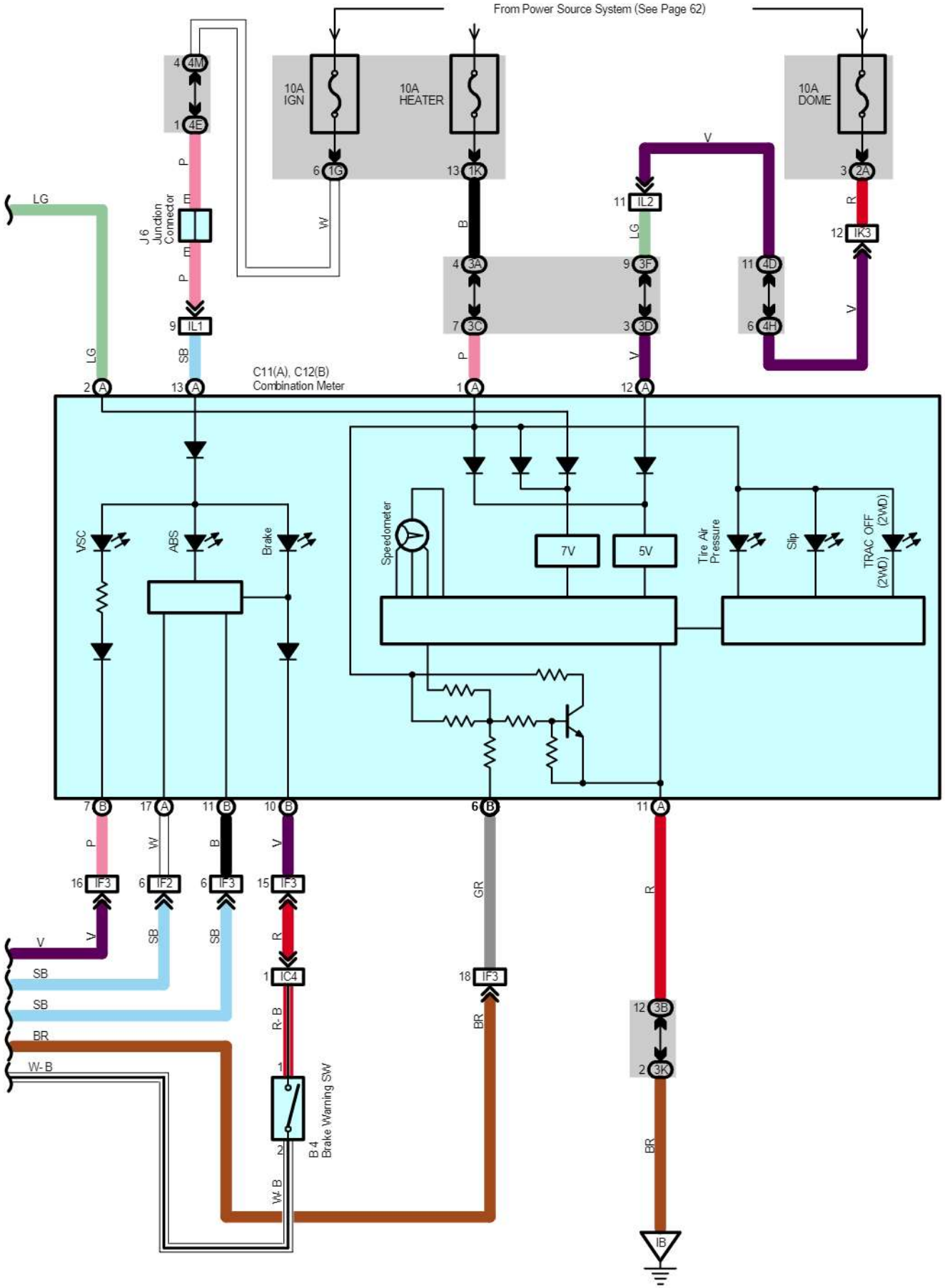
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E9	50 (2AZ-FE)	Engine Wire	I7	54	Cowl Wire
I6	54				


B- R
B- O
ABS CUT Relay
ABS MTR Relay
A24
ABS Speed Sensor Rear LH
A25
ABS Speed Sensor Rear RH
MRF
BM
MR
R+
+BS
RL+
RL-
RR+
RR-
S27
Skid Control ECU with Actuator
CSW
INIT
FSW+
PKB
GND2
30A ABS1
50A ABS2
F 7
Fusible Link Block
FL MAIN
3. 0W
Battery
T 6
TRAC Off SW
P22
Pressure SW
B13
Brake Pedal Load
Sensing SW
P 3
Parking Brake SW
IB
IC
EH
W- B


From Power Source System (See Page 62)
* 1 : 2WD
A 4
ABS Speed Sensor Front LH
A 5
ABS Speed Sensor Front RH
E 5
Engine Control Module
NEO
ENG+
ENG-
TRC+
TRC-
20A
STOP
S15
Stop Light SW
FL+
FL-
FR+
FR-
NEO
ENG+
ENG-
TRC+
TRC-
STP
S27
Skid Control ECU with Actuator
D/G
WFSE
TS
SP1
BRL
WA
VSCW
CANH
CANL
GND1
IG1
BZ
J16
Junction
Connector
SIL
WFSE
TS
CANL
CANH
D 3
Data Link Connector 3
J 4
Junction
Connector
EA
EB
W-B

VSC and Tire Pressure Warning System




From Power Source System (See Page 62)
10A IGN
10A HEATER
10A DOME
J6 Junction Connector
C11(A), C12(B) Combination Meter
VSC
ABS
Brake
Speedometer
7V
5V
Tire Air Pressure
Slip
TRAC OFF (2WD)
B 4 Brake Warning SW
IB

VSC and Tire Pressure Warning System

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 with actuator 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 with actuator 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 front 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.

VSC indicator light

If an mulfunction occurs in the VSC system, the VSC indicator lights up to warn the driver.

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 control

The engine power does not interfere with the VSC brake control by fuel cut controlling 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 alarm intermittently to warn the driver that the current road is slippery, while the VSC system is being operated.

5. Fail Safe Function

If an mulfunction 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 mulfunction signal to the engine control module. According to the mulfunction signal, the brake actuator turns off the solenoid and the engine control module rejects any electronically controlled request from the VSC system. As a result, the vehicle functions without the ABS, BA, TRAC, and VSC systems.

Service Hints

A4, A5 ABS Speed Sensor Front LH, RH

1-2 : 1.4-1.8 kΩ (20˚C, 68˚F)

A24, A25 ABS Speed Sensor Rear LH, RH

1-2 : 0.9-1.3 kΩ (25˚C, 77˚F) (4WD)

1-2 : Max. 1.45 kΩ (25˚C, 77˚F) (2WD)

B4 Brake Warning SW

1-2 : Closed with the float down

S27 Skid Control ECU with Actuator

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

27-Ground : Approx. 12 volts with the stop light SW on (Brake pedal depressed)

31-Ground : Always continuity

S15 Stop Light SW

2-1 : Closed with brake pedal depressed

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A4	38 (3MZ-FE)	C12 B	42	J19	44
	40 (2AZ-FE)	D3	42	P3	43
A5	38 (3MZ-FE)	E5	42	P22	43
	40 (2AZ-FE)	F7	38 (3MZ-FE)	S14	43
A24	44		40 (2AZ-FE)	S15	43
A25	44	J4	39 (3MZ-FE)	S27	39 (3MZ-FE)
B4	38 (3MZ-FE)		41 (2AZ-FE)		41 (2AZ-FE)
	40 (2AZ-FE)	J6	43	T6	43
B13	42	J16	43	V8	43
C11 A	42	J17	43	Y1	45

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
5	23	ABS R/B (Engine Compartment Rear Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

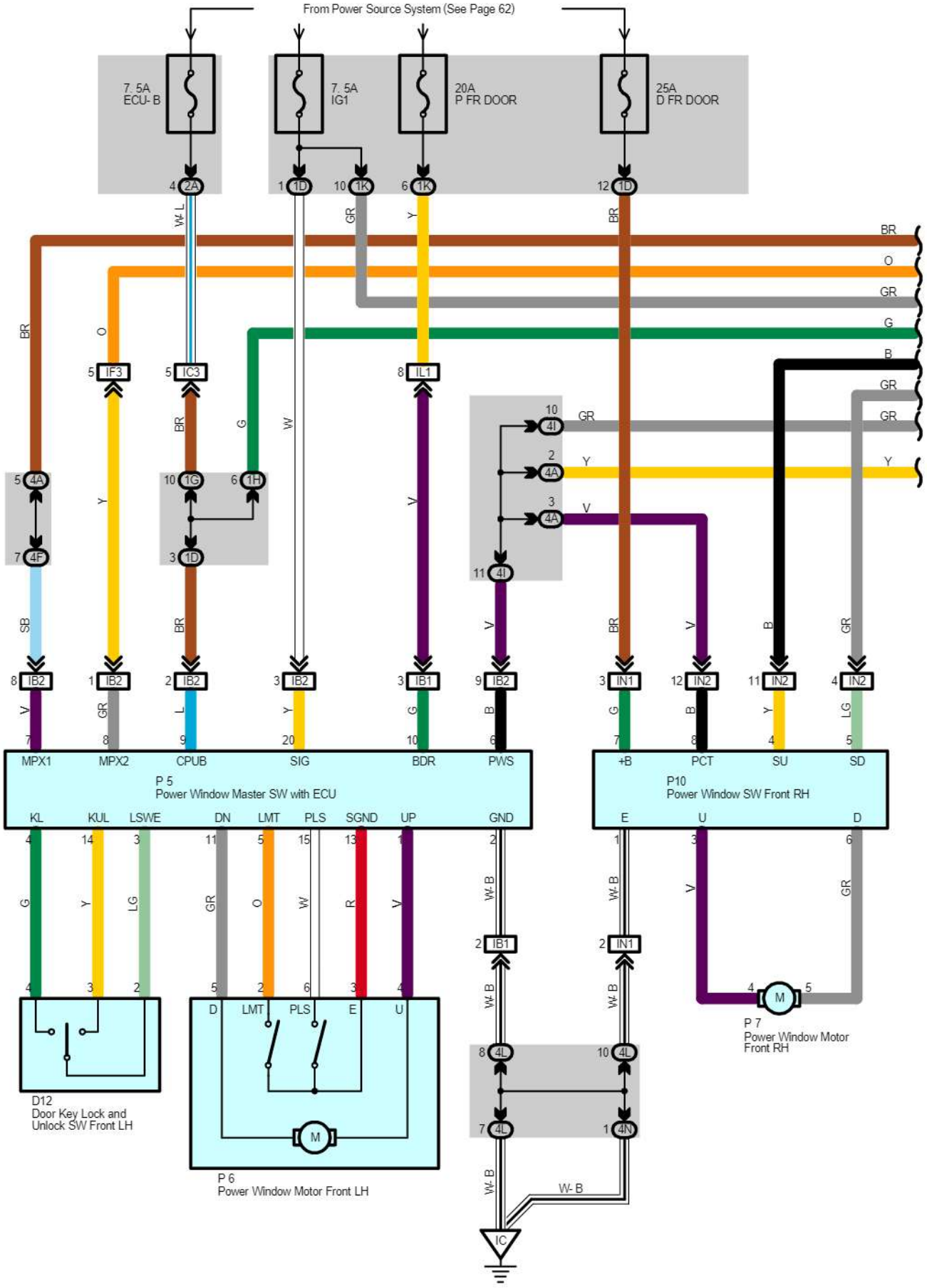
Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
1G		
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3D		
3F		
3G	31	
3J		
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4C		
4D		
4E		
4H		
4I	32	
4J		
4L		
4M		
4N		

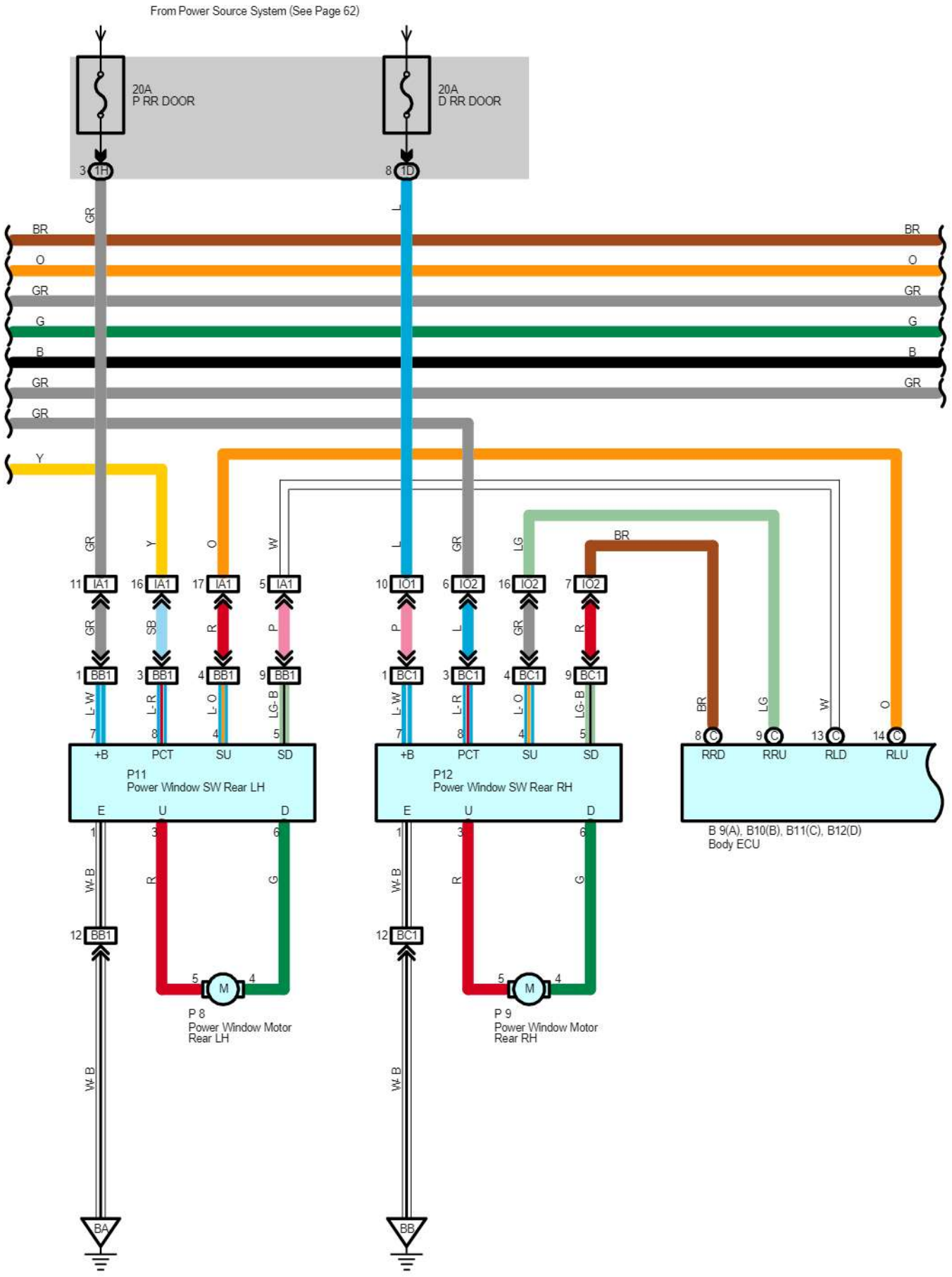
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

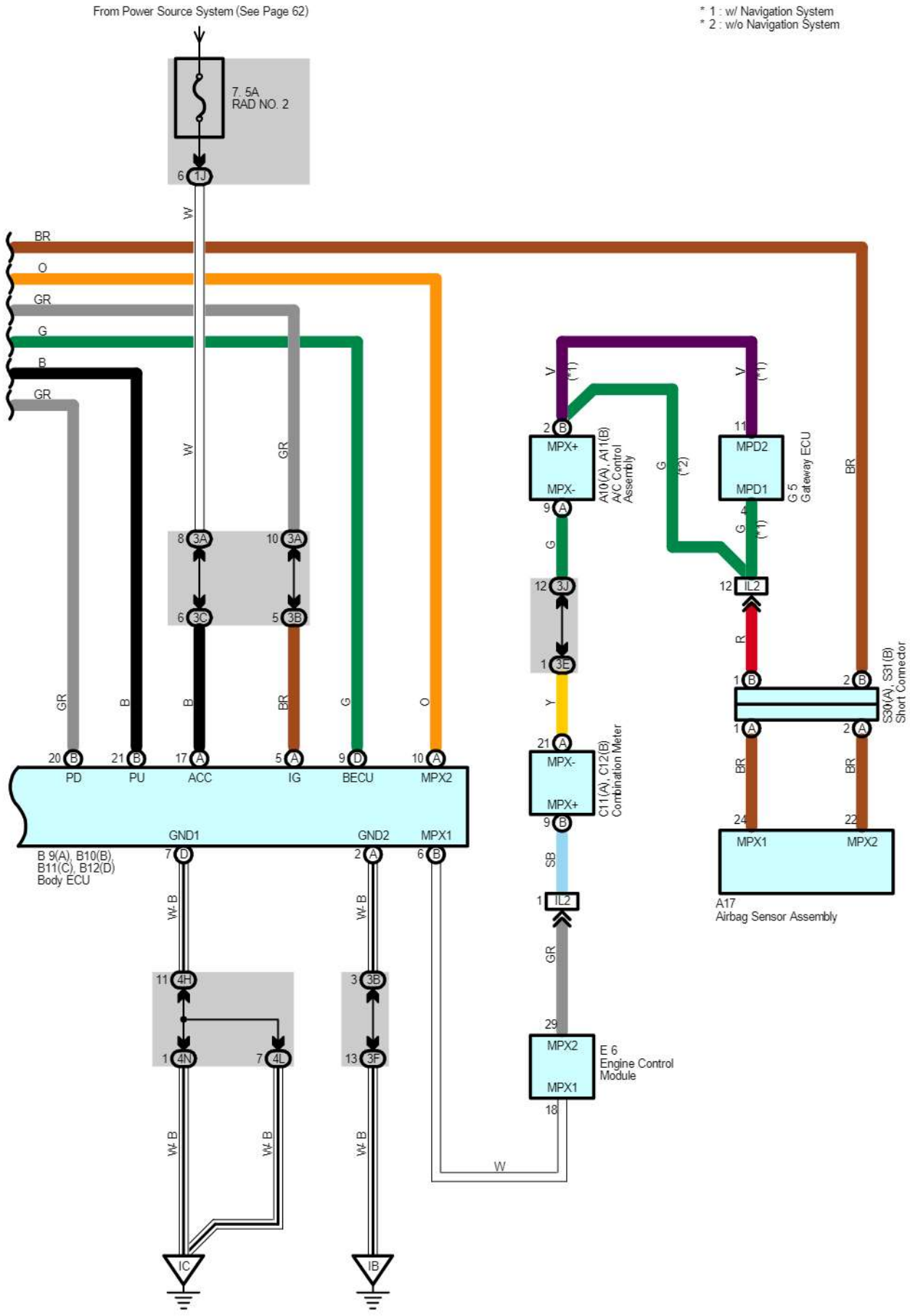
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IC2	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC3		
IC4		
IF2	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IF3		
IK3	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IL2		
IO2	54	Cowl Wire and Floor Wire (Right Kick Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
EA	48 (3MZ-FE)	Right Front Fender Apron
	50 (2AZ-FE)	
EB	48 (3MZ-FE)	
	50 (2AZ-FE)	
EH	48 (3MZ-FE)	Under the Left Headlight
	50 (2AZ-FE)	
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel
BB	56	Right Center Pillar
BF	56	Near the Rear Side Marker Light RH


From Power Source System (See Page 62)
7. 5A
ECU- B
7. 5A
IG1
20A
P FR DOOR
25A
D FR DOOR
MPX1
MPX2
CPUB
SIG
BDR
PWS
+B
PCT
SU
SD
P 5
Power Window Master SW with ECU
P10
Power Window SW Front RH
KL
KUL
LSWE
DN
LMT
PLS
SGND
UP
GND
E
U
D
D12
Door Key Lock and
Unlock SW Front LH
P 6
Power Window Motor Front LH
P 7
Power Window Motor
Front RH
W- B
IC


From Power Source System (See Page 62)
20A
P RR DOOR
20A
D RR DOOR
3 1H
8 1D
BR
O
GR
G
B
GR
GR
Y
BR
O
GR
G
B
GR
11 IA1
16 IA1
17 IA1
5 IA1
10 IO1
6 IO2
16 IO2
7 IO2
1 BB1
3 BB1
4 BB1
9 BB1
1 BC1
3 BC1
4 BC1
9 BC1
+B
PCT
SU
SD
P11
Power Window SW Rear LH
P12
Power Window SW Rear RH
E
U
D
12 BB1
12 BC1
5 M 4
P 8
Power Window Motor
Rear LH
P 9
Power Window Motor
Rear RH
8 C
9 C
13 C
14 C
RRD
RRU
RLD
RLU
B 9(A), B10(B), B11(C), B12(D)
Body ECU
BA
BB


From Power Source System (See Page 62)
* 1 : w/ Navigation System
* 2 : w/o Navigation System
7. 5A
RAD NO. 2
6 1J
W
BR
O
GR
G
B
GR
8 3A
10 3A
6 3C
5 3B
20 B PD
21 B PU
17 A ACC
5 A IG
9 D BECU
10 A MPX2
GND1
GND2
MPX1
B 9(A), B10(B), B11(C), B12(D) Body ECU
7 D
2 A
6 B
W-B
11 4H
1 4N
7 4L
3 3B
13 3F
IC
IB
V
(*1)
2 B MPX+
MPX-
9 A
A10(A), A11(B) A/C Control Assembly
G
(*2)
11 MPD2
MPD1
4
G 5 Gateway ECU
12 3J
1 3E
Y
21 A MPX-
MPX+
9 B
C11(A), C12(B) Combination Meter
SB
1 IL2
GR
29 MPX2
MPX1
18
E 6 Engine Control Module
W
12 IL2
R
1 B
2 B
1 A
2 A
S30(A), S31(B) Short Connector
BR
24 MPX1
22 MPX2
A17 Airbag Sensor Assembly

System Outline

Communication between power window master SW and body ECU is controlled and body ECU recognizes the conditions of each SW to control the operation of windows.

1. Manual Up or Down Operation (Driver's Window, Passenger's Window)

During you are pushing power window master SW (Driver side) halfway down, the motor operates and the window on the driver's side opens. During you are pulling power window master SW (Driver side) halfway up, the motor operates and the windows on the driver's side closes. The window on the passenger's side opens or closes by pushing down or pulling up power window master SW (Front passenger, rear passenger) or power window SW front RH, rear LH, RH.

2. Auto Up or Down Operation (Driver's Window)

When the power window master SW (Driver side) is fully pushed down, the motor operates and the window on the driver's side automatically opens. When the power window master SW (Driver side) is fully pulled up, the motor operates and the window on the driver's side automatically closes.

3. Stopping Automatic Window Operation

If you push the power window master SW (Driver side) halfway down during the window on the driver's side is raising automatically, the motor's operation stops. And if you pull the power window master SW (Driver side) halfway up during the window on the driver's side is lowering automatically, the motor's operation stops.

4. Key Off Power Window Operation

After the ignition SW is turned off, the windows can be operated for about 43 seconds. However, the window operation stops when either front doors opens.

5. Jam Protection Function (Driver's Window)

When any foreign object gets caught during power window UP operation, the motor rotates in the opposite direction to open the window.

Service Hints

B9 (A), B12 (D) Body ECU

(D) 9-Ground : Always approx. 12 volts
(A) 2, (D) 7-Ground : Always continuity
(A) 5-Ground : Approx. 12 volts with the ignition SW at ON position

P5 Power Window Master SW with ECU

9, 10-Ground : Always approx. 12 volts
2-Ground : Always continuity

P10, P11, P12 Power Window SW Front RH, Rear LH, RH

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

○ : PARTS LOCATION

Code		See Page	Code		See Page	Code		See Page
A10	A	42	C12	B	42	P9		44
A11	B	42	D12		44	P10		44
A17		42	E6		42	P11		44
B9	A	42	G5		43	P12		44
B10	B	42	P5		44	S30	A	43
B11	C	42	P6		44	S31	B	43
B12	D	42	P7		44			
C11	A	42	P8		44			

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

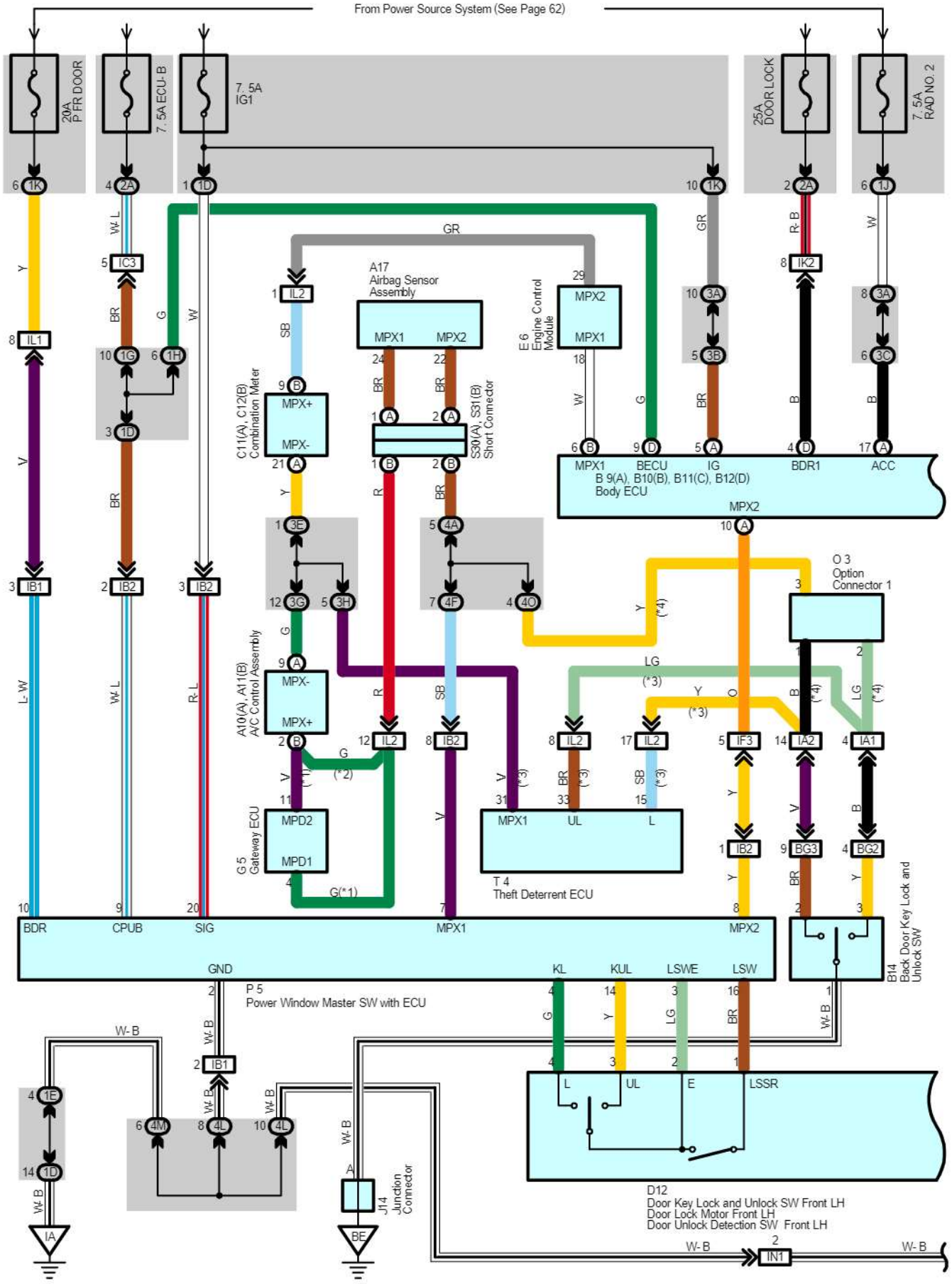
Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1G		
1H		
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3E		
3F		
3J	31	
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4F		
4H		
4I	32	
4L		
4N		

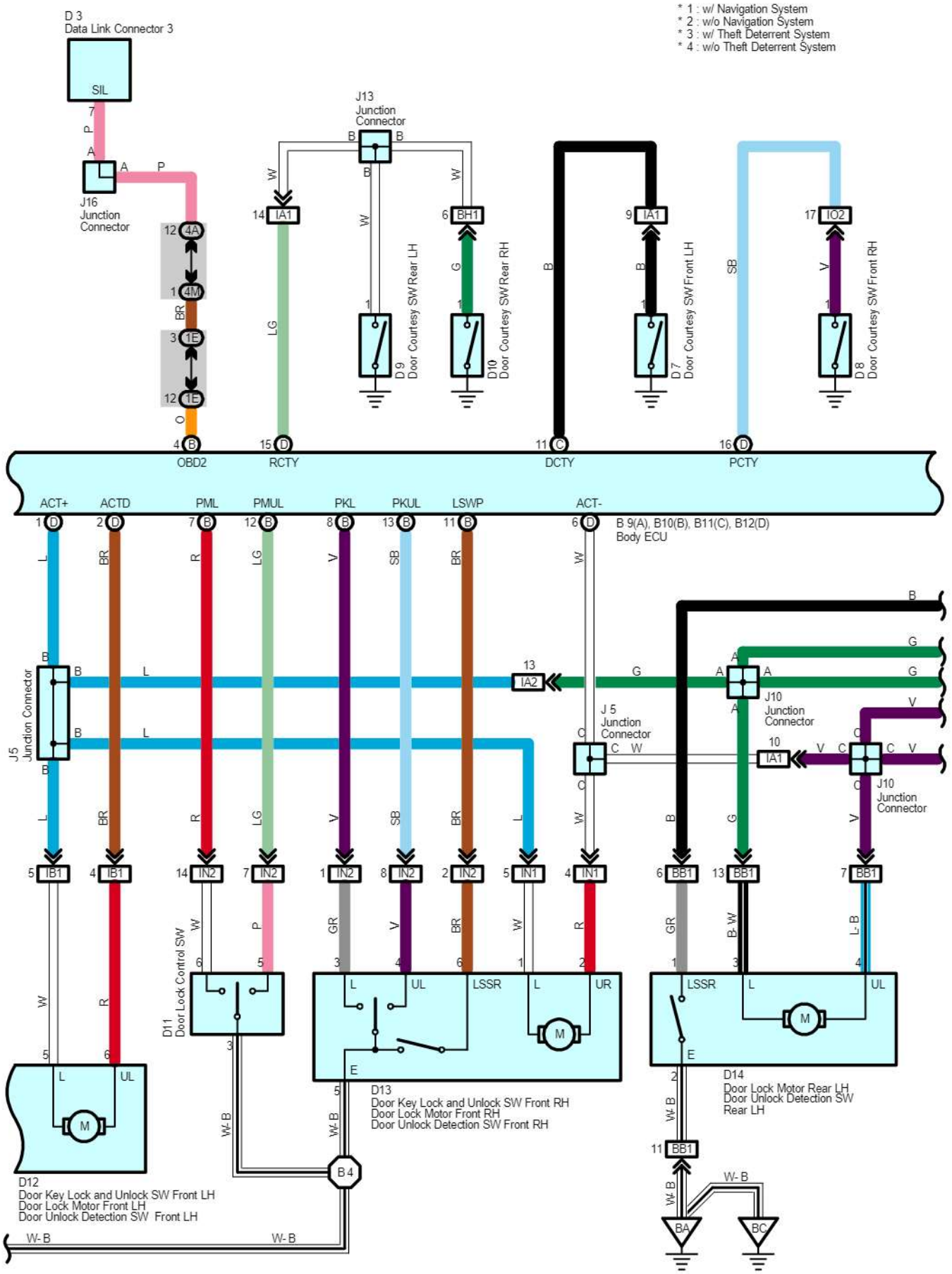
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

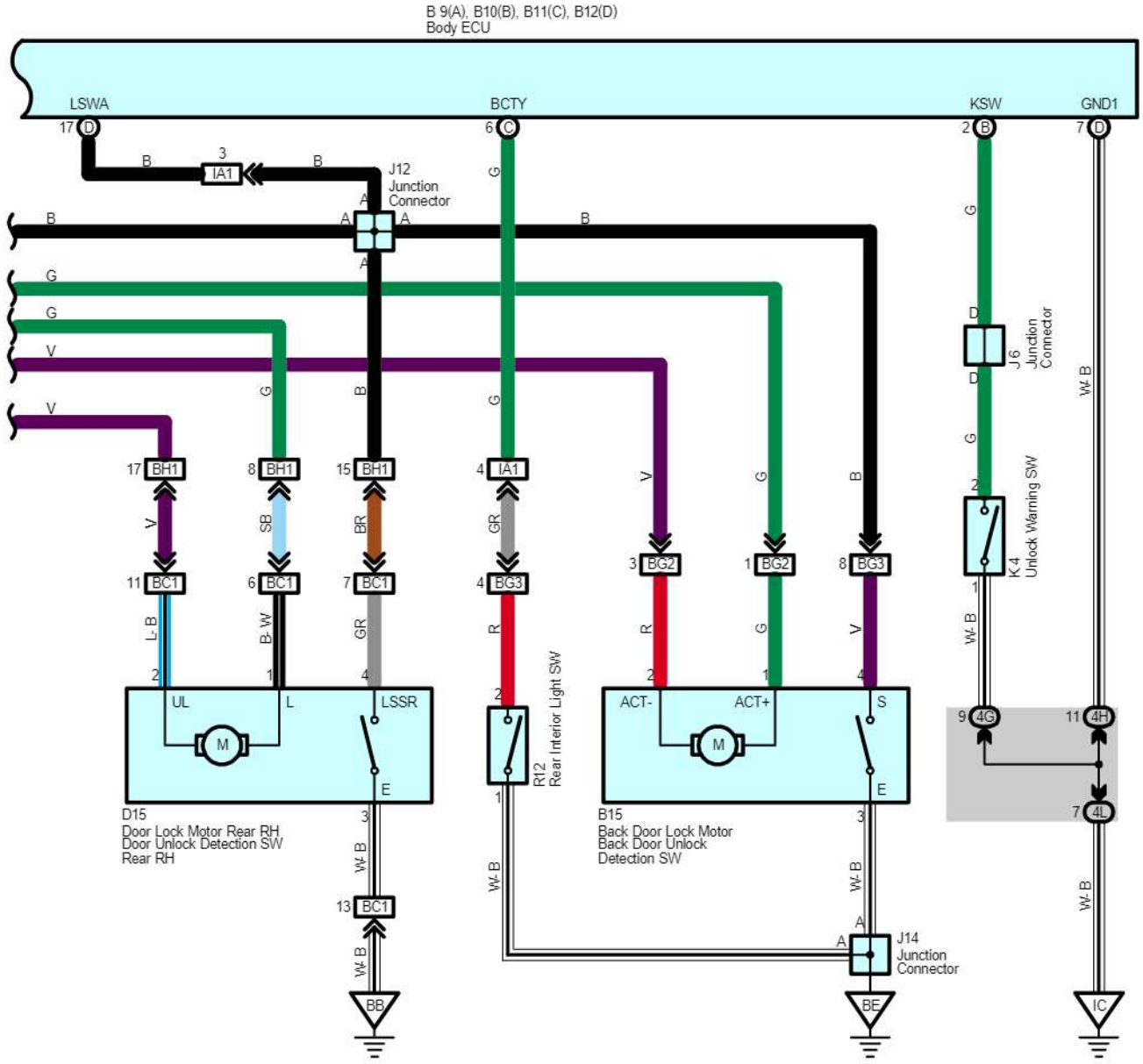
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IB1	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IB2		
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IL2		
IN1	54	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IN2		
IO1	54	Cowl Wire and Floor Wire (Right Kick Panel)
IO2		
BB1	56	Rear Door No.1 LH Wire and Floor No.2 Wire (Left Center Pillar)
BC1	56	Rear Door No.1 RH Wire and Floor Wire (Right Center Pillar)

: GROUND POINTS

Code	See Page	Ground Points Location
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel
BA	56	Left Center Pillar
BB	56	Right Center Pillar


From Power Source System (See Page 62)
20A P FR DOOR
7. 5A ECU- B
7. 5A IG1
25A DOOR LOCK
7. 5A RAD NO. 2
A17 Airbag Sensor Assembly
E 6 Engine Control Module
C11(A), C12(B) Combination Meter
S30(A), S31(B) Short Connector
A10(A), A11(B) A/C Control Assembly
G 5 Gateway ECU
T 4 Theft Deterrent ECU
B 9(A), B10(B), B11(C), B12(D) Body ECU
O 3 Option Connector 1
P 5 Power Window Master SW with ECU
B14 Back Door Key Lock and Unlock SW
D12 Door Key Lock and Unlock SW Front LH Door Lock Motor Front LH Door Unlock Detection SW Front LH
J14 Junction Connector
BDR
CPUB
SIG
MPX1
MPX2
GND
KL
KUL
LSWE
LSW
LSSR
BECU
IG
BDR1
ACC
(*1)
(*2)
(*3)
(*4)


* 1 : w/ Navigation System
* 2 : w/o Navigation System
* 3 : w/ Theft Deterrent System
* 4 : w/o Theft Deterrent System
D 3
Data Link Connector 3
SIL
J16
Junction
Connector
J13
Junction
Connector
D 9
Door Courtesy SW Rear LH
D10
Door Courtesy SW Rear RH
D 7
Door Courtesy SW Front LH
D 8
Door Courtesy SW Front RH
OBD2
RCTY
DCTY
PCTY
ACT+
ACTD
PML
PMUL
PKL
PKUL
LSWP
ACT-
B 9(A), B10(B), B11(C), B12(D)
Body ECU
J5
Junction Connector
J 5
Junction
Connector
J10
Junction
Connector
J10
Junction
Connector
D11
Door Lock Control SW
D12
Door Key Lock and Unlock SW Front LH
Door Lock Motor Front LH
Door Unlock Detection SW Front LH
D13
Door Key Lock and Unlock SW Front RH
Door Lock Motor Front RH
Door Unlock Detection SW Front RH
D14
Door Lock Motor Rear LH
Door Unlock Detection SW
Rear LH
W-B


B 9(A), B10(B), B11(C), B12(D)
Body ECU
LSWA
BCTY
KSW
GND1
J12 Junction Connector
J6 Junction Connector
K 4 Unlock Warning SW
D15
Door Lock Motor Rear RH
Door Unlock Detection SW
Rear RH
B15
Back Door Lock Motor
Back Door Unlock
Detection SW
R12
Rear Interior Light SW
J14 Junction Connector
UL
L
LSSR
ACT-
ACT+
S
M
E
BB
BE
IC

System Outline

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

1. Manual Operation

All doors can be Locked/Unlocked through the operation of the driver and passenger side door lock control SW.

2. Double Operation Unlock Operation

When the door key lock and unlock SW front LH is turned to the unlock side, only the driver's door is unlocked. And if the door key lock and unlock SW front LH is turned to the unlock side again within 3 seconds, all the doors to unlock.

3. Manual Unlock Protection

Once the doors are locked by the door knob (Key less operation), the door key or the transmitter, they can not be unlocked by the door lock control SW. The protection is canceled when the ignition SW is turned on or unlock operation is made by the door key or the transmitter.

4. Ignition Key Reminder Operation

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

Service Hints

D7, D8, D9, D10 Door Courtesy SW Front LH, RH, Rear LH, RH

1-Ground : Continuity with the door open

D12 Door Key Lock and Unlock SW,Door Lock Motor and Door Unlock Detection SW Front LH

5-Ground : Approx. 12 volts with the door lock motor at lock operate
6-Ground : Approx. 12 volts with the door lock motor at unlock operate
4-2 : Closed with the door lock cylinder locked with key
3-2 : Closed with the door lock cylinder unlocked with key

D13 Door Key Lock and Unlock SW,Door Lock Motor and Door Unlock Detection SW Front RH

1-Ground : Approx. 12 volts with the door lock motor at lock operate
2-Ground : Approx. 12 volts with the door lock motor at unlock operate
3-5 : Closed with the door lock cylinder locked with key
4-5 : Closed with the door lock cylinder unlocked with key

D14 Door Lock Motor and Door Unlock Detection SW Rear LH

1-Ground : Approx. 12 volts with the door lock motor at lock operate
2-Ground : Approx. 12 volts with the door lock motor at unlock operate

D15 Door Lock Motor and Door Unlock Detection SW Rear RH

1-Ground : Approx. 12 volts with the door lock motor at lock operate
2-Ground : Approx. 12 volts with the door lock motor at unlock operate

B15 Back Door Lock Motor and Back Door Unlock Detection SW

1-Ground : Approx. 12 volts with the door lock motor at lock operate
2-Ground : Approx. 12 volts with the door lock motor at unlock operate

Door Lock Control

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A10 A	42	D8	44	J12	44
A11 B	42	D9	44	J13	44
A17	42	D10	44	J14	44
B9 A	42	D11	44	J16	43
B10 B	42	D12	44	K4	43
B11 C	42	D13	44	O3	43
B12 D	42	D14	44	P5	44
B14	44	D15	44	R12	45
B15	44	E6	42	S30 A	43
C11 A	42	G5	43	S31 B	43
C12 B	42	J5	43	T4	43
D3	42	J6	43		
D7	44	J10	44		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
1G		
1H		
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3E		
3G	31	
3H		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4F		
4G		
4H		
4L	32	
4M		
4O		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IA2		
IB1	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IB2		
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IL2		
IN1	54	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IN2		
IO2	54	Cowl Wire and Floor Wire (Right Kick Panel)
BB1	56	Rear Door No.1 LH Wire and Floor No.2 Wire (Left Center Pillar)
BC1	56	Rear Door No.1 RH Wire and Floor Wire (Right Center Pillar)
BG2	56	Back Door No.1 Wire and Floor No.2 Wire (Rear Left of the Roof)
BG3		
BH1	56	Floor No.2 Wire and Floor Wire (Near the Rear Side Marker Light RH)

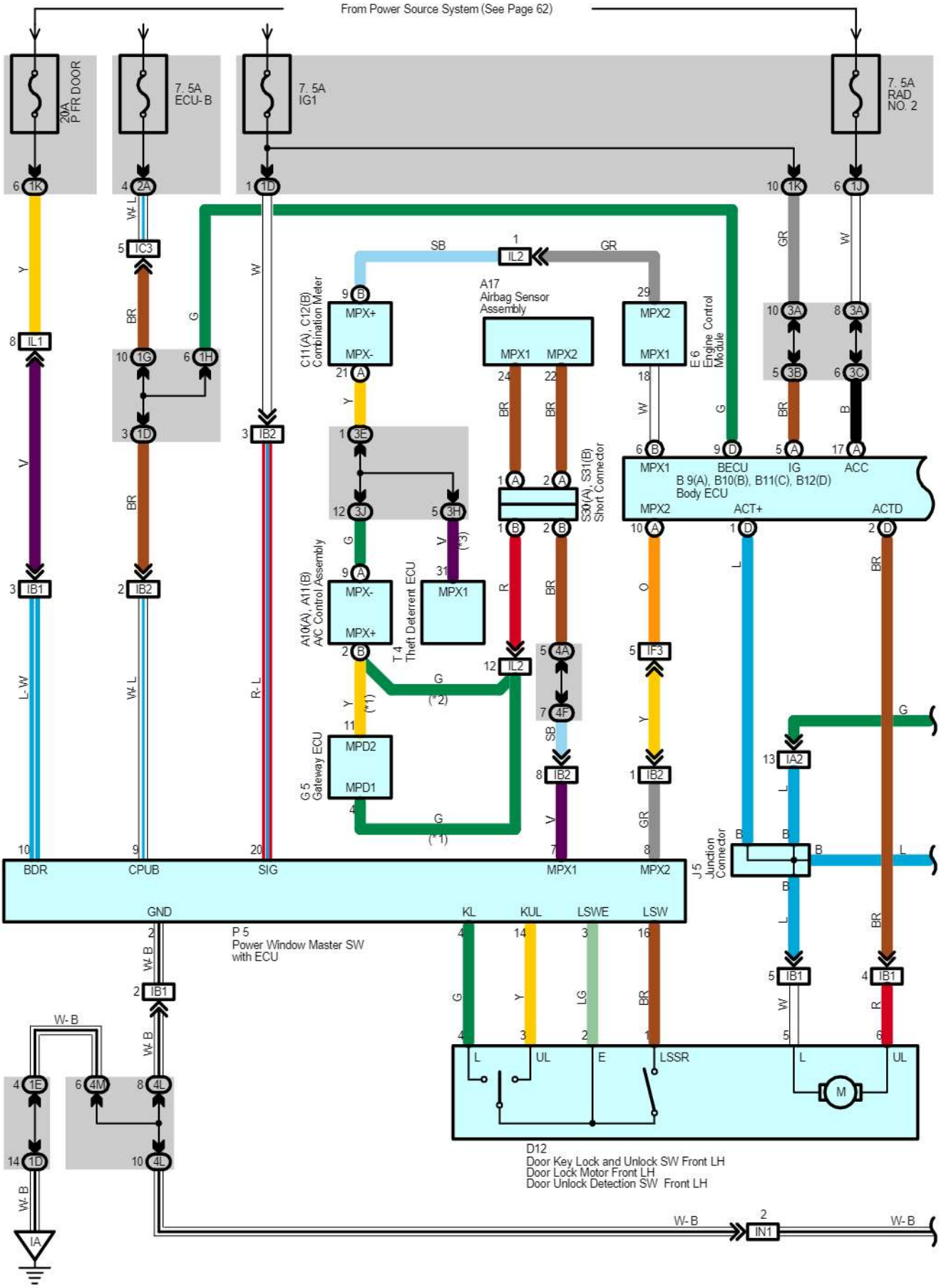
: GROUND POINTS

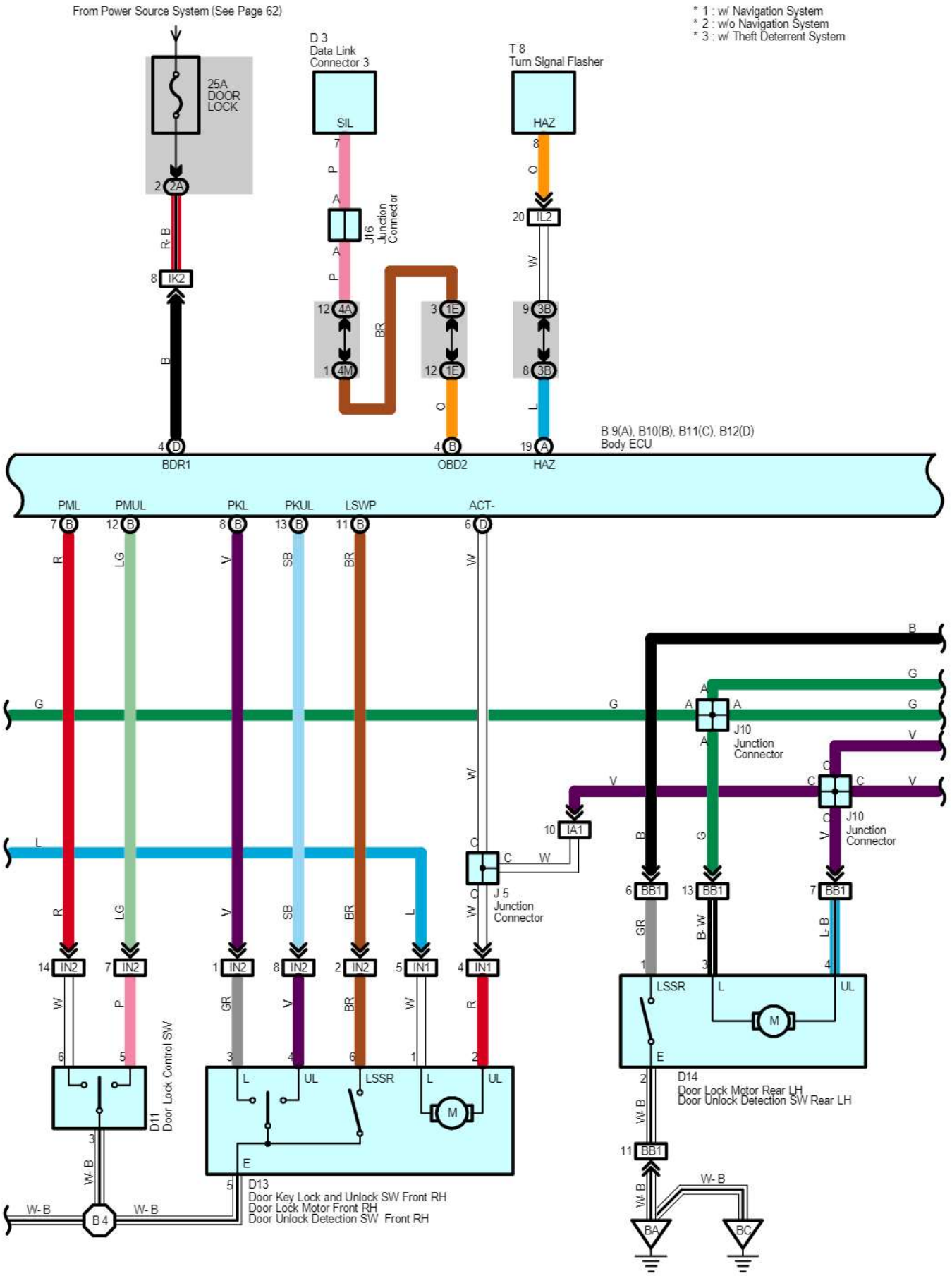
Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel
IC	52	Right Cowl Side Panel
BA	56	Left Center Pillar
BB	56	Right Center Pillar
BC	56	Left Side of Rear Cross Member
BE	56	Left Side of Back Door

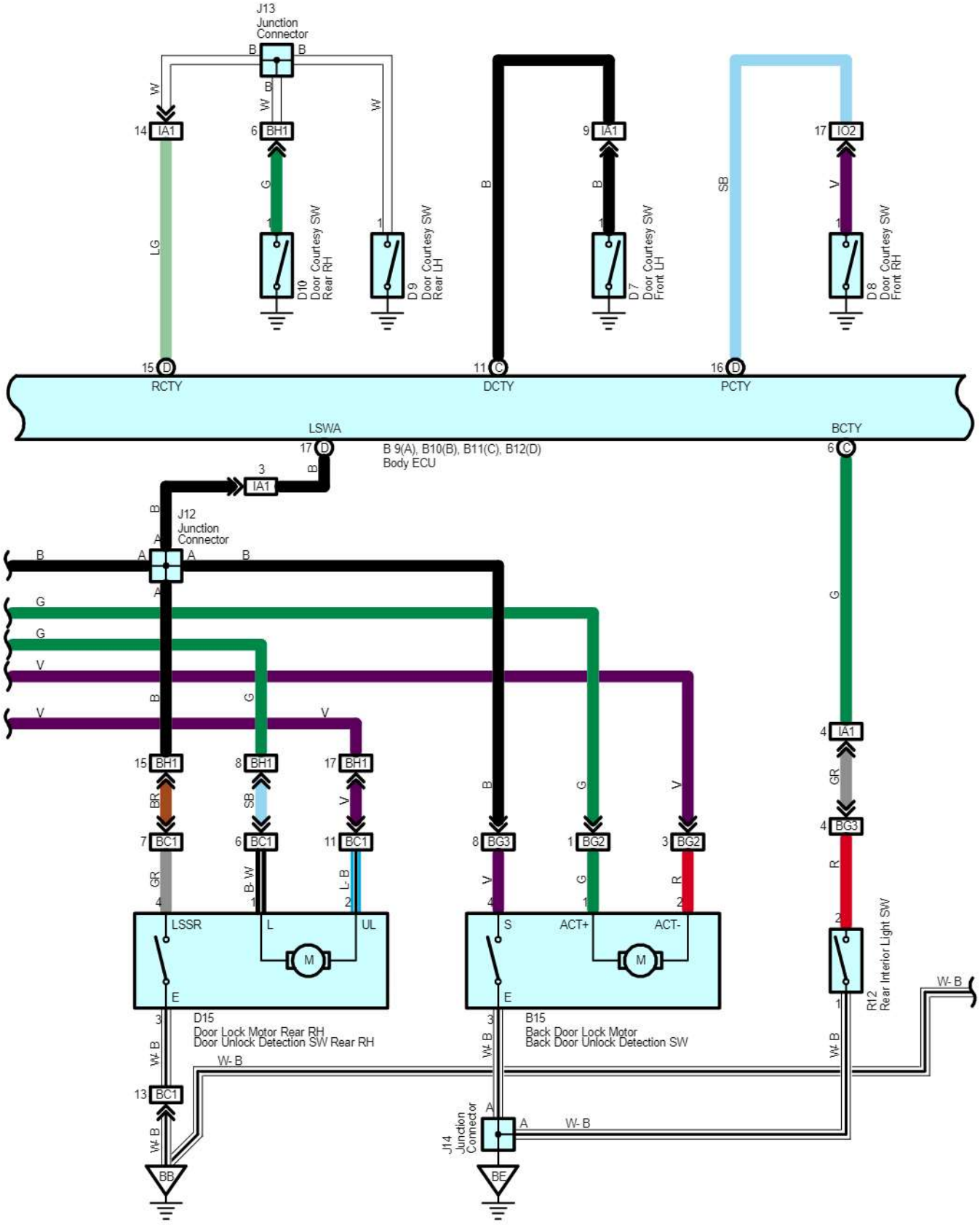
: SPLICE POINTS

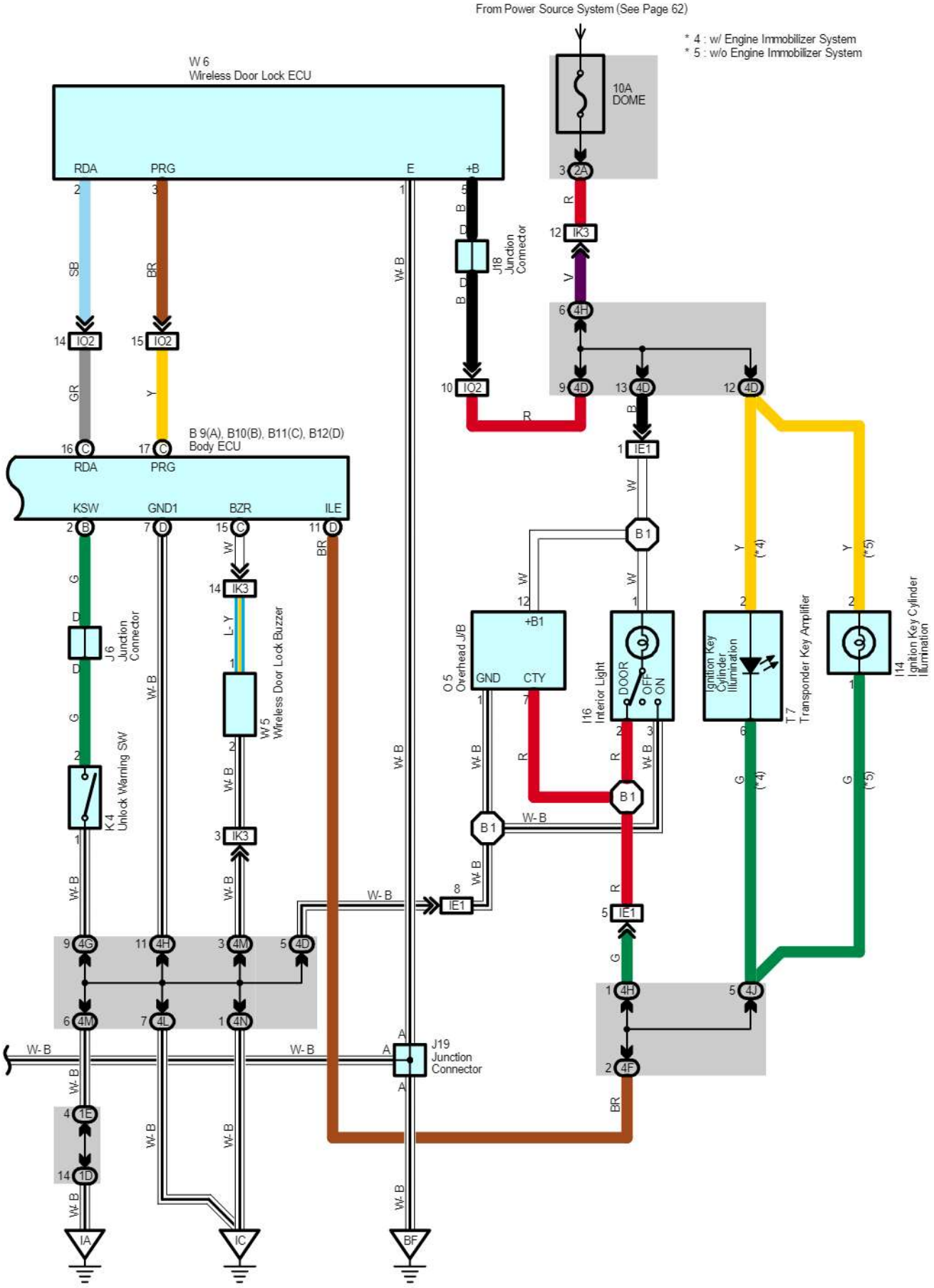
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B4	56	Front Door RH Wire			

Wireless Door Lock Control




From Power Source System (See Page 62)
* 1 : w/ Navigation System
* 2 : w/o Navigation System
* 3 : w/ Theft Deterrent System
25A DOOR LOCK
D 3 Data Link Connector 3
SIL
T 8 Turn Signal Flasher
HAZ
J16 Junction Connector
IK2
IL2
4A
4M
1E
3B
B 9(A), B10(B), B11(C), B12(D) Body ECU
BDR1
OBD2
HAZ
PML
PMUL
PKL
PKUL
LSWP
ACT-
J10 Junction Connector
J 5 Junction Connector
IA1
BB1
IN2
IN1
LSSR
UL
M
D11 Door Lock Control SW
D13 Door Key Lock and Unlock SW Front RH Door Lock Motor Front RH Door Unlock Detection SW Front RH
D14 Door Lock Motor Rear LH Door Unlock Detection SW Rear LH
B 4
BA
BC


J13
Junction
Connector
B
B
W
B
W
W
14
IA1
6
BH1
G
1
LG
1
D10
Door Courtesy SW
Rear RH
1
D9
Door Courtesy SW
Rear LH
B
9
IA1
B
1
D7
Door Courtesy SW
Front LH
SB
17
IO2
V
1
D8
Door Courtesy SW
Front RH
15
D
RCTY
11
C
DCTY
16
D
PCTY
LSWA
17
D
B
B 9(A), B10(B), B11(C), B12(D)
Body ECU
BCTY
6
C
3
IA1
B
J12
Junction
Connector
A
A
B
B
A
B
G
G
V
B
G
V
V
15
BH1
8
BH1
17
BH1
BR
SB
V
7
BC1
6
BC1
11
BC1
GR
B-W
L-B
4
1
2
LSSR
L
UL
M
E
8
BG3
1
BG2
3
BG2
B
G
V
V
G
R
4
S
ACT+
ACT-
M
E
4
IA1
GR
4
BG3
R
2
1
R12
Rear Interior Light SW
W-B
3
W-B
D15
Door Lock Motor Rear RH
Door Unlock Detection SW Rear RH
3
W-B
B15
Back Door Lock Motor
Back Door Unlock Detection SW
1
W-B
W-B
13
BC1
W-B
BB
J14
Junction
Connector
A
A
W-B
BE


From Power Source System (See Page 62)
* 4 : w/ Engine Immobilizer System
* 5 : w/o Engine Immobilizer System
W 6
Wireless Door Lock ECU
RDA
PRG
E
+B
10A
DOME
J18
Junction
Connector
B 9(A), B10(B), B11(C), B12(D)
Body ECU
KSW
GND1
BZR
ILE
J6
Junction
Connector
K 4
Unlock Warning SW
W 5
Wireless Door Lock Buzzer
O 5
Overhead J/B
+B1
GND
CTY
I16
Interior Light
DOOR
OFF
ON
Ignition Key
Cylinder
Illumination
T 7
Transponder Key Amplifier
I14
Ignition Key Cylinder
Illumination
J19
Junction
Connector
IA
IC
BF

Wireless Door Lock Control

System Outline

In this system, the wireless door lock ECU receivers weak radio wave transmitted from the transmitter and outputs a signal to the body ECU. Accordingly, all the doors are can be locked and unlocked by remote control.

1. Normal Operation

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

2. Auto Lock Function

After all the doors are unlocked by pushing the UNLOCK SW of the transmitter, unless each of the doors is opened or the ignition key is inserted, all the doors are locked again.

3. Wireless Door Lock Stop Function

If any of the following conditions are detected, the wireless door lock does not function.
Lock operation
* When any door is open (Door courtesy SW on)
* The ignition key is inserted into the ignition SW (Unlock warning SW on)
* Ignition SW is on

Unlock operation
* Ignition SW is on

4. Visual Confirmation of Lock or Unlock

When doors are locked by using the transmitter, the hazard light flashes once. When doors are unlocked by using the transmitter, the hazard light flashes twice. If UNLOCK SW of the transmitter is pushed while all the doors are locked, doors are unlocked and the interior light and ignition key cylinder light are turned on simultaneously.

5. Panic Mode Function

When the panic SW on the transmitter is pressed, the panic mode is activated. The panic mode is canceled when the unlock SW or panic SW is pressed.

6. Repeat Function

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

Service Hints

D7, D8, D9, D10 Door Courtesy SW Front LH, RH, Rear LH, RH

1-Ground : Continuity with the door open

D12 Door Key Lock and Unlock SW,Door Lock Motor and Door Unlock Detection Front LH

5-Ground : Approx. 12 volts with the door lock motor at lock operate
6-Ground : Approx. 12 volts with the door lock motor at unlock operate
4-2 : Closed with the door lock cylinder locked with key
3-2 : Closed with the door lock cylinder unlocked with key

D13 Door Key Lock and Unlock SW Door Lock Motor and Door Unlock Detection Front RH

1-Ground : Approx. 12 volts with the door lock motor at lock operate
2-Ground : Approx. 12 volts with the door lock motor at unlock operate
3-5 : Closed with the door lock cylinder locked with key
4-5 : Closed with the door lock cylinder unlocked with key

D14 Door Lock Motor and Door Unlock Detection SW Rear LH

3-Ground : Approx. 12 volts with the door lock motor at lock operate
4-Ground : Approx. 12 volts with the door lock motor at unlock operate

D15 Door Lock Motor and Door Unlock Detection SW Rear RH

1-Ground : Approx. 12 volts with the door lock motor at lock operate
2-Ground : Approx. 12 volts with the door lock motor at unlock operate

B15 Back Door Lock Motor and Back Door Unlock Detection SW

1-Ground : Approx. 12 volts with the door lock motor at lock operate
2-Ground : Approx. 12 volts with the door lock motor at unlock operate

W6 Wireless Door Lock ECU

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

○ : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A10 A	42	D11	44	J16	43
A11 B	42	D12	44	J18	44
A17	42	D13	44	J19	44
B9 A	42	D14	44	K4	43
B10 B	42	D15	44	O5	44
B11 C	42	E6	42	P5	44
B12 D	42	G5	43	R12	45
B15	44	I14	43	S30 A	43
C11 A	42	I16	44	S31 B	43
C12 B	42	J5	43	T4	43
D3	42	J6	43	T7	43
D7	44	J10	44	T8	43
D8	44	J12	44	W5	39 (3MZ-FE)
D9	44	J13	44		41 (2AZ-FE)
D10	44	J14	44	W6	45

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
1G		
1H		
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3E		
3H	31	
3J		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4D		
4F		
4G		
4H		
4J	32	
4L		
4M		
4N		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

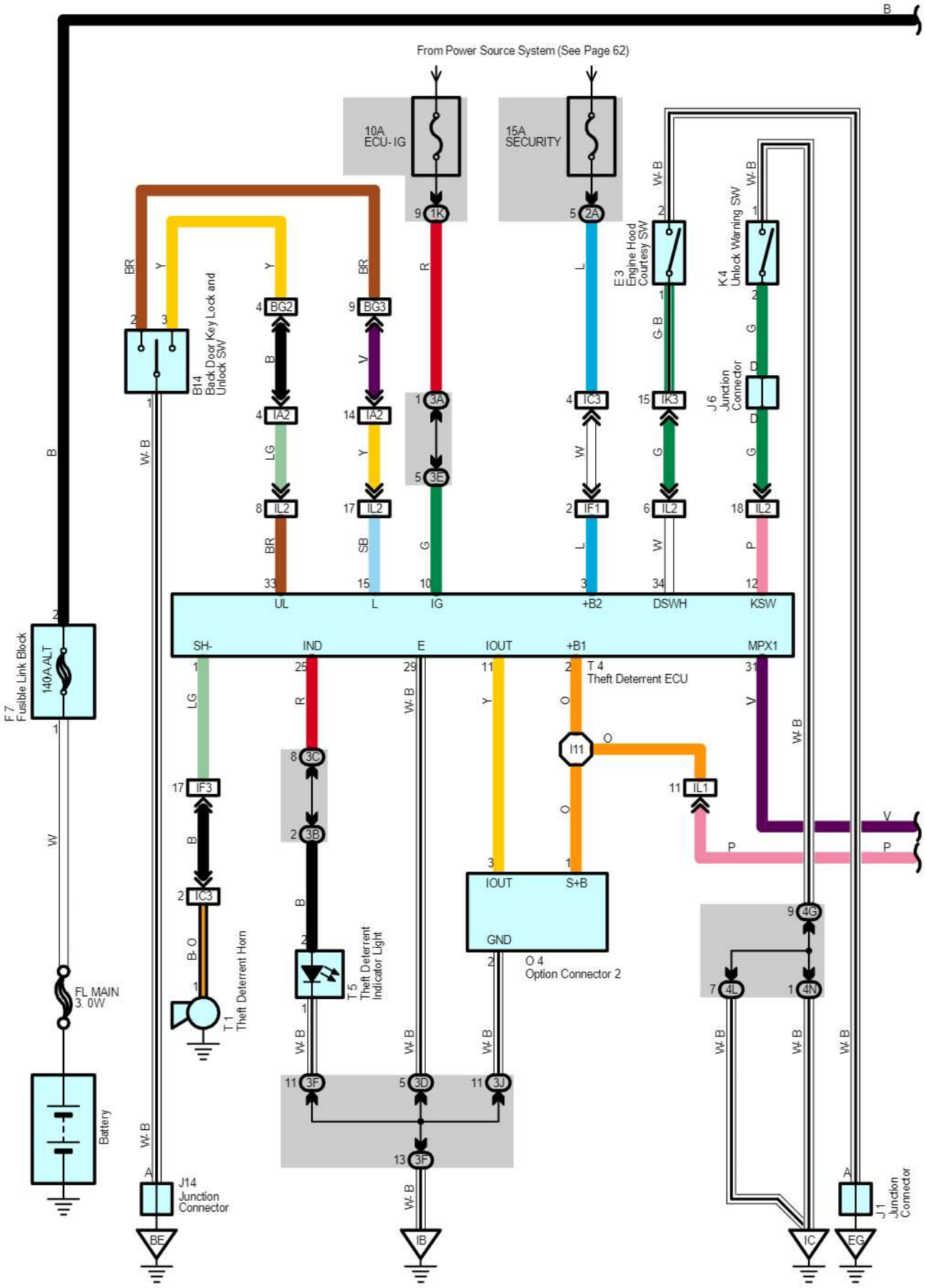
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IA2		
IB1	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IB2		
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IE1	52	Roof Wire and Cowl Wire (Near the Bottom of Left Front Pillar)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IL2		
IN1	54	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IN2		
IO2	54	Cowl Wire and Floor Wire (Right Kick Panel)
BB1	56	Rear Door No.1 LH Wire and Floor No.2 Wire (Left Center Pillar)
BC1	56	Rear Door No.1 RH Wire and Floor Wire (Right Center Pillar)
BG2	56	Back Door No.1 Wire and Floor No.2 Wire (Rear Left of the Roof)
BG3		
BH1	56	Floor No.2 Wire and Floor Wire (Near the Rear Side Marker Light RH)

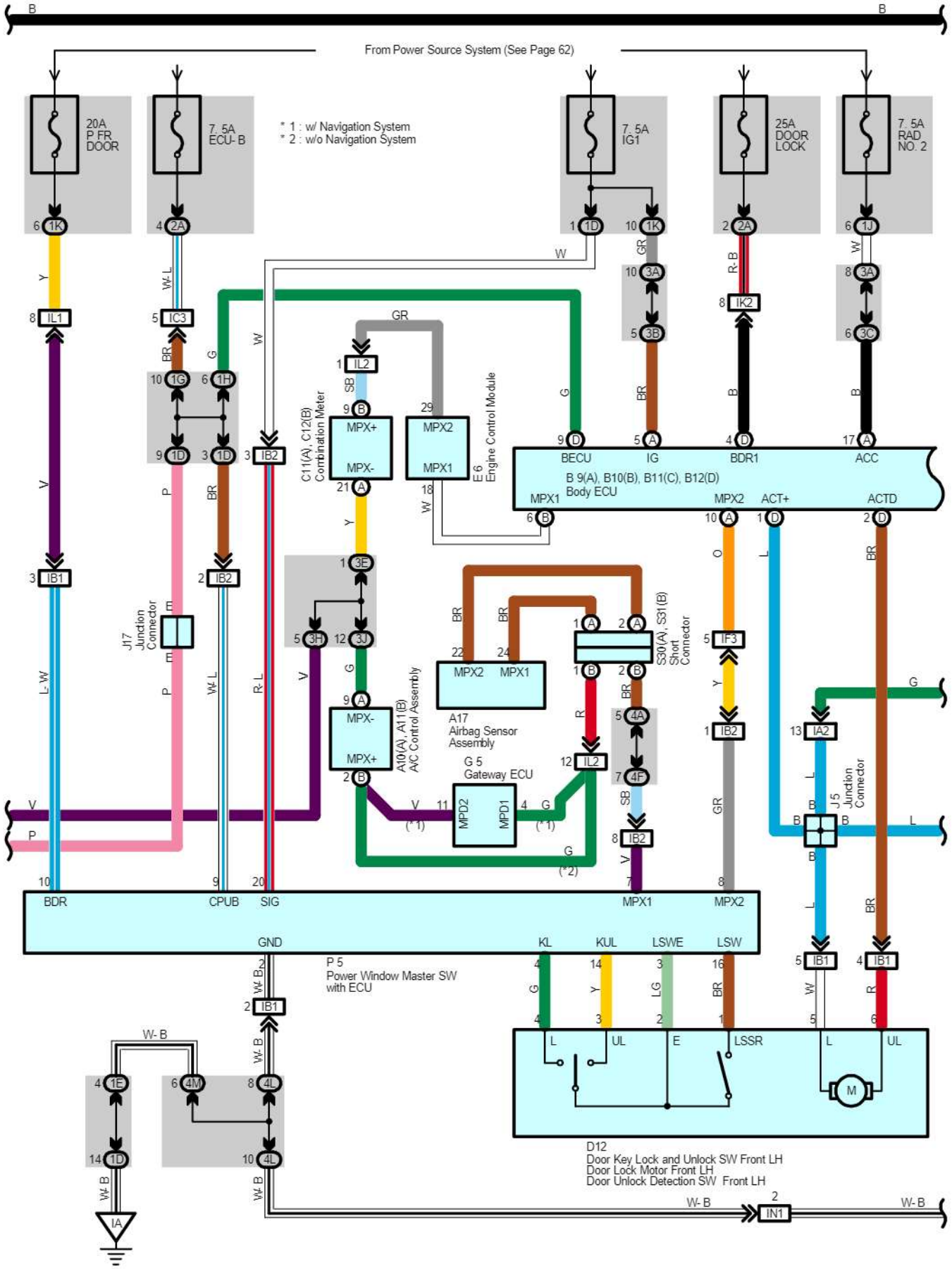
: GROUND POINTS

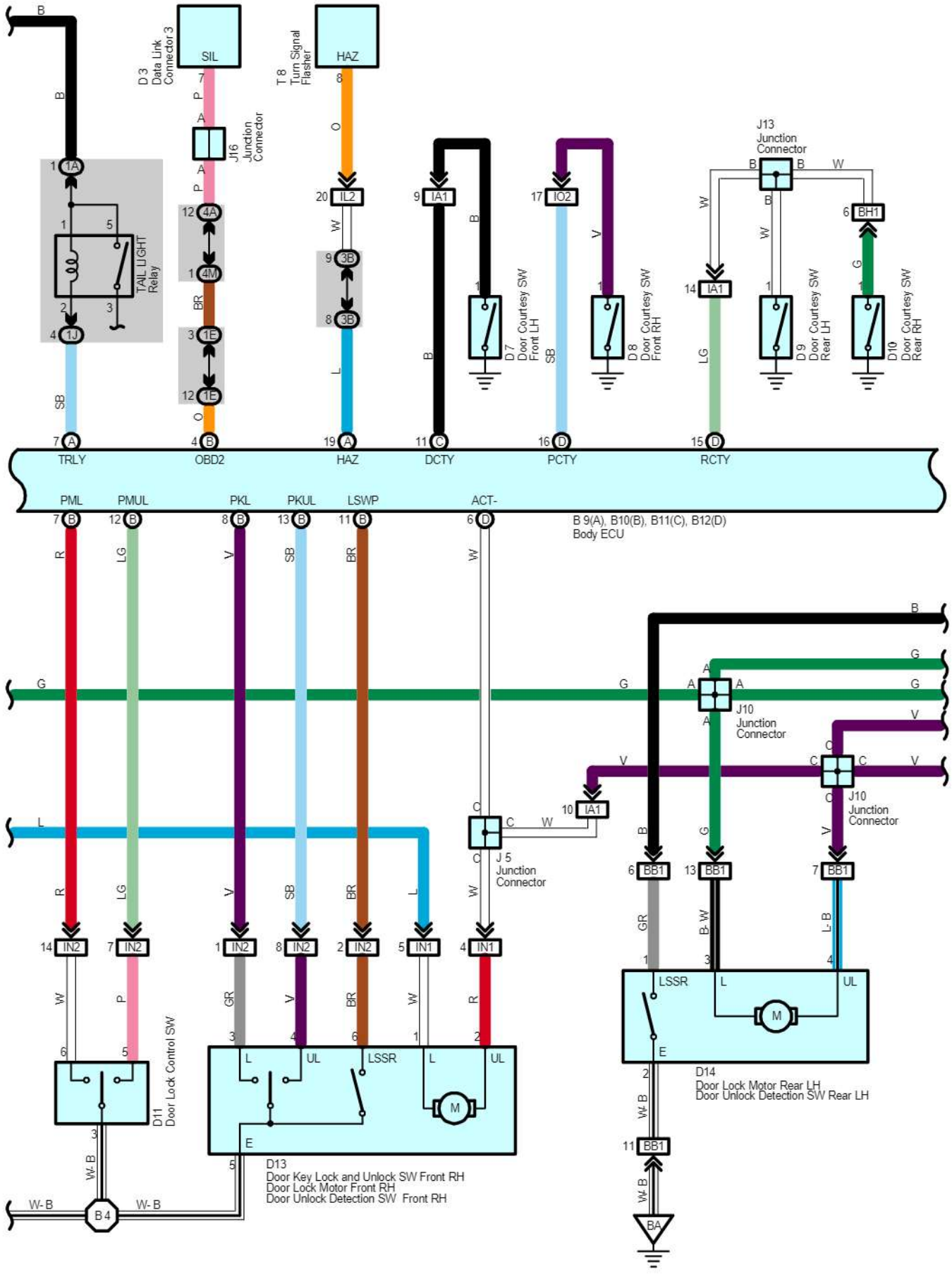
Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel
IC	52	Right Cowl Side Panel
BA	56	Left Center Pillar
BB	56	Right Center Pillar
BC	56	Left Side of Rear Cross Member
BE	56	Left Side of Back Door
BF	56	Near the Rear Side Marker Light RH

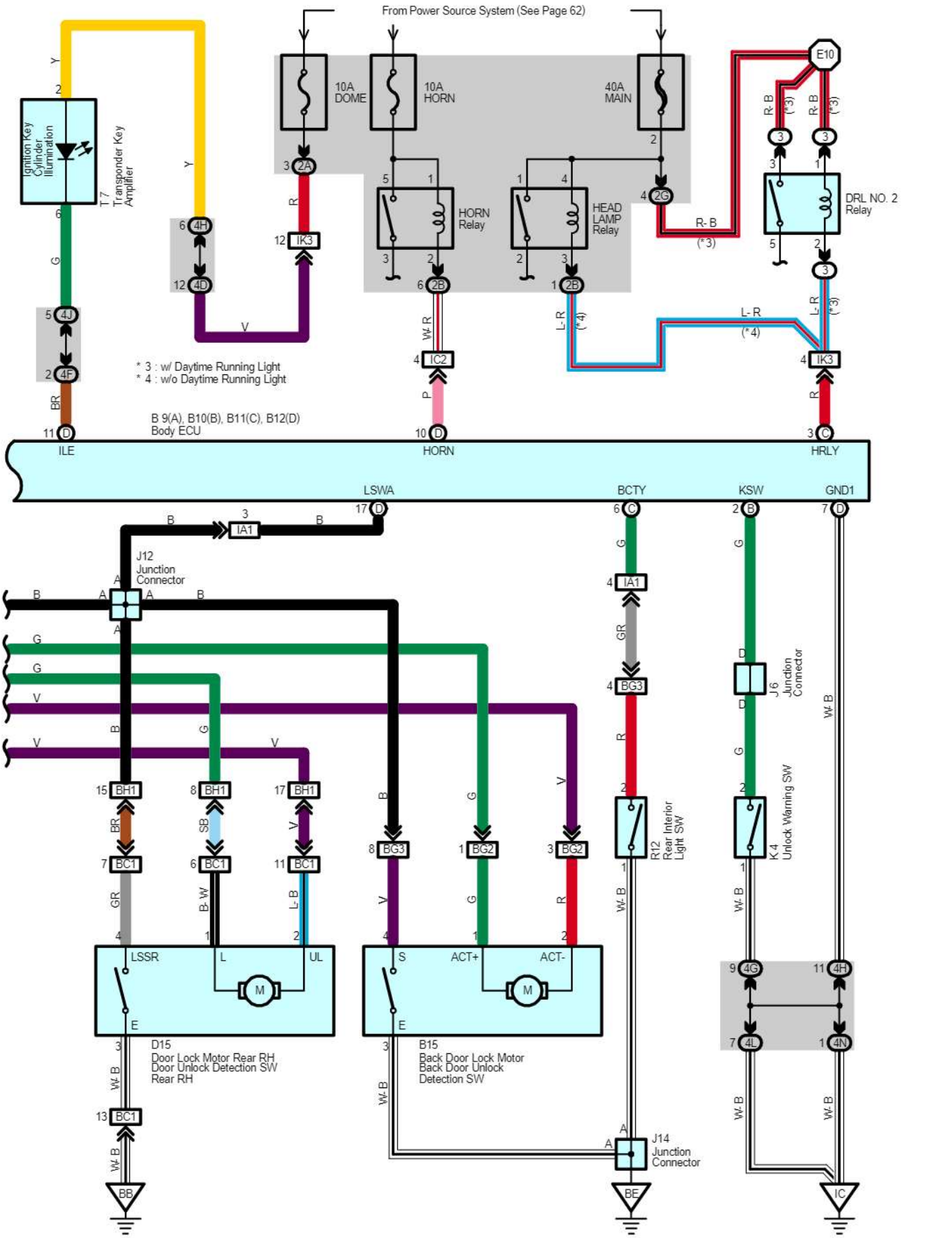
: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B1	56	Roof Wire	B4	56	Front Door RH Wire


From Power Source System (See Page 62)
10A ECU-IG
15A SECURITY
B14 Back Door Key Lock and Unlock SW
E3 Engine Hood Courtesy SW
K4 Unlock Warning SW
J6 Junction Connector
UL
L
IG
+B2
DSWH
KSW
SH-
IND
E
IOUT
+B1
MPX1
T 4 Theft Deterrent ECU
F 7 Fusible Link Block
140A ALT
FL MAIN 3. 0W
Battery
T 1 Theft Deterrent Horn
T 5 Theft Deterrent Indicator Light
O 4 Option Connector 2
IOUT
S+B
GND
J14 Junction Connector
J1 Junction Connector
BE
IB
IC
EG


From Power Source System (See Page 62)
* 1 : w/ Navigation System
* 2 : w/o Navigation System
20A P FR DOOR
7. 5A ECU- B
7. 5A IG1
25A DOOR LOCK
7. 5A RAD NO. 2
C11(A), C12(B) Combination Meter
E 6 Engine Control Module
B 9(A), B10(B), B11(C), B12(D) Body ECU
BECU
IG
BDR1
ACC
MPX1
MPX2
ACT+
ACTD
J17 Junction Connector
A17 Airbag Sensor Assembly
S30(A), S31(B) Short Connector
G 5 Gateway ECU
A10(A), A11(B) A/C Control Assembly
J5 Junction Connector
BDR
CPUB
SIG
GND
P 5 Power Window Master SW with ECU
KL
KUL
LSWE
LSW
D12 Door Key Lock and Unlock SW Front LH Door Lock Motor Front LH Door Unlock Detection SW Front LH
L
UL
E
LSSR
M
IA
IN1


D 3
Data Link
Connector 3
SIL
T 8
Turn Signal
Flasher
HAZ
J16
Junction
Connector
TAIL LIGHT
Relay
J13
Junction
Connector
D 7
Door Courtesy SW
Front LH
D 8
Door Courtesy SW
Front RH
D 9
Door Courtesy SW
Rear LH
D10
Door Courtesy SW
Rear RH
TRLY
OBD2
HAZ
DCTY
PCTY
RCTY
PML
PMUL
PKL
PKUL
LSWP
ACT-
B 9(A), B10(B), B11(C), B12(D)
Body ECU
J10
Junction
Connector
J 5
Junction
Connector
D11
Door Lock Control SW
D13
Door Key Lock and Unlock SW Front RH
Door Lock Motor Front RH
Door Unlock Detection SW Front RH
D14
Door Lock Motor Rear LH
Door Unlock Detection SW Rear LH
LSSR
UL
B 4
BA


From Power Source System (See Page 62)
10A DOME
10A HORN
40A MAIN
HORN Relay
HEAD LAMP Relay
DRL NO. 2 Relay
Ignition Key Cylinder Illumination
T7 Transponder Key Amplifier
* 3 : w/ Daytime Running Light
* 4 : w/o Daytime Running Light
B 9(A), B10(B), B11(C), B12(D) Body ECU
ILE
HORN
HRLY
LSWA
BCTY
KSW
GND1
J12 Junction Connector
R12 Rear Interior Light SW
J6 Junction Connector
K4 Unlock Warning SW
LSSR
L
UL
S
ACT+
ACT-
D15 Door Lock Motor Rear RH Door Unlock Detection SW Rear RH
B15 Back Door Lock Motor Back Door Unlock Detection SW
J14 Junction Connector
BB
BE
IC

Theft Deterrent System

Service Hints

E3 Engine Hood Courtesy SW

1-2 : Closed with the engine hood open

T4 Theft Deterrent ECU

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

K4 Unlock Warning SW

2-1 : Closed with the ignition key in the cylinder

D12 Door Key Lock and Unlock SW,Door Lock Motor and Door Unlock Detection SW Front LH

5-Ground : Approx. 12 volts with the door lock motor at lock operate
6-Ground : Approx. 12 volts with the door lock motor at unlock operate
4-2 : Closed with the door lock cylinder locked with key
3-2 : Closed with the door lock cylinder unlocked with key

D13 Door Key Lock and Unlock SW,Door Lock Motor and Door Unlock Detection SW Front RH

1-Ground : Approx. 12 volts with the door lock motor at lock operate
2-Ground : Approx. 12 volts with the door lock motor at unlock operate
3-5 : Closed with the door lock cylinder locked with key
4-5 : Closed with the door lock cylinder unlocked with key

D14 Door Lock Motor and Door Unlock Detection SW Rear LH

3-Ground : Approx. 12 volts with the door lock motor at lock operate
4-Ground : Approx. 12 volts with the door lock motor at unlock operate

D15 Door Lock Motor and Door Unlock Detection SW Rear RH

1-Ground : Approx. 12 volts with the door lock motor at lock operate
2-Ground : Approx. 12 volts with the door lock motor at unlock operate

B15 Back Door Lock Motor and Back Door Unlock Detection SW

1-Ground : Approx. 12 volts with the door lock motor at lock operate
2-Ground : Approx. 12 volts with the door lock motor at unlock operate

○ : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A10 A	42	D11	44	J13	44
A11 B	42	D12	44	J14	44
A17	42	D13	44	J16	43
B9 A	42	D14	44	J17	43
B10 B	42	D15	44	K4	43
B11 C	42	E3	38 (3MZ-FE)	O4	43
B12 D	42	E6	42	P5	44
B14	44	F7	38 (3MZ-FE)	R12	45
B15	44		40 (2AZ-FE)	S30 A	43
C11 A	42	G5	43	S31 B	43
C12 B	42	J1	39 (3MZ-FE)	T1	39 (3MZ-FE)
D3	42		41 (2AZ-FE)	T4	43
D7	44	J5	43	T5	43
D8	44	J6	43	T7	43
D9	44	J10	44	T8	43
D10	44	J12	44		

▭ : RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
1G		
1H		
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2G		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3D		
3E		
3F		
3H	31	
3J		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4D		
4F		
4G		
4H		
4J	32	
4L		
4M		
4N		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IA2		
IB1	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IB2		
IC2	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC3		
IF1	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IF3		
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IL2		
IN1	54	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IN2		
IO2	54	Cowl Wire and Floor Wire (Right Kick Panel)
BB1	56	Rear Door No.1 LH Wire and Floor No.2 Wire (Left Center Pillar)
BC1	56	Rear Door No.1 RH Wire and Floor Wire (Right Center Pillar)
BG2	56	Back Door No.1 Wire and Floor No.2 Wire (Rear Left of the Roof)
BG3		
BH1	56	Floor No.2 Wire and Floor Wire (Near the Rear Side Marker Light RH)



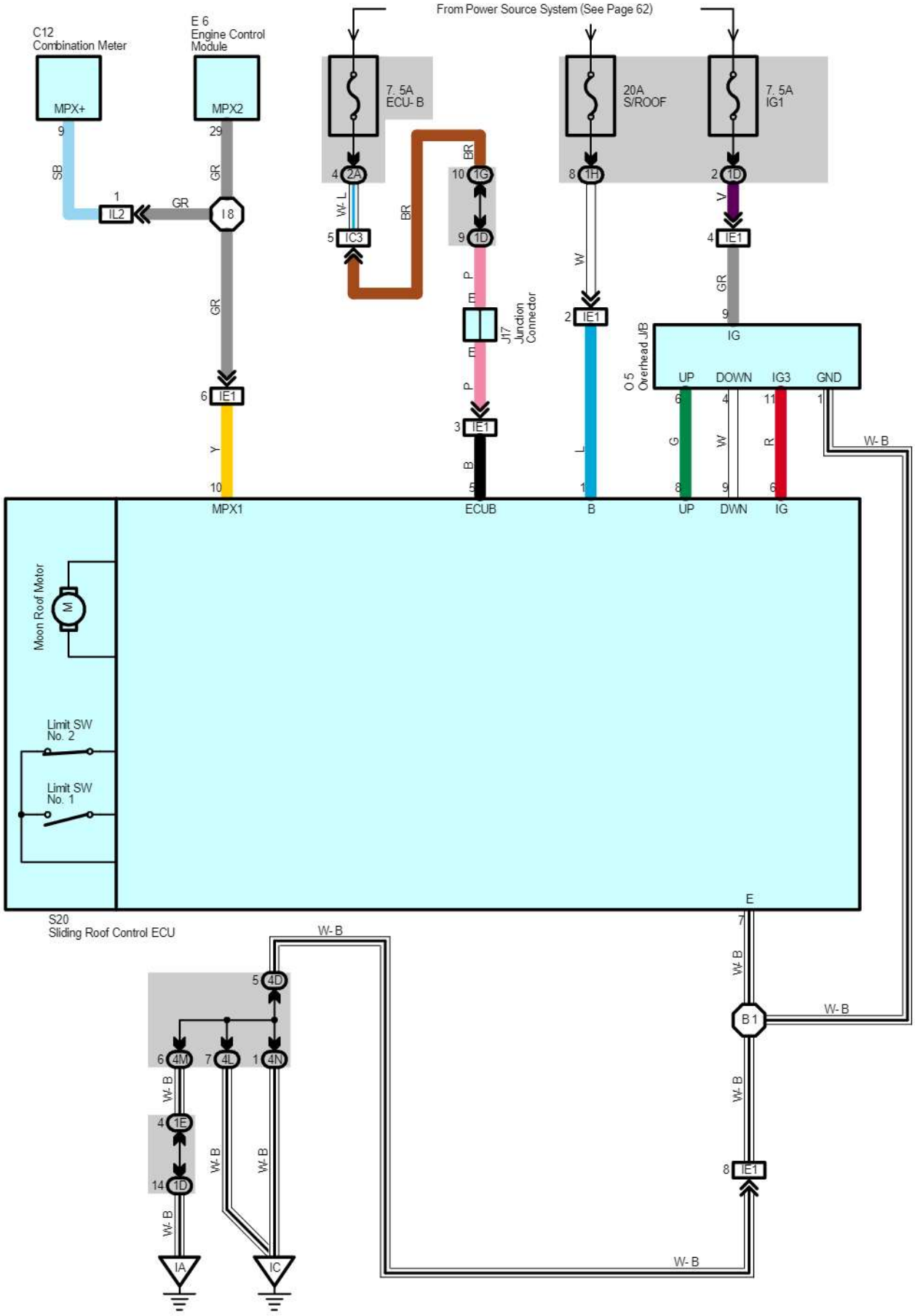
: GROUND POINTS

Code	See Page	Ground Points Location
EG	48 (3MZ-FE) 50 (2AZ-FE)	Under the Left Headlight
IA	52	Left Cowl Side Panel
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel
BA	56	Left Center Pillar
BB	56	Right Center Pillar
BE	56	Left Side of Back Door



: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E10	48 (3MZ-FE) 50 (2AZ-FE)	Engine Room Main Wire	I11	54	Instrument Panel Wire
			B4	56	Front Door RH Wire


From Power Source System (See Page 62)
C12
Combination Meter
MPX+
9
SB
1
IL2
E 6
Engine Control
Module
MPX2
29
GR
I 8
GR
6
IE1
Y
10
MPX1
7. 5A
ECU- B
4
2A
W- L
5
IC3
BR
10
1G
BR
9
1D
P
J17
Junction
Connector
P
3
IE1
B
5
ECUB
20A
S/ROOF
8
1H
W
2
IE1
L
1
B
7. 5A
IG1
2
1D
V
4
IE1
GR
9
O 5
Overhead J/B
IG
UP
DOWN
IG3
GND
6
4
11
1
G
W
R
8
9
6
UP
DWN
IG
W- B
Moon Roof Motor
M
Limit SW
No. 2
Limit SW
No. 1
S20
Sliding Roof Control ECU
E
7
W- B
B1
W- B
W- B
8
IE1
W- B
5
4D
6
4M
7
4L
1
4N
W- B
4
1E
14
1D
W- B
IA
W- B
IC

System Outline

The moon roof can be operated when the ignition SW is turned to ON position.

1. Slide Open Operation

The moon roof fully opens automatically by pressing the SLIDE OPEN button of the overhead J/B once. If the sliding roof control switch is pressed again when the moon roof is operating, the movement of the moon roof stops.
The operation of SLIDE OPEN is not worked when the moon roof at TILT UP position.

2. Slide Close Operation

If you keep pressing the TILT UP button of the overahead J/B when the moon roof is open, the moon roof closes half and stops the operation once. If you keep pressing the TILT UP once again, the moon roof fully closes.

3. Tilt Up Operation

If you press the TILT UP button of the overhead J/B, the moon roof is tilted up. However, the moon roof is not tilted up when it is open

4. Tilt Down Operation

If you press the SLIDE OPEN button when the TILT UP of the overhead J/B is pressed, the moon roof is tilted down.

5. Key Off Moon Roof Operation

When the ignition SW is turned from ON position to OFF or ACC position, the moon roof can be operated within about 40 seconds. However, even if it is within about 40 seconds, the moon roof can not be operated when each of the front doors opens.

Service Hints

S20 Sliding Roof Control ECU

5-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
C12	42	J17	43	S20	45
E6	42	O5	44		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
1G		
1H		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
4D	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4L	32	
4M		
4N		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IE1	52	Roof Wire and Cowl Wire (Near the Bottom of Left Front Pillar)
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)

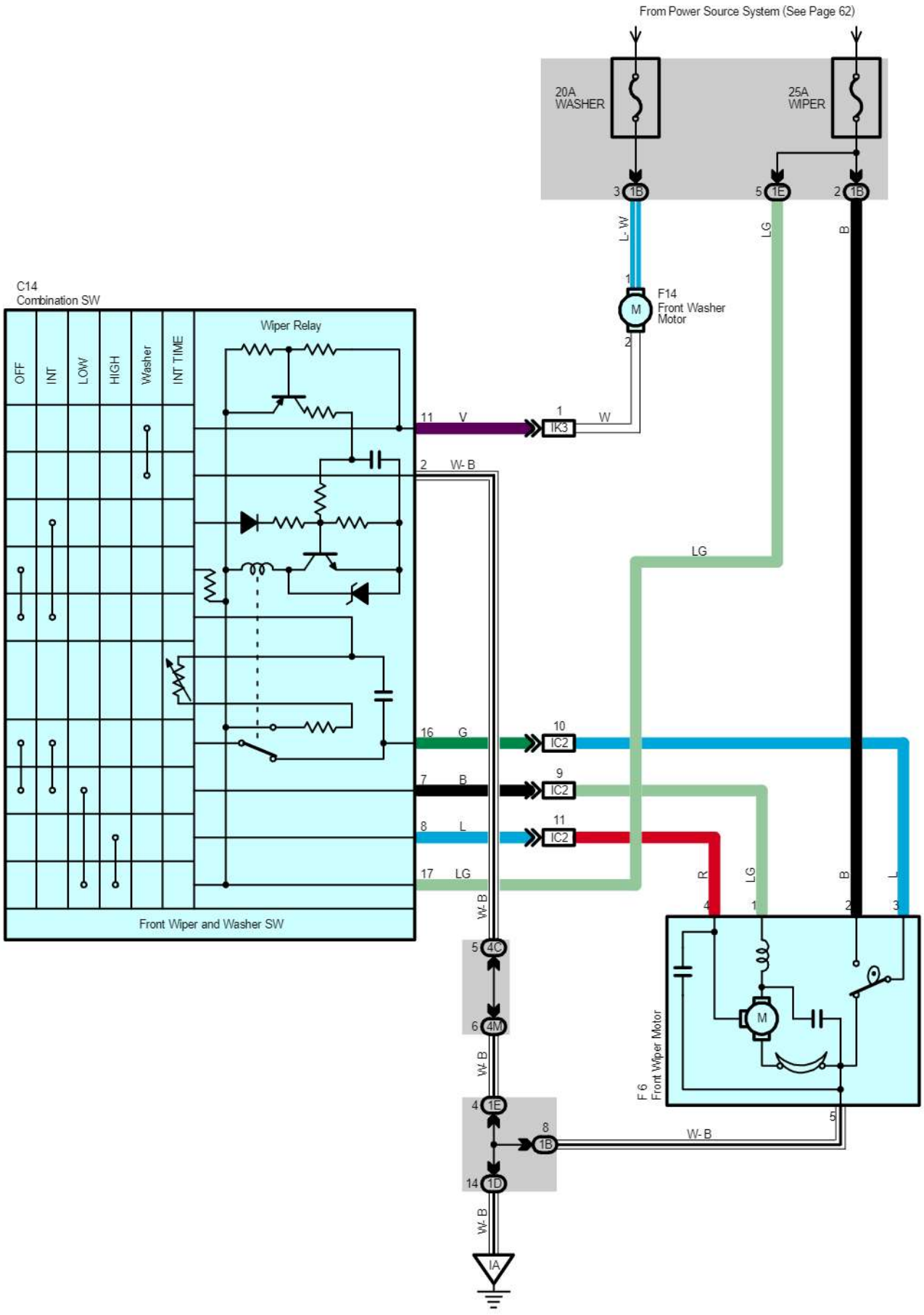
: GROUND POINTS

Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel
IC	52	Right Cowl Side Panel

Moon Roof

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I8	54	Cowl Wire	B1	56	Roof Wire


From Power Source System (See Page 62)
20A WASHER
25A WIPER
3 1B
5 1E
2 1B
L-W
LG
B
1
F14
M
Front Washer Motor
2
C14
Combination SW
Wiper Relay
OFF
INT
LOW
HIGH
Washer
INT TIME
11 V
1 IK3
W
2 W-B
LG
16 G
10 IC2
7 B
9 IC2
8 L
11 IC2
17 LG
R
LG
B
L
4
1
2
3
W-B
5 4C
6 4M
W-B
4 1E
8 1B
14 1D
W-B
1A
Front Wiper and Washer SW
F6
Front Wiper Motor
M
5
W-B

System Outline

With the ignition SW turned on, the current flows to TERMINAL 17 of the front wiper and washer SW, TERMINAL 2 of the front wiper motor through the WIPER fuse, the current flows to TERMINAL 1 of the washer motor through WASHER fuse.

1. Low Speed Position

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

2. High Speed Position

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

3. INT Position

With the wiper SW turned to INT position, the relay operates and the current which is connected by relay function flows through TERMINAL 17 of the front wiper and washer SW to TERMINAL 2 to GROUND. This flow of current operates the intermittent circuit and the current flows through TERMINAL 17 of the front wiper and washer SW to TERMINAL 7 to TERMINAL 1 of the front wiper motor to TERMINAL 5 to GROUND and the wiper functions.
The intermittent operation is controlled by a condenser's charged and discharged function installed in the relay and the intermittent time is controlled by a time control SW to charge the charging time of condenser.

4. Washer Continuous Operation

With the washer SW pulled to on, the current flows through TERMINAL 1 of the washer motor to TERMINAL 2 to TERMINAL 11 of the front wiper and washer SW to TERMINAL 2 to GROUND and causes the washer motor to run and the window washer to jet. This causes the current to flow to washer continuous operation circuit in TERMINAL 17 of the front wiper and washer SW to TERMINAL 7 to TERMINAL 1 of the front wiper motor to TERMINAL 5 to GROUND and the wiper functions.

Service Hints

C14 Combination SW

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

F6 Front Wiper Motor

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

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C14	42	F6	40 (2AZ-FE)	F14	40 (2AZ-FE)
F6	38 (3MZ-FE)	F14	38 (3MZ-FE)		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

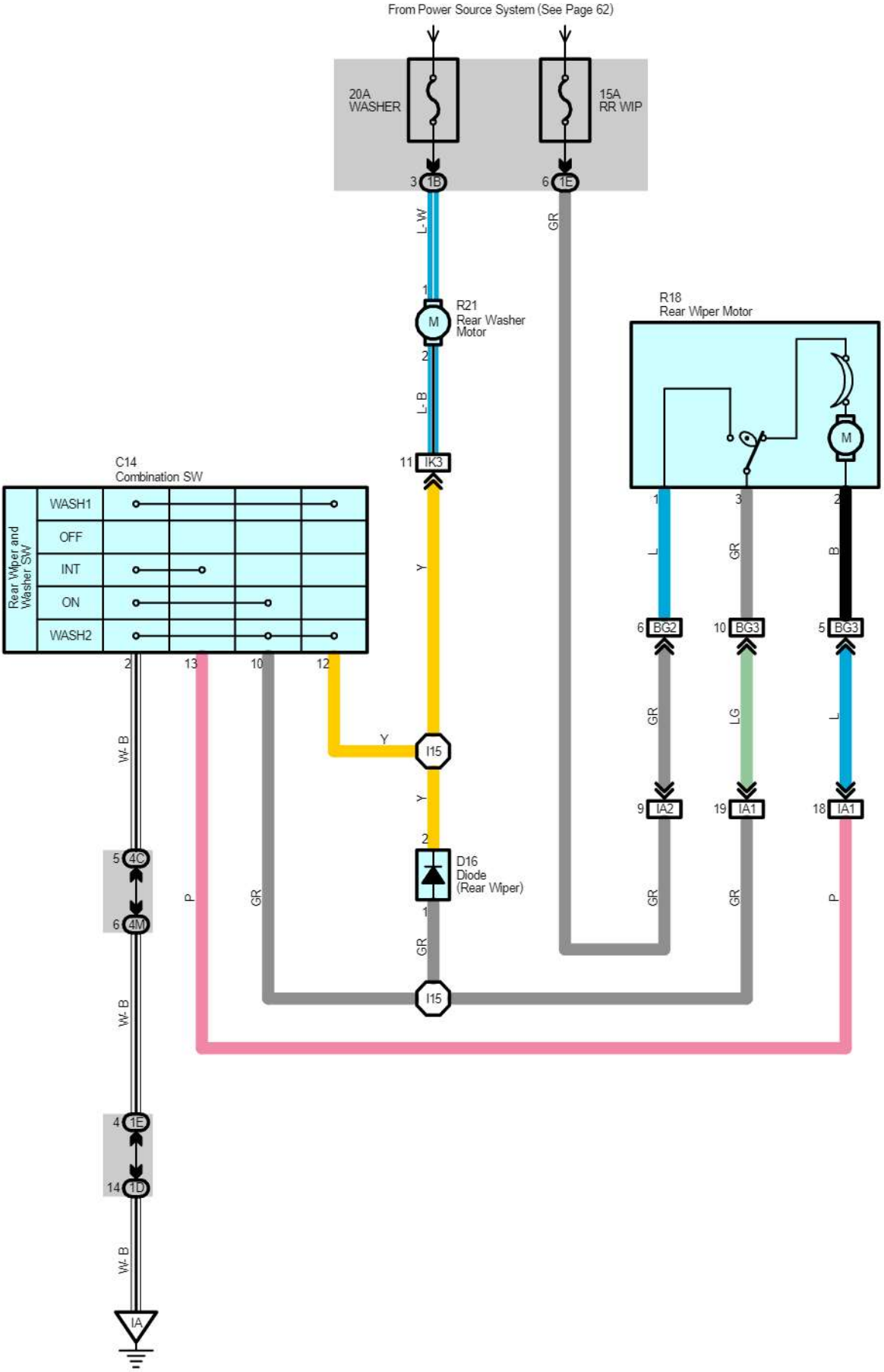
Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
4C	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4M	32	

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC2	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IK3	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)

▽ : GROUND POINTS

Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel


From Power Source System (See Page 62)
20A
WASHER
15A
RR WIP
3 1B
6 1E
L-W
GR
1
R21
Rear Washer
Motor
M
2
L-B
11 IK3
R18
Rear Wiper Motor
M
C14
Combination SW
Rear Wiper and Washer SW
WASH1
OFF
INT
ON
WASH2
2
13
10
12
Y
I15
Y
2
D16
Diode
(Rear Wiper)
1
GR
I15
W-B
5 4C
6 4M
W-B
4 1E
14 1D
W-B
IA
1
3
2
L
GR
B
6 BG2
10 BG3
5 BG3
GR
LG
L
9 IA2
19 IA1
18 IA1
P
GR
GR
GR
P

Service Hints

R21 Rear Washer Motor

1-Ground : Approx. 12 volts with the ignition SW at ON position
2-Ground : Continuity with the rear wiper and washer SW at WASH 1 or WASH 2 position

R18 Rear Wiper Motor

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

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C14	42	R18	45	R21	41 (2AZ-FE)
D16	42	R21	39 (3MZ-FE)		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
4C	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4M	32	

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

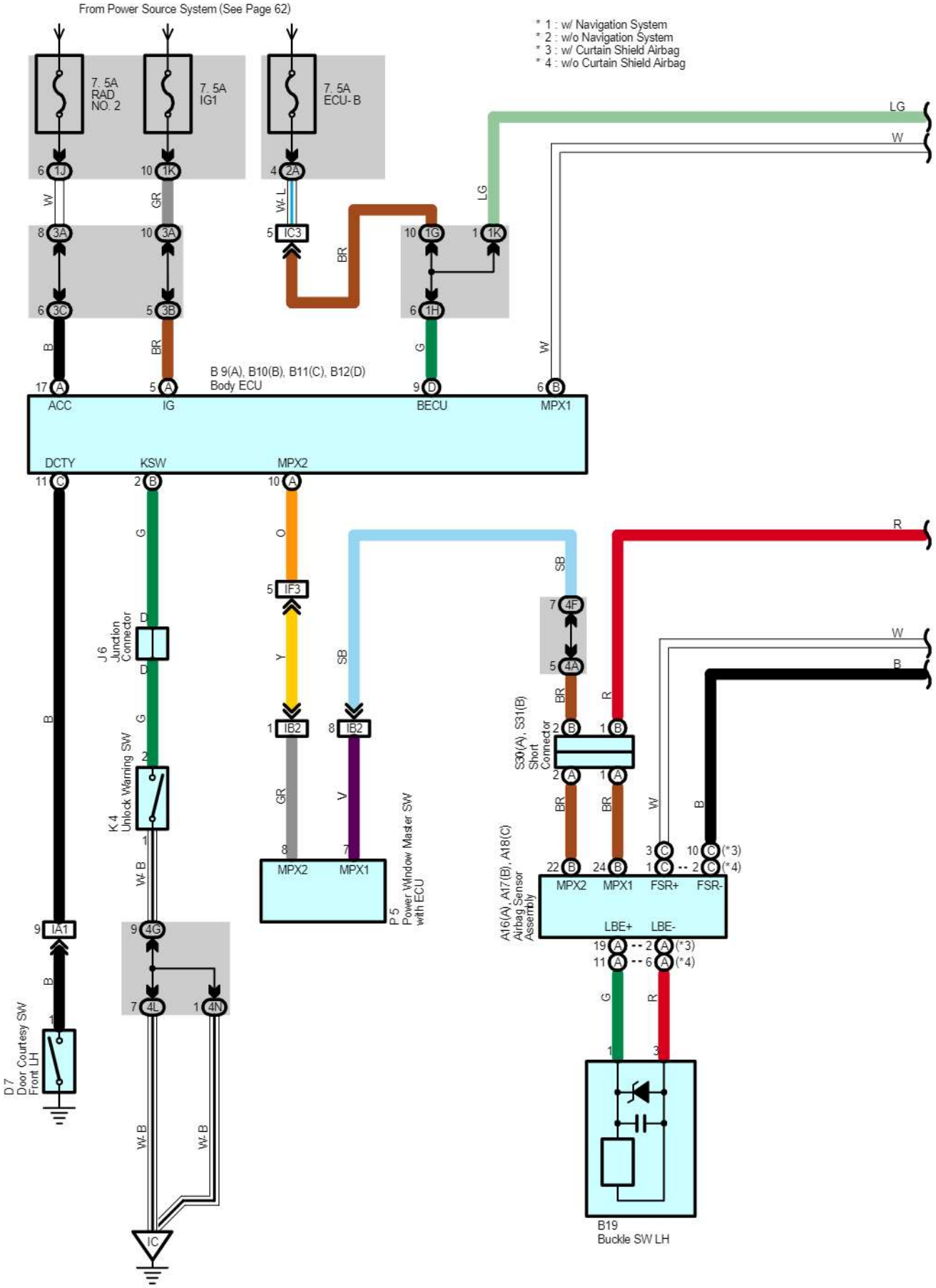
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IA2		
IK3	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
BG2	56	Back Door No.1 Wire and Floor No.2 Wire (Rear Left of the Roof)
BG3		

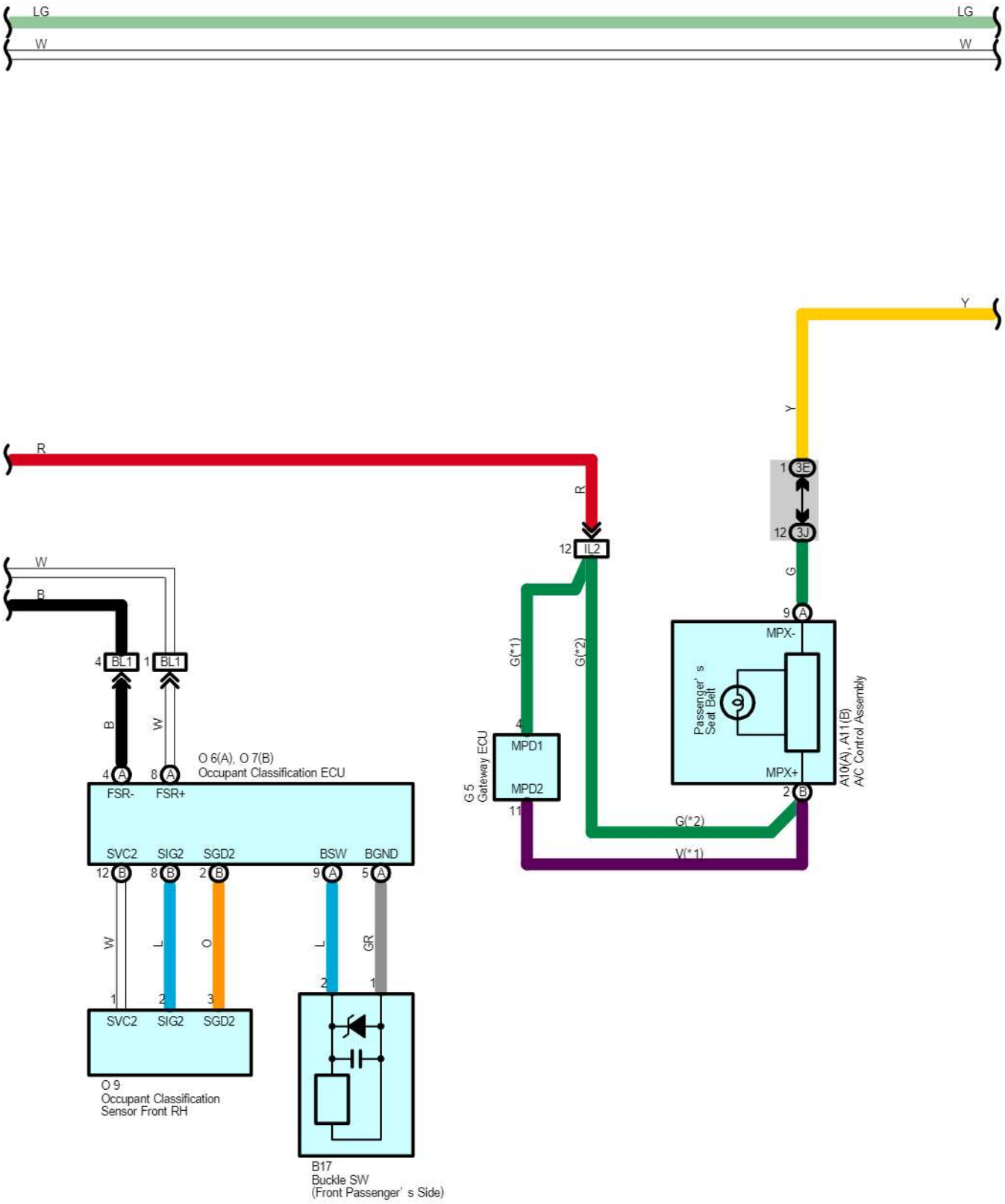
: GROUND POINTS

Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel

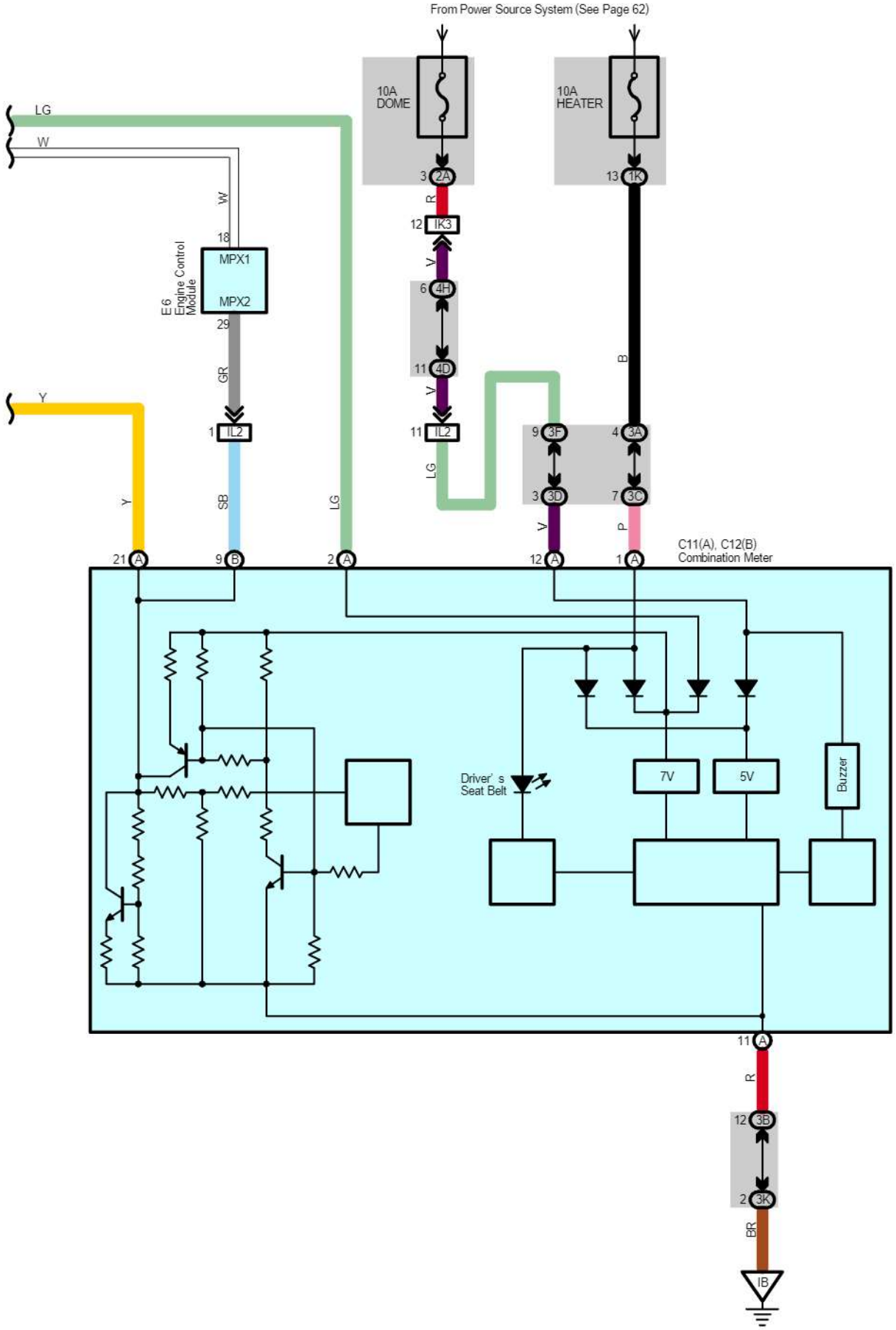
: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I15	54	Cowl Wire			


From Power Source System (See Page 62)
* 1 : w/ Navigation System
* 2 : w/o Navigation System
* 3 : w/ Curtain Shield Airbag
* 4 : w/o Curtain Shield Airbag
7.5A RAD NO. 2
7.5A IG1
7.5A ECU-B
6 1J
10 1K
4 2A
W
GR
W-L
LG
8 3A
10 3A
5 IC3
BR
10 1G
1 1K
6 3C
5 3B
6 1H
B
BR
G
W
B 9(A), B10(B), B11(C), B12(D)
Body ECU
17 A
5 A
9 D
6 B
ACC
IG
BECU
MPX1
LG
W
DCTY
KSW
MPX2
11 C
2 B
10 A
O
5 IF3
Y
1 IB2
GR
8 IB2
V
7 4F
5 4A
SB
R
W
B
BR
S30(A), S31(B) Short Connector
2 B
1 B
2 A
1 A
BR
BR
W
B
22 B
24 B
3 C
10 C (*3)
1 C
2 C (*4)
MPX2
MPX1
FSR+
FSR-
LBE+
LBE-
A16(A), A17(B), A18(C) Airbag Sensor Assembly
19 A
2 A (*3)
11 A
6 A (*4)
G
R
1
3
B19
Buckle SW LH
J6 Junction Connector
D
D
G
2
K4 Unlock Warning SW
1
W-B
9 IA1
9 4G
7 4L
1 4N
B
1
D7 Door Courtesy SW Front LH
W-B
W-B
IC
P5 Power Window Master SW with ECU
MPX2
MPX1


LG
LG
W
W
Y
Y
R
R
12 IL2
1 3E
12 3J
G
9 A
MPX-
MPX+
2 B
Passenger' s Seat Belt
A10(A), A11(B)
A/C Control Assembly
G(*1)
G(*2)
4
MPD1
MPD2
11
G 5
Gateway ECU
G(*2)
V(*1)
W
B
4 BL1
1 BL1
B
W
4 A
8 A
O 6(A), O 7(B)
Occupant Classification ECU
FSR-
FSR+
SVC2
SIG2
SGD2
BSW
BGND
12 B
8 B
2 B
9 A
5 A
W
L
O
L
GR
1
2
3
2
1
SVC2
SIG2
SGD2
O 9
Occupant Classification
Sensor Front RH
B17
Buckle SW
(Front Passenger' s Side)

Key Reminder and Seat Belt Warning



System Outline

1. Seat Belt Warning System

When the ignition SW is turned to the ON position, the signal is input to the body ECU. At this time, to judge whether or not the driver fastens the seat belt, the signal from the buckle SW LH is input to TERMINAL (A) 10 of the body ECU via multiplex commnunication system (Bean bus). If the driver does not fasten the seat belt, the seat belt warning light in the combination meter flashes and the alarm buzzer goes on, in response to the communication control of the body ECU etc.
Additionally, the sensor (Inside of buckle SW (Front passenger's side)) installed on the front passenger seat detects the passenger and determines whether or not the passenger fastens the seat belt.
If the passenger does not fasten the seat belt, the front passenger seat belt warning light is flashed.

2. Key Reminder System

If the driver door is opened with the ignition SW set at the ACC or OFF position and the ignition key remained inserted into the key cylinder (The unlock warning SW is on), the signal from the unlock warning SW is input to TERMINAL (B) 2 of the body ECU and the signal from the door courtesy SW LH is input to TERMINAL (C) 11 of body ECU. As a result, through communication control of the body ECU etc. the buzzer in the combination meter goes on to warn the driver that the ignition key is still inserted.

Service Hints

B19 Buckle SW LH

1-4 : Closed with the driver's seat belt in use

D7 Door Courtesy SW Front LH

1-Ground : Closed with the LH door open

K4 Unlock Warning SW

2-1 : Closed with the ignition key in the cylinder

B17 Buckle SW (Front Passenger's Side)

1-4 : Closed with the front passenger's seat belt in use

○ : PARTS LOCATION

Code		See Page
A10	A	42
A11	B	42
A16	A	42
A17	B	42
A18	C	42
B9	A	42
B10	B	42
B11	C	42
B12	D	42
B17		46 (w/ Power Seat)

Code		See Page
B17		47 (w/o Power Seat)
B19		46 (w/ Power Seat)
		47 (w/o Power Seat)
C11	A	42
C12	B	42
D7		44
E6		42
G5		43
J6		43
K4		43

Code		See Page
O6	A	46 (w/ Power Seat)
		47 (w/o Power Seat)
O7	B	46 (w/ Power Seat)
		47 (w/o Power Seat)
O9		46 (w/ Power Seat)
		47 (w/o Power Seat)
P5		44
S30	A	43
S31	B	43

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

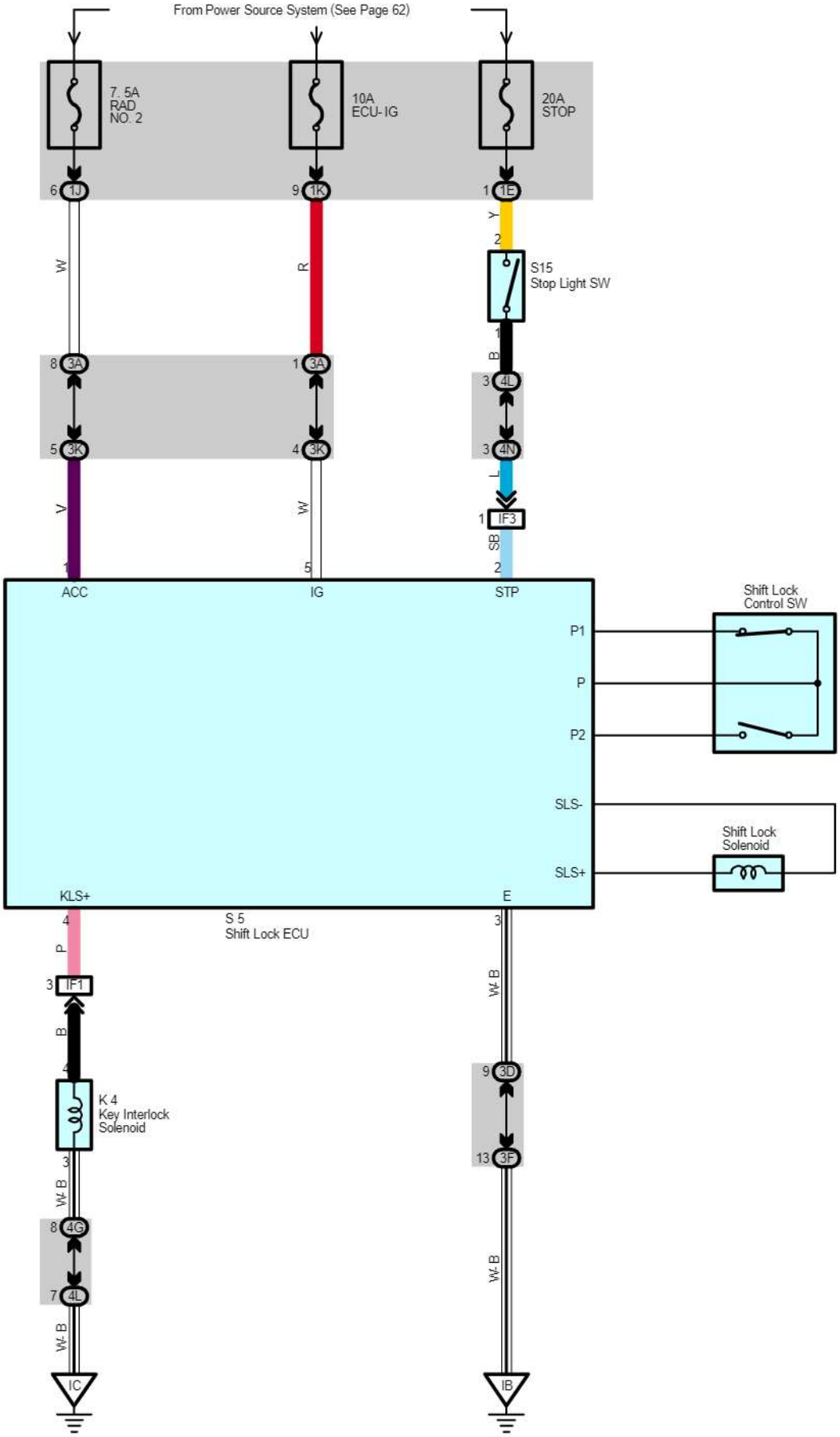
Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1H		
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3D		
3E		
3F		
3J	31	
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4D		
4F		
4G		
4H		
4L	32	
4N		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK3	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
BL1	58	Floor Wire and Front Seat RH Wire (Under the Front Passenger's Seat)

: GROUND POINTS

Code	See Page	Ground Points Location
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel


From Power Source System (See Page 62)
7. 5A
RAD
NO. 2
10A
ECU-IG
20A
STOP
6 1J
9 1K
1 1E
W
R
Y
2
S15
Stop Light SW
1
B
8 3A
1 3A
3 4L
5 3K
4 3K
3 4N
V
W
L
1 IF3
SB
2
1
5
ACC
IG
STP
Shift Lock
Control SW
P1
P
P2
SLS-
Shift Lock
Solenoid
SLS+
KLS+
E
S 5
Shift Lock ECU
4
P
3 IF1
B
4
K 4
Key Interlock
Solenoid
3
W-B
8 4G
7 4L
W-B
IC
3
W-B
9 3D
13 3F
W-B
IB

System Outline

When the ignition SW is turned to ACC position, the current from the RAD NO.2 fuse flows to TERMINAL 1 of the shift lock ECU. When the ignition SW is turned to ON position, the current from the ECU-IG fuse flows to TERMINAL 5 of the ECU.

1. Shift Lock Mechanism

With the ignition SW on, when a signal that the brake pedal is depressed (Stop light SW on) and a signal that the shift lever is put in P position (Continuity between P1 and P of the shift lock control SW) is input to the ECU, the ECU activates and the current flows from TERMINAL 5 of the ECU to TERMINAL SLS+ of the shift lock solenoid to solenoid to TERMINAL SLS- to TERMINAL 3 of the ECU to GROUND. This causes the shift lock solenoid to turn on (Lock plate disengages) and the shift lever can be shifted into other position than the P position

2. Key Inter Lock Mechanism

With the ignition SW ON or ACC position, when the shift lever is put in P position (No continuity between P2 and P of shift lock control SW), the current flowing from TERMINAL 4 of the ECU to the key interlock solenoid is cut off. This causes the key interlock solenoid to turn off (Lock plate disengages from LOCK position) and the ignition key can be turned from ACC to LOCK position.

Service Hints

S5 Shift Lock ECU

1-Ground : Approx. 12 volts with the ignition SW at ACC or ON position
5-Ground : Approx. 12 volts with the ignition SW at ON position
3-Ground : Always continuity
2-Ground : Approx. 12 volts with the stop light SW on (Brake pedal depressed)

S15 Stop Light SW

2-1 : Closed with the brake pedal depressed

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
K4	43	S5	43	S15	43

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3D		
3F		
3K	31	
4G	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4L	32	
4N		

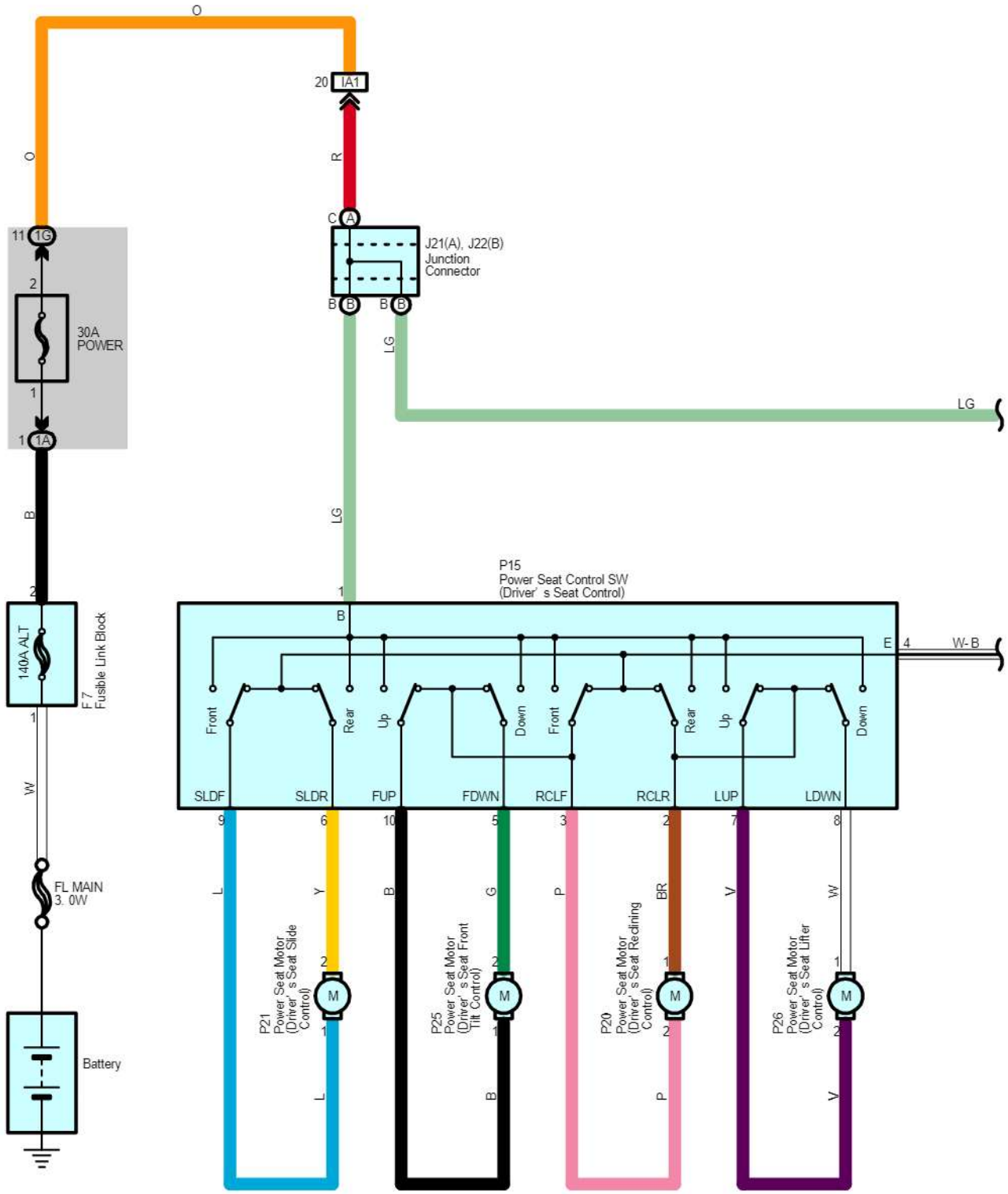
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

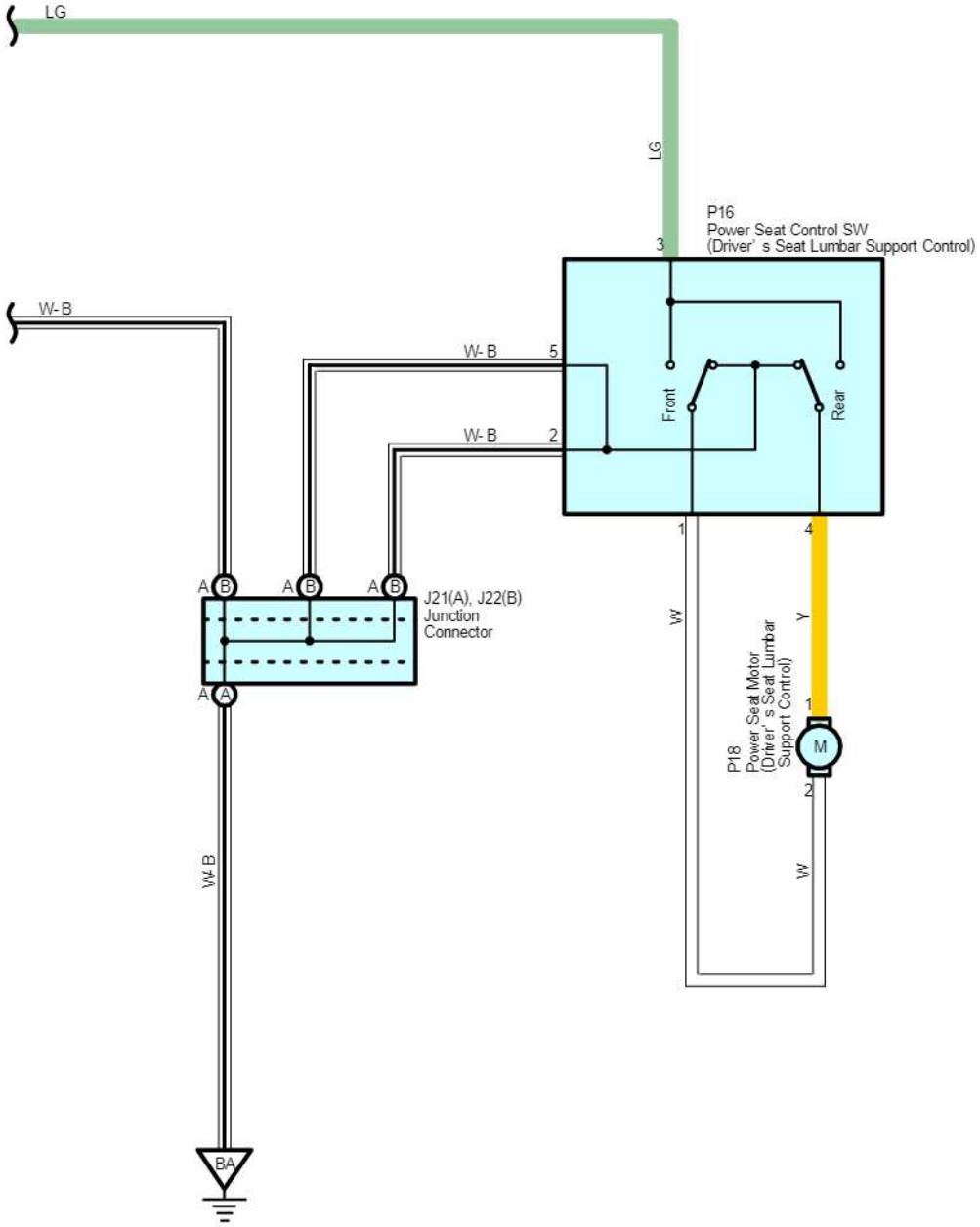
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IF1	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IF3		

: GROUND POINTS

Code	See Page	Ground Points Location
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel

Power Seat for Driver's Seat




LG
LG
P16
Power Seat Control SW
(Driver's Seat Lumbar Support Control)
3
W-B
W-B
5
W-B
2
Front
Rear
1
4
A
B
A
B
A
B
J21(A), J22(B)
Junction
Connector
A
A
W
Y
P18
Power Seat Motor
(Driver's Seat Lumbar
Support Control)
M
1
2
W-B
W
BA

Power Seat for Driver's Seat

Service Hints

P15 Power Seat Control SW (Driver's Seat Control)

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

P16 Power Seat Control SW (Driver's Seat Lumbar Support Control)

3-Ground : Always approx. 12 volts
2-Ground : Always continuity
5-Ground : Always continuity

○ : PARTS LOCATION

Code		See Page	Code	See Page	Code	See Page
F7		38 (3MZ-FE)	P15	46 (w/ Power Seat)	P21	46 (w/ Power Seat)
		40 (2AZ-FE)	P16	46 (w/ Power Seat)	P25	46 (w/ Power Seat)
J21	A	46 (w/ Power Seat)	P18	46 (w/ Power Seat)	P26	46 (w/ Power Seat)
J22	B	46 (w/ Power Seat)	P20	46 (w/ Power Seat)		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)

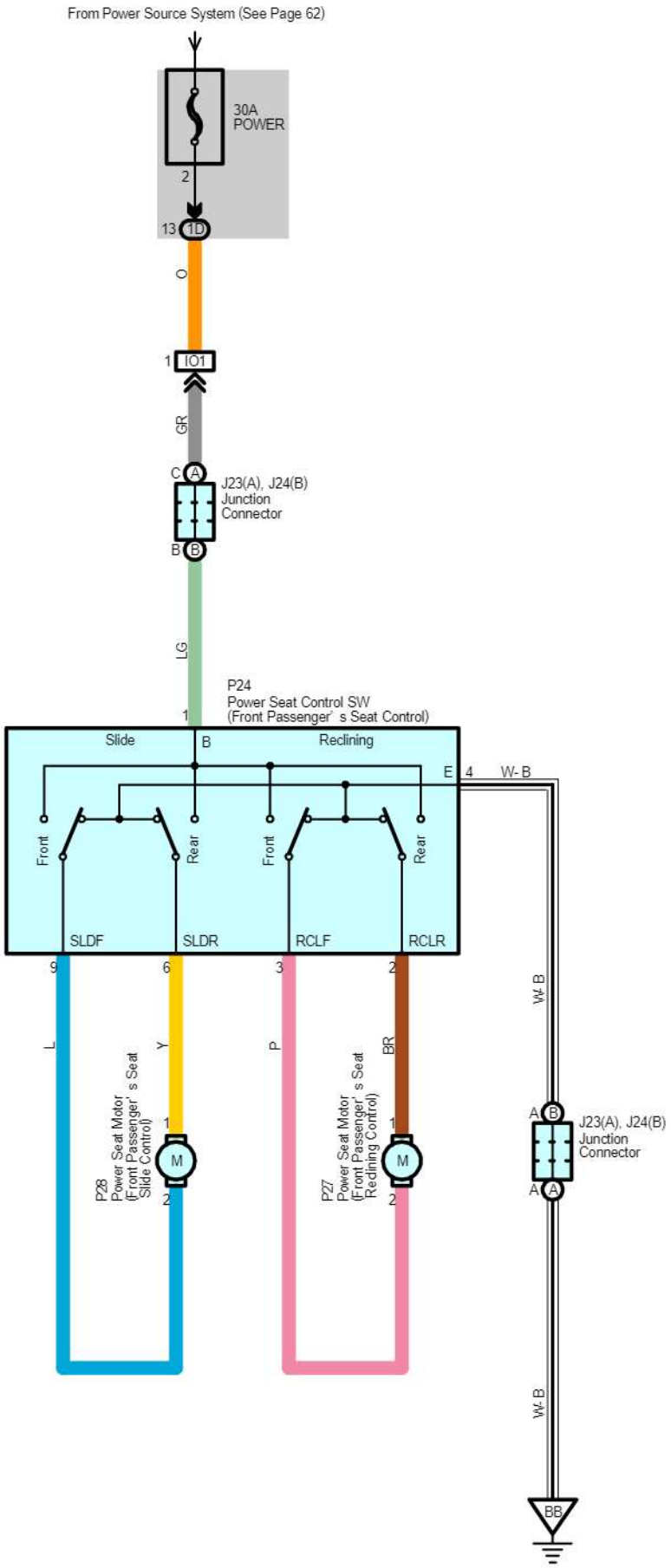
▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)

▽ : GROUND POINTS

Code	See Page	Ground Points Location
BA	56	Left Center Pillar

Power Seat for Front Passenger's Seat



Service Hints

P24 Power Seat Control SW (Front Passenger's Seat Control)

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

: PARTS LOCATION

Code		See Page	Code	See Page	Code	See Page
J23	A	46 (w/ Power Seat)	P24	46 (w/ Power Seat)	P28	46 (w/ Power Seat)
J24	B	46 (w/ Power Seat)	P27	46 (w/ Power Seat)		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

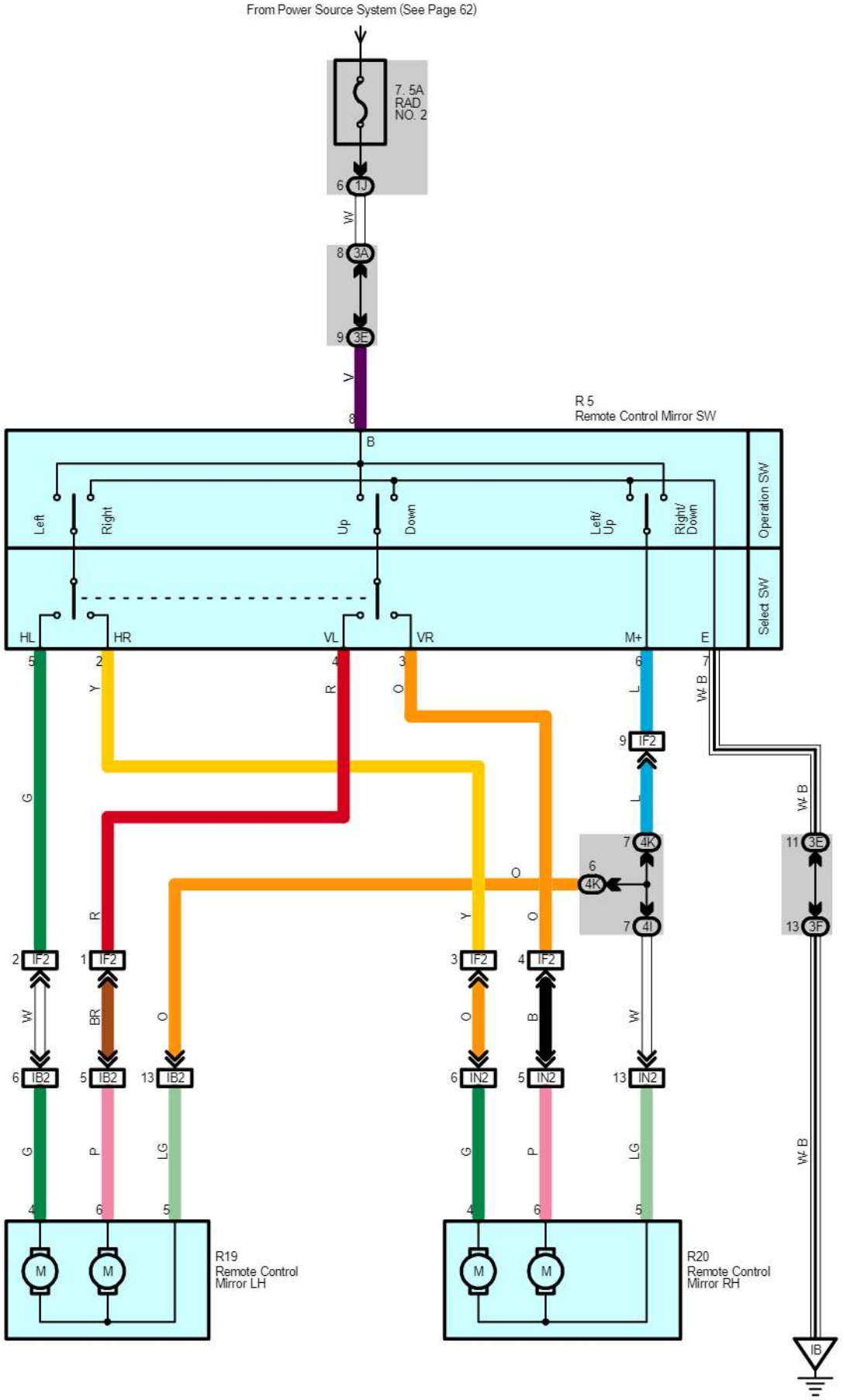
Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IO1	54	Cowl Wire and Floor Wire (Right Kick Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
BB	56	Right Center Pillar


From Power Source System (See Page 62)
7. 5A
RAD
NO. 2
6 1J
W
8 3A
9 3E
V
8
R 5
Remote Control Mirror SW
B
Left
Right
Up
Down
Left/
Up
Right/
Down
Operation SW
Select SW
HL
HR
VL
VR
M+
E
5
2
4
3
6
7
G
Y
R
O
L
W-B
9 IF2
7 4K
6 4K
7 4I
11 3E
13 3F
2 IF2
1 IF2
3 IF2
4 IF2
W
BR
O
Y
O
B
W
6 IB2
5 IB2
13 IB2
6 IN2
5 IN2
13 IN2
G
P
LG
G
P
LG
4
6
5
4
6
5
M
M
R19
Remote Control
Mirror LH
M
M
R20
Remote Control
Mirror RH
IB

Service Hints

R5 Remote Control Mirror SW

8-6 : Continuity with the operation SW at DOWN or RIGHT position
7-6 : Continuity with the operation SW at UP or LEFT position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
R5	43	R19	45	R20	45

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3E		
3F		
4I	32	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4K		

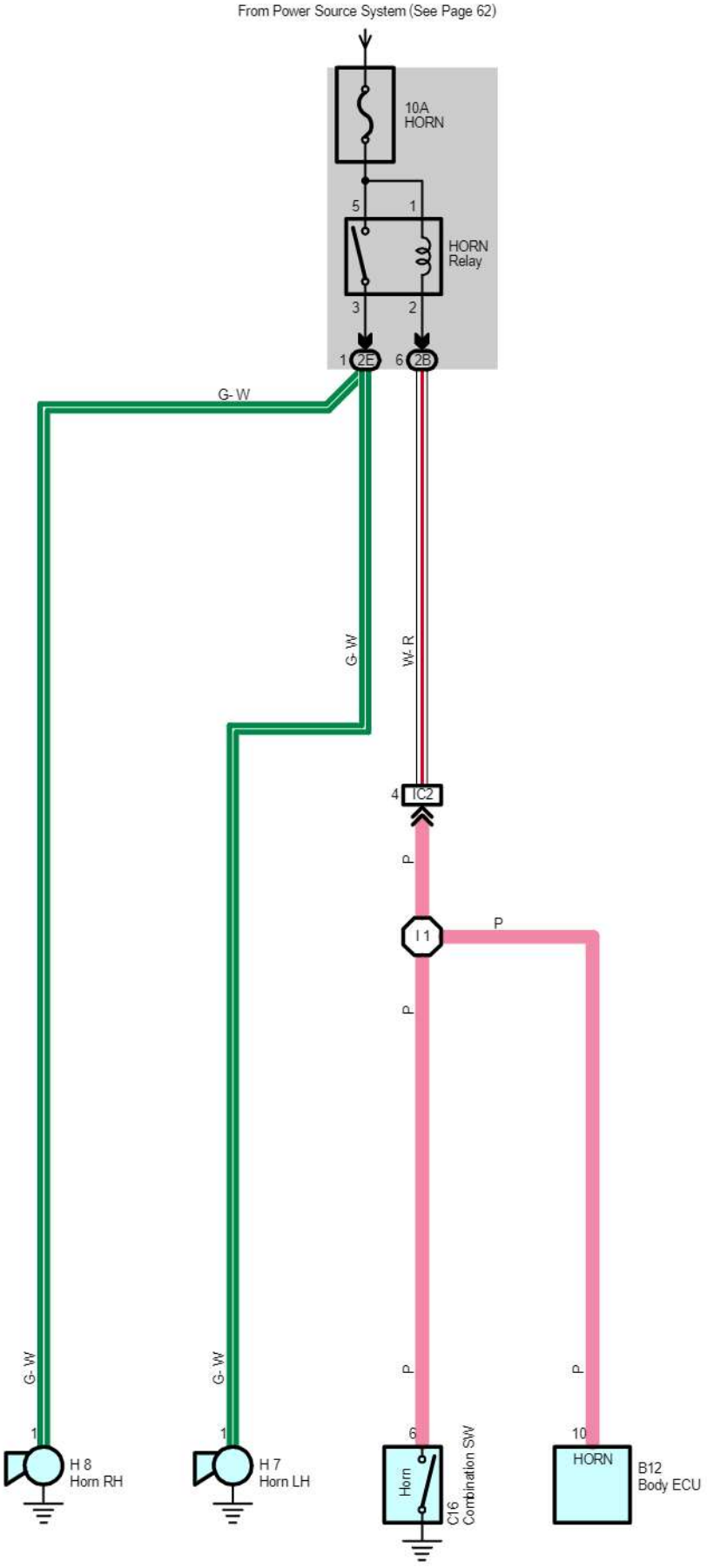
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF2	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IN2	54	Front Door RH Wire and Cowl Wire (Right Kick Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
IB	52	Right Instrument Panel Brace

Horn


From Power Source System (See Page 62)
10A
HORN
5
1
HORN
Relay
3
2
1
2E
6
2B
G-W
G-W
W-R
4
IC2
P
I1
P
P
P
G-W
G-W
1
1
H 8
Horn RH
H 7
Horn LH
6
10
Horn
C16
Combination SW
HORN
B12
Body ECU

Service Hints

HORN Relay

5-3 : Closed with the horn SW on

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
B12	42	H7	38 (3MZ-FE)	H8	38 (3MZ-FE)
C16	42		40 (2AZ-FE)		40 (2AZ-FE)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
2B	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2E		

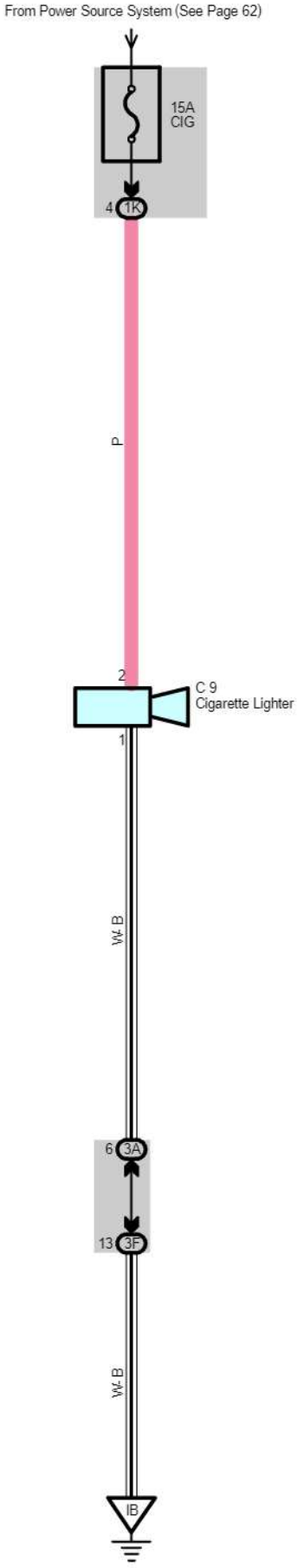
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC2	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I1	54	Cowl Wire			

Cigarette Lighter



Service Hints

C9 Cigarette Lighter

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

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C9	42				

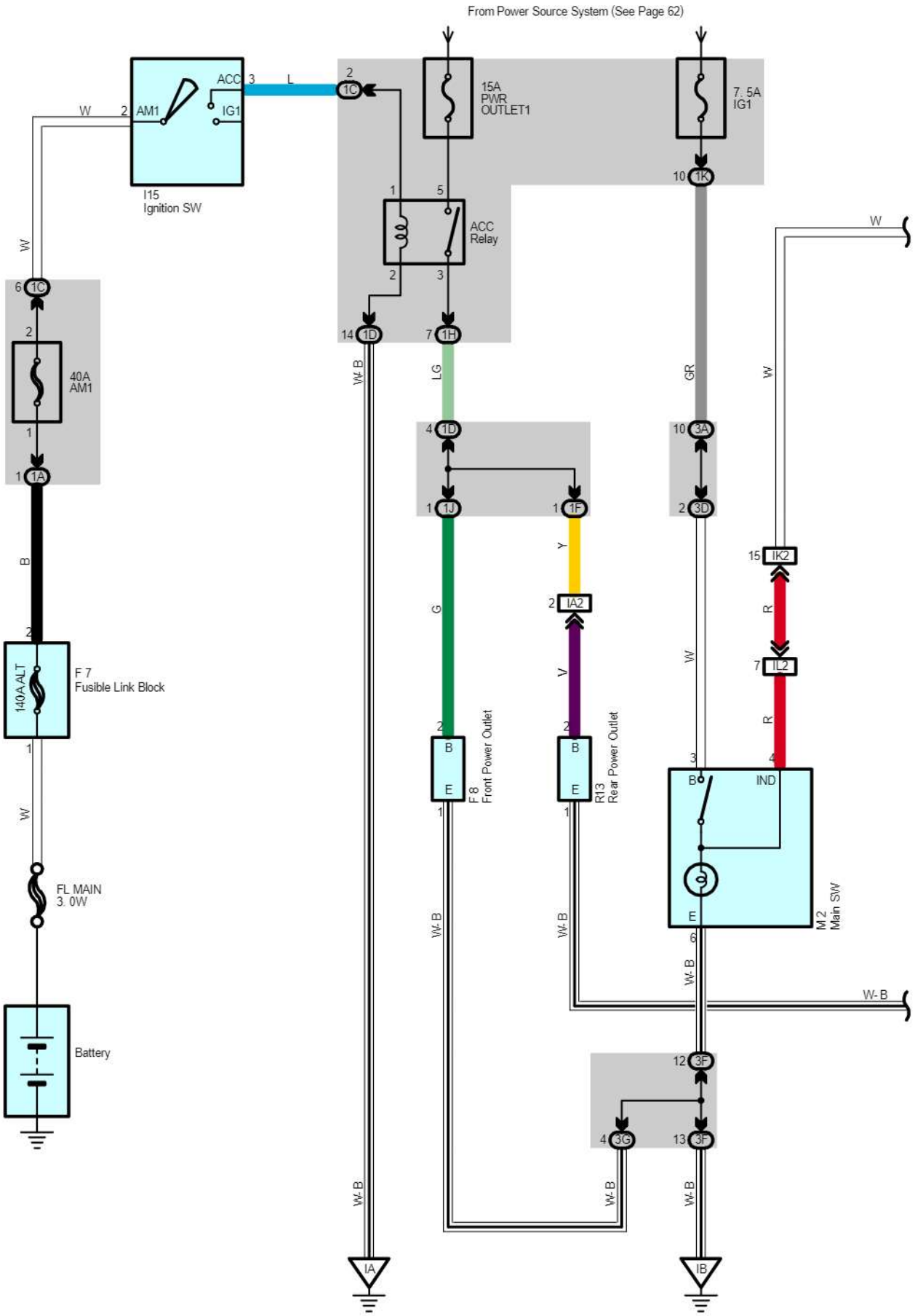
: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

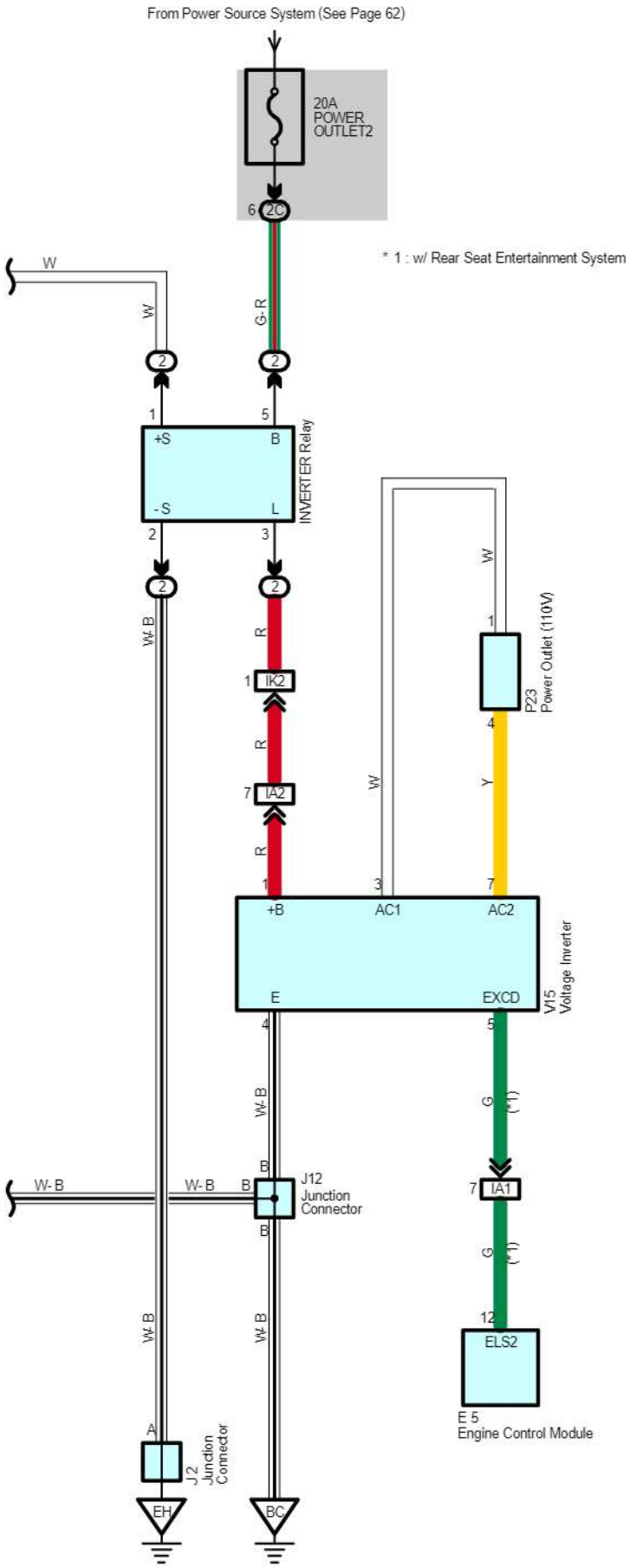
Code	See Page	Junction Block and Wire Harness (Connector Location)
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
3A 3F	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)

: GROUND POINTS

Code	See Page	Ground Points Location
IB	52	Right Instrument Panel Brace

Power Outlet




From Power Source System (See Page 62)
20A POWER OUTLET2
6 2C
* 1 : w/ Rear Seat Entertainment System
W
W
G-R
2
2
1
5
+S
B
- S
L
INVERTER Relay
2
3
2
2
W-B
R
1 IK2
R
7 IA2
R
1
3
7
+B
AC1
AC2
E
EXCD
V15 Voltage Inverter
W
1
P23 Power Outlet (110V)
4
Y
W
4
5
W-B
G (*1)
B
7 IA1
W-B
B
J12 Junction Connector
B
G (*1)
W-B
W-B
12 ELS2
E 5 Engine Control Module
A
J2 Junction Connector
EH
BC

Power Outlet

Service Hints

F8 Front Power Outlet

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

R13 Rear Power Outlet

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

M2 Main SW

3-Ground : Approx. 12 volts with ignition SW at ON or ST position
6-Ground : Always continuity

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
E5	42	I15	43	M2	43
F7	38 (3MZ-FE)	J2	39 (3MZ-FE)	P23	44
	40 (2AZ-FE)		41 (2AZ-FE)	R13	45
F8	43	J12	44	V15	45

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

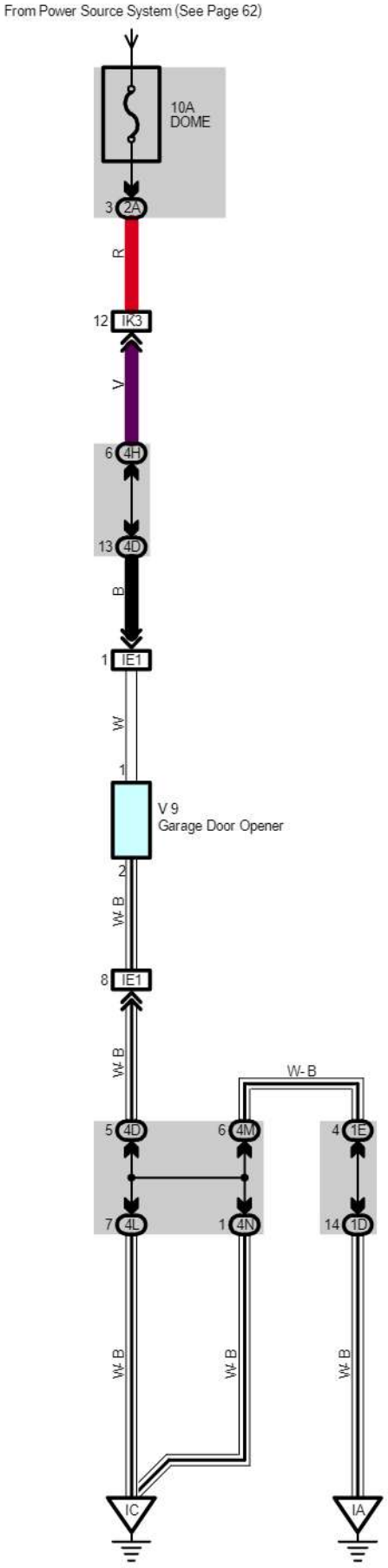
Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1C	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1D		
1F		
1H		
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2C	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3D		
3F		
3G	31	

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IA2		
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)

: GROUND POINTS

Code	See Page	Ground Points Location
EH	48 (3MZ-FE)	Under the Left Headlight
	50 (2AZ-FE)	
IA	52	Left Cowl Side Panel
IB	52	Right Instrument Panel Brace
BC	56	Left Side of Rear Cross Member


From Power Source System (See Page 62)
10A
DOME
3
2A
R
12
IK3
V
6
4H
13
4D
B
1
IE1
W
1
V 9
Garage Door Opener
2
W-B
8
IE1
W-B
W-B
5
4D
6
4M
4
1E
7
4L
1
4N
14
1D
W-B
W-B
W-B
IC
IA

Service Hints

V9 Garage Door Opener

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

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
V9	45				

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
4D	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4H		
4L	32	
4M		
4N		

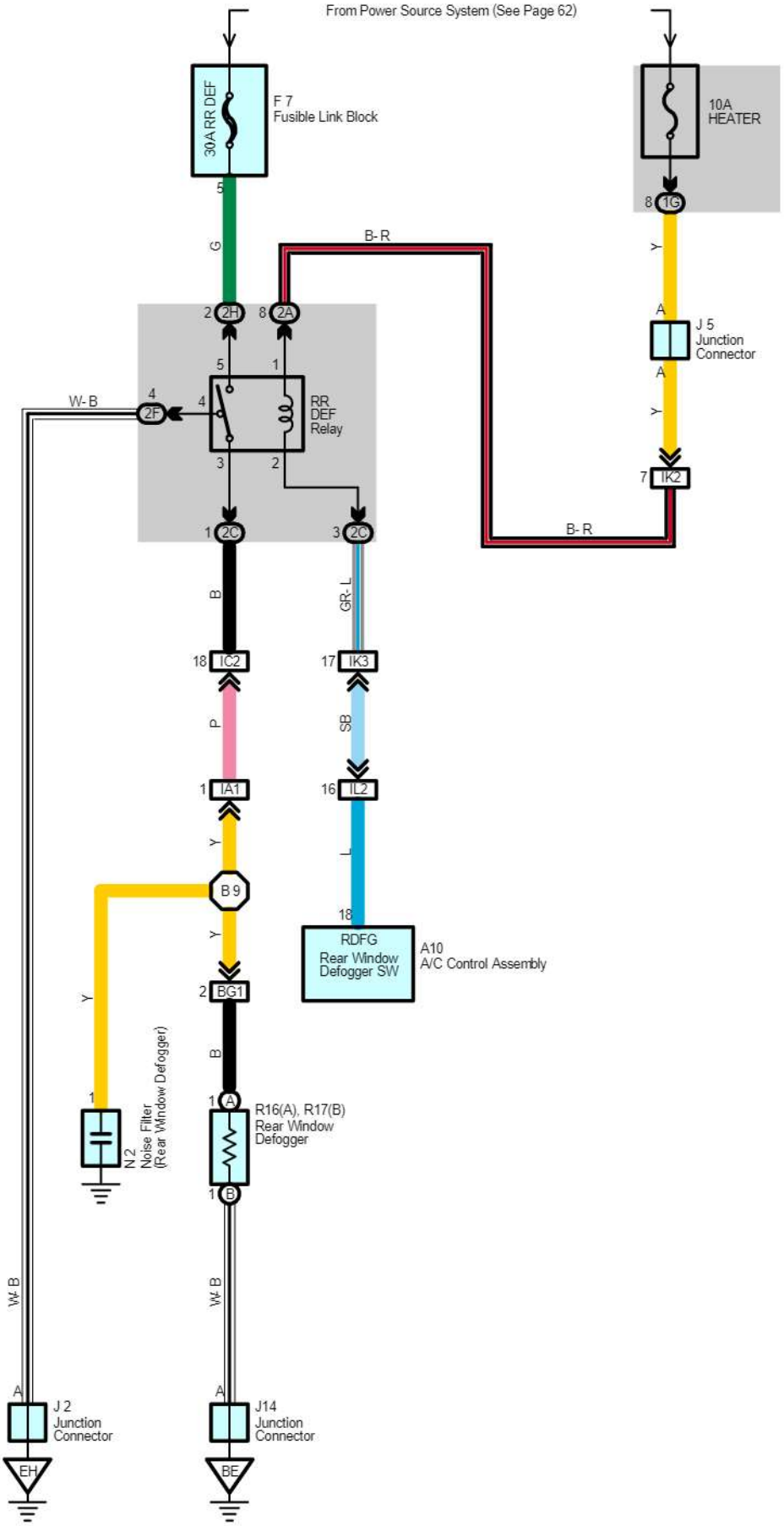
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	52	Roof Wire and Cowl Wire (Near the Bottom of Left Front Pillar)
IK3	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel
IC	52	Right Cowl Side Panel

Rear Window Defogger



Service Hints

RR DEF 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
A10	42	J2	41 (2AZ-FE)	R16	B	45
F7	38 (3MZ-FE)	J5	43	R17	A	45
	40 (2AZ-FE)	J14	44			
J2	39 (3MZ-FE)	N2	44			

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2C		
2F		
2H		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IC2	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
BG1	56	Back Door No.1 Wire and Floor No.2 Wire (Rear Left of the Roof)

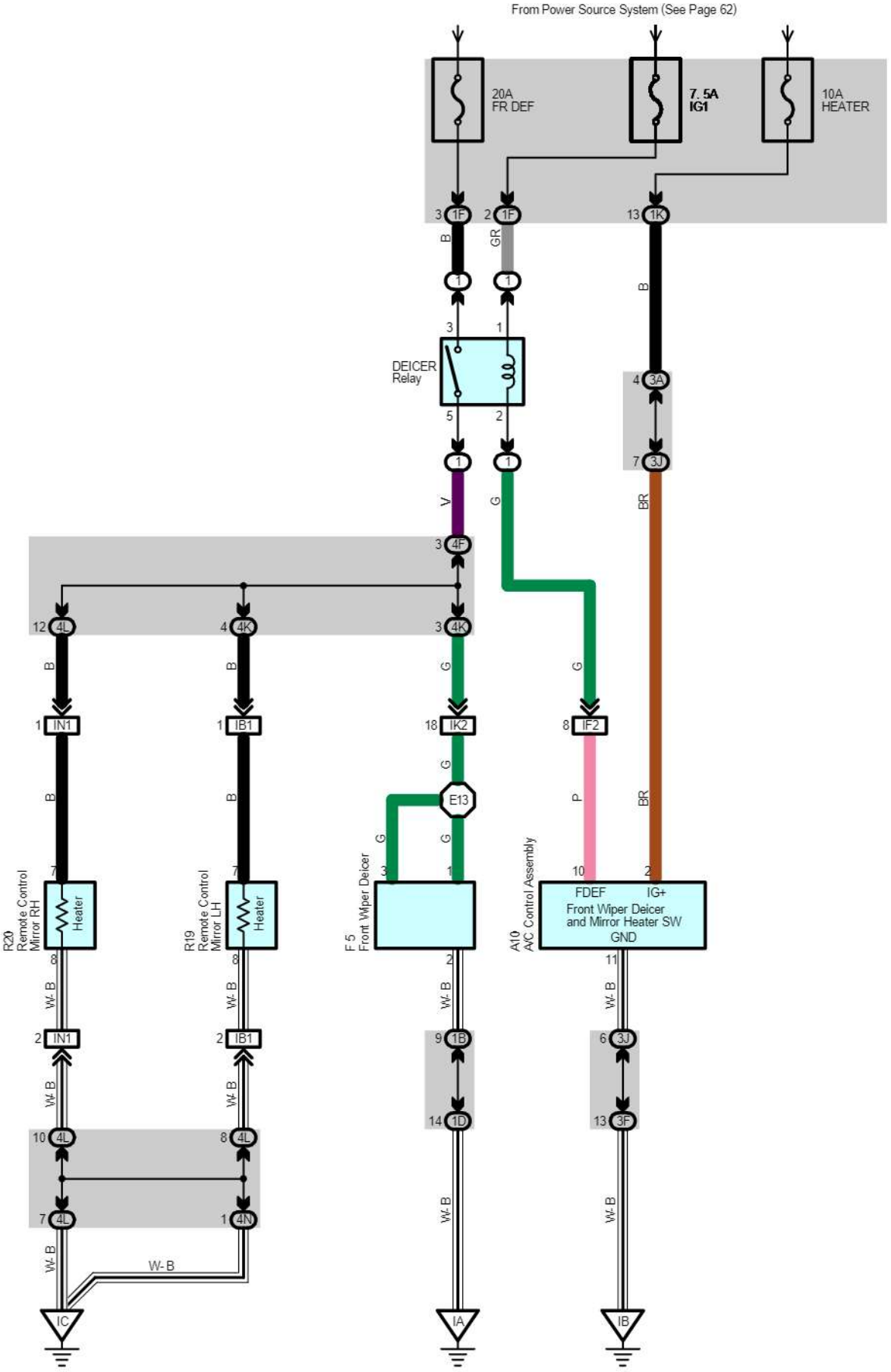
: GROUND POINTS

Code	See Page	Ground Points Location
EH	48 (3MZ-FE)	Under the Left Headlight
	50 (2AZ-FE)	
BE	56	Left Side of Back Door

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B9	56	Floor No.2 Wire			

Mirror Heater and Front Deicer



Service Hints

A10 A/C Control Assembly

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

DEICER Relay

5-3 : Closed with the ignition SW at ON position and front wiper deicer and mirror heater SW at ON position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A10	42	F5	40 (2AZ-FE)	R20	45
F5	38 (3MZ-FE)	R19	45		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
1	24	R/B No.1 (Lower Finish Panel)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	29	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1F		
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3F		
3J	31	
4F	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4K	32	
4L		
4N		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

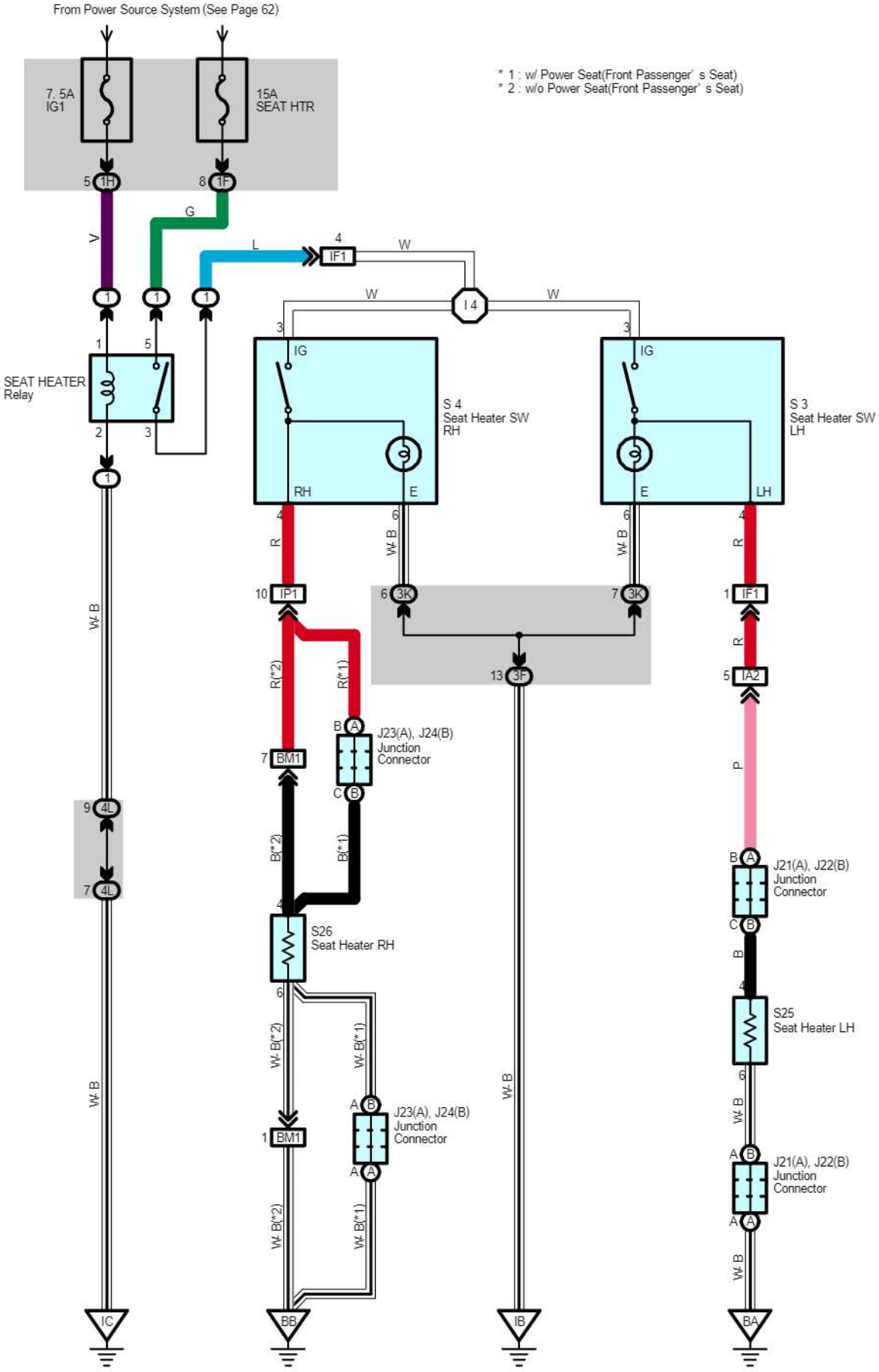
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB1	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF2	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IN1	54	Front Door RH Wire and Cowl Wire (Right Kick Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E13	48 (3MZ-FE)	Engine Room Main Wire	E13	50 (2AZ-FE)	Engine Room Main Wire


From Power Source System (See Page 62)
7.5A
IG1
15A
SEAT HTR
* 1 : w/ Power Seat(Front Passenger' s Seat)
* 2 : w/o Power Seat(Front Passenger' s Seat)
SEAT HEATER
Relay
IF1
I4
S 4
Seat Heater SW
RH
S 3
Seat Heater SW
LH
IG
RH
E
LH
IP1
3K
3F
IA2
BM1
J23(A), J24(B)
Junction
Connector
J21(A), J22(B)
Junction
Connector
S26
Seat Heater RH
S25
Seat Heater LH
IC
BB
IB
BA

Service Hints

SEAT HEATER Relay

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

S3 Seat Heater SW LH

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

S4 Seat Heater SW RH

3-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
J21	A	46 (w/ Power Seat)	J24	B	46 (w/ Power Seat)	S25	46 (w/ Power Seat)
J22	B	46 (w/ Power Seat)	S3		43	S26	46 (w/ Power Seat)
J23	A	46 (w/ Power Seat)	S4		43		47 (w/o Power Seat)

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
1	24	R/B No.1 (Lower Finish Panel)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1H		
3F	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3K	31	
4L	32	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

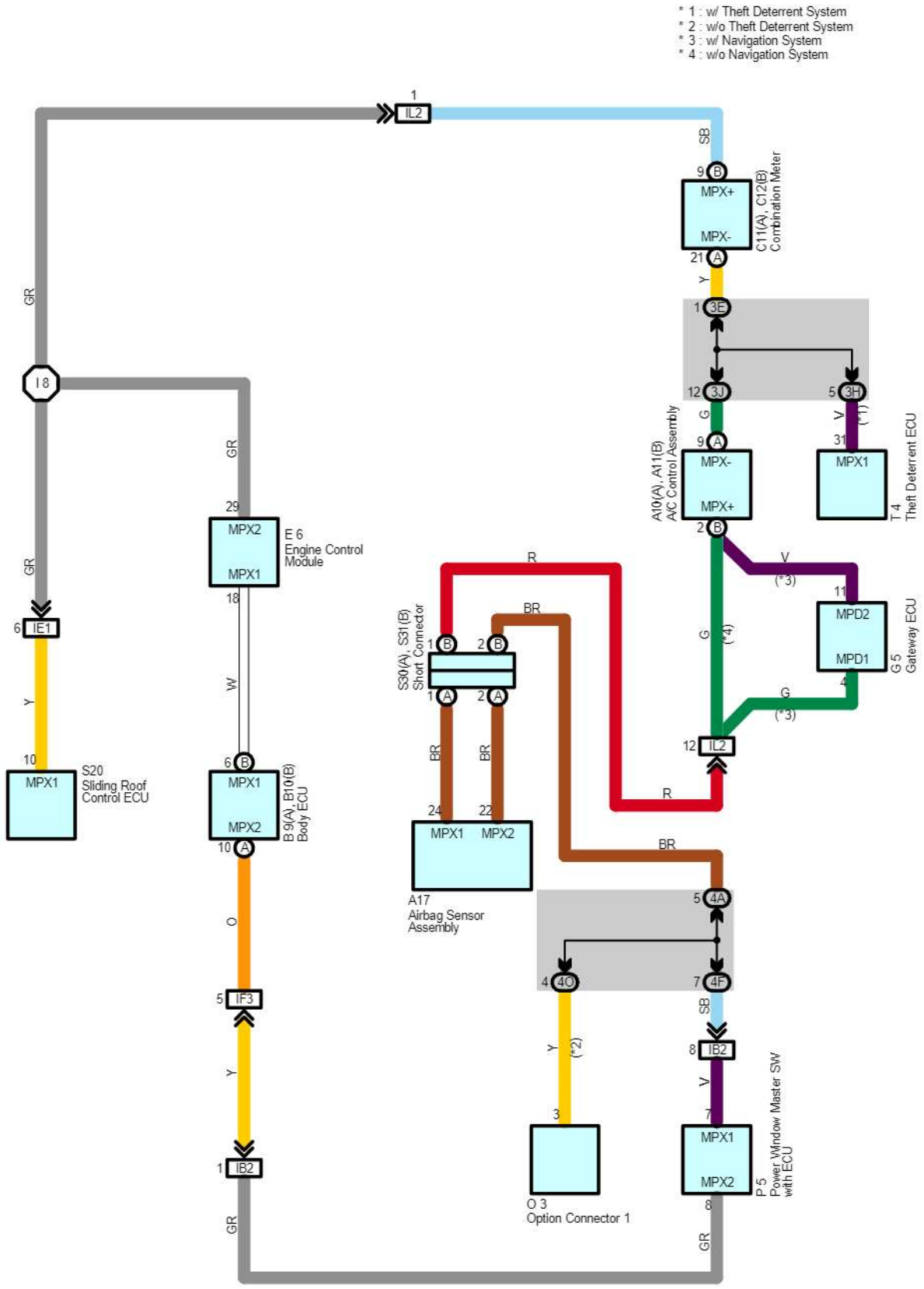
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA2	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IF1	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IP1	54	Instrument Panel Wire and Floor Wire (Left Side of Passenger Side J/B)
BM1	58	Floor Wire and Front Seat RH Wire (Under the Front Passenger's Seat)

: GROUND POINTS

Code	See Page	Ground Points Location
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel
BA	56	Left Center Pillar
BB	56	Right Center Pillar

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I4	54	Instrument Panel Wire			


* 1 : w/ Theft Deterrent System
* 2 : w/o Theft Deterrent System
* 3 : w/ Navigation System
* 4 : w/o Navigation System
1
IL2
SB
9 B
MPX+
MPX-
21 A
C11(A), C12(B)
Combination Meter
Y
1 3E
12 3J
5 3H
G
V
(*1)
9 A
MPX-
MPX+
2 B
A10(A), A11(B)
A/C Control Assembly
31
MPX1
T 4
Theft Deterrent ECU
GR
I 8
GR
29
MPX2
MPX1
E 6
Engine Control Module
18
W
6 IE1
Y
10
MPX1
S20
Sliding Roof Control ECU
6 B
MPX1
MPX2
B 9(A), B10(B)
Body ECU
10 A
O
5 IF3
Y
1 IB2
GR
R
BR
S30(A), S31(B)
Short Connector
1 B
2 B
1 A
2 A
BR
BR
24
22
MPX1
MPX2
A17
Airbag Sensor Assembly
R
V
(*3)
11
MPD2
MPD1
4
G
G
(*4)
G
(*3)
12 IL2
R
BR
5 4A
4 4O
7 4F
SB
Y
(*2)
3
O 3
Option Connector 1
8 IB2
V
7
MPX1
MPX2
8
P 5
Power Window Master SW with ECU
GR

System Outline

The multiplex communication system communicates among the A/C control assembly, body ECU, combination meter, engine control module, option connector 1, power window master SW with ECU, sliding roof control ECU and theft deterrent ECU and controls the following systems according to the signals from respective sensors or switches.

Multiplex Communication System Includes Following Systems

- **Air Conditioning (Automatic A/C)**
- **Air Conditioning (Manual A/C)**
- **Automatic Light Control**
- **Combination Meter**
- **Door Lock Control**
- **Electronically Controlled Transmission and A/T Indicator (3MZ-FE)**
- **Electronically Controlled Transmission and A/T Indicator (2AZ-FE)**
- **Engine Control (3MZ-FE)**
- **Engine Control (2AZ-FE)**
- **Headlight**
- **Interior Light**
- **Key Reminder**
- **Light Auto Turn Off System**
- **Moon Roof**
- **Navigation System**
- **Power Window**
- **Seat Belt Warning**
- **Theft Deterrent System**
- **Wireless Door Lock Control**

: PARTS LOCATION

Code		See Page	Code		See Page	Code		See Page
A10	A	42	C11	A	42	P5		44
A11	B	42	C12	B	42	S20		45
A17		42	E6		42	S30	A	43
B9	A	42	G5		43	S31	B	43
B10	B	42	O3		43	T4		43

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

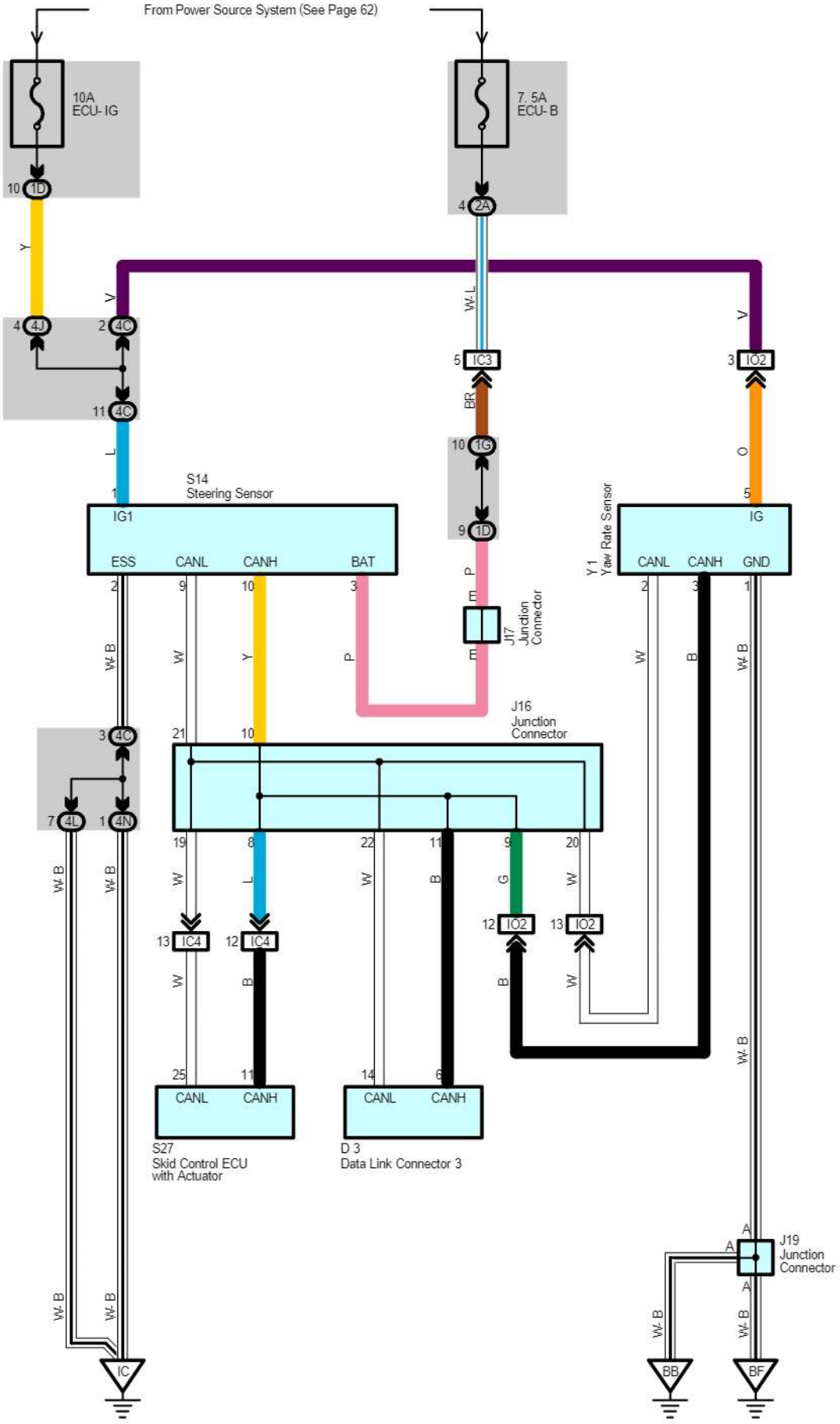
Code	See Page	Junction Block and Wire Harness (Connector Location)
3E	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3H	31	
3J		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4F		
4O	32	

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IE1	52	Roof Wire and Cowl Wire (Near the Bottom of Left Front Pillar)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I8	54	Cowl Wire			


From Power Source System (See Page 62)
10A
ECU- IG
7. 5A
ECU- B
10 1D
4 2A
Y
V
W-L
V
4 4J
2 4C
5 IC3
3 IO2
BR
O
11 4C
10 1G
L
1
S14
Steering Sensor
IG1
ESS
CANL
CANH
BAT
9 1D
P
M
J17
Junction
Connector
Y1
Yaw Rate Sensor
IG
CANL
CANH
GND
2
9
10
3
2
3
1
W-B
W
Y
P
W
B
W-B
J16
Junction
Connector
3 4C
21
10
7 4L
1 4N
19
8
22
11
9
20
W-B
W-B
W
L
W
B
G
W
13 IC4
12 IC4
12 IO2
13 IO2
W
B
B
W
25
11
14
6
CANL
CANH
CANL
CANH
S27
Skid Control ECU
with Actuator
D 3
Data Link Connector 3
W-B
W-B
IC
A
A
J19
Junction
Connector
A
W-B
W-B
BB
BF

System Outline

Multiplex communication system (CAN) uses a serial communication protocol and communicates with a differential voltage. In this network system, TERMINALS CANH and CANL are used for communication between the ECUs and sensors, and excellent data communication speed and communication error detecting facility are provided. This system is working for the following system:

* VSC

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
D3	42	J19	44	S27	41 (2AZ-FE)
J16	43	S14	43	Y1	45
J17	43	S27	39 (3MZ-FE)		

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

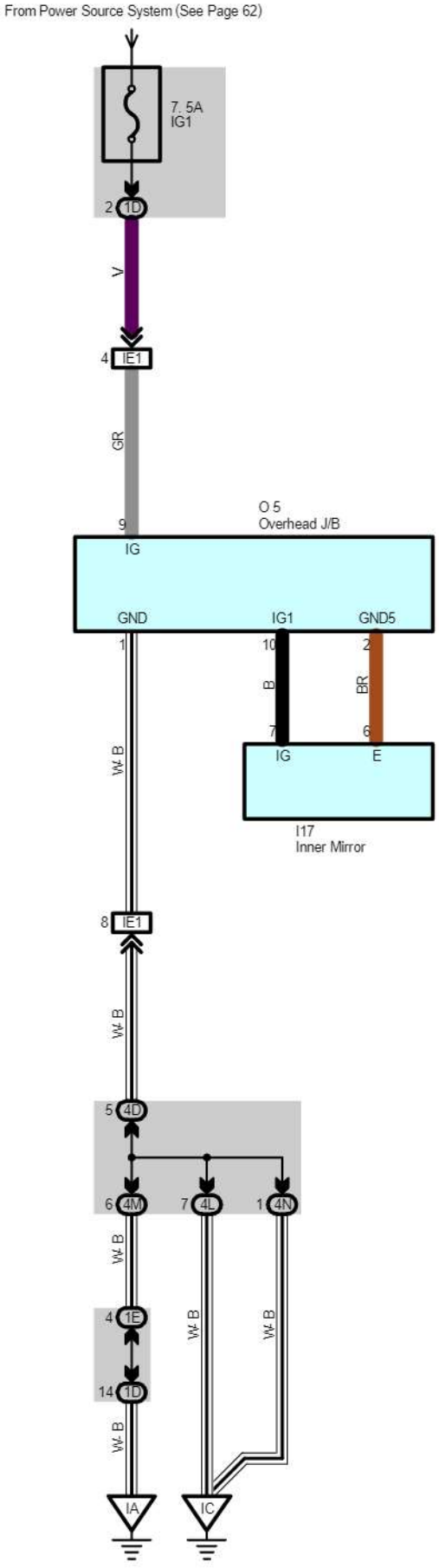
Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1G		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
4C	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4J	32	
4L		
4N		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC4		
IO2	54	Cowl Wire and Floor Wire (Right Kick Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
IC	52	Right Cowl Side Panel
BB	56	Right Center Pillar
BF	56	Near the Rear Side Marker Light RH


From Power Source System (See Page 62)
7. 5A
IG1
2
1D
V
4
IE1
GR
9
IG
O 5
Overhead J/B
GND
IG1
GND5
1
10
2
B
BR
7
6
IG
E
I17
Inner Mirror
W-B
8
IE1
W-B
5
4D
6
4M
7
4L
1
4N
W-B
4
1E
W-B
W-B
14
1D
W-B
IA
IC

Service Hints

O5 Overhead J/B

9, 10-Ground : Approx. 12 volts with ignition SW at ON or ST position
1, 2-Ground : Always continuity

I17 Inner Mirror

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

○ : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
I17	44	O5	44		

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

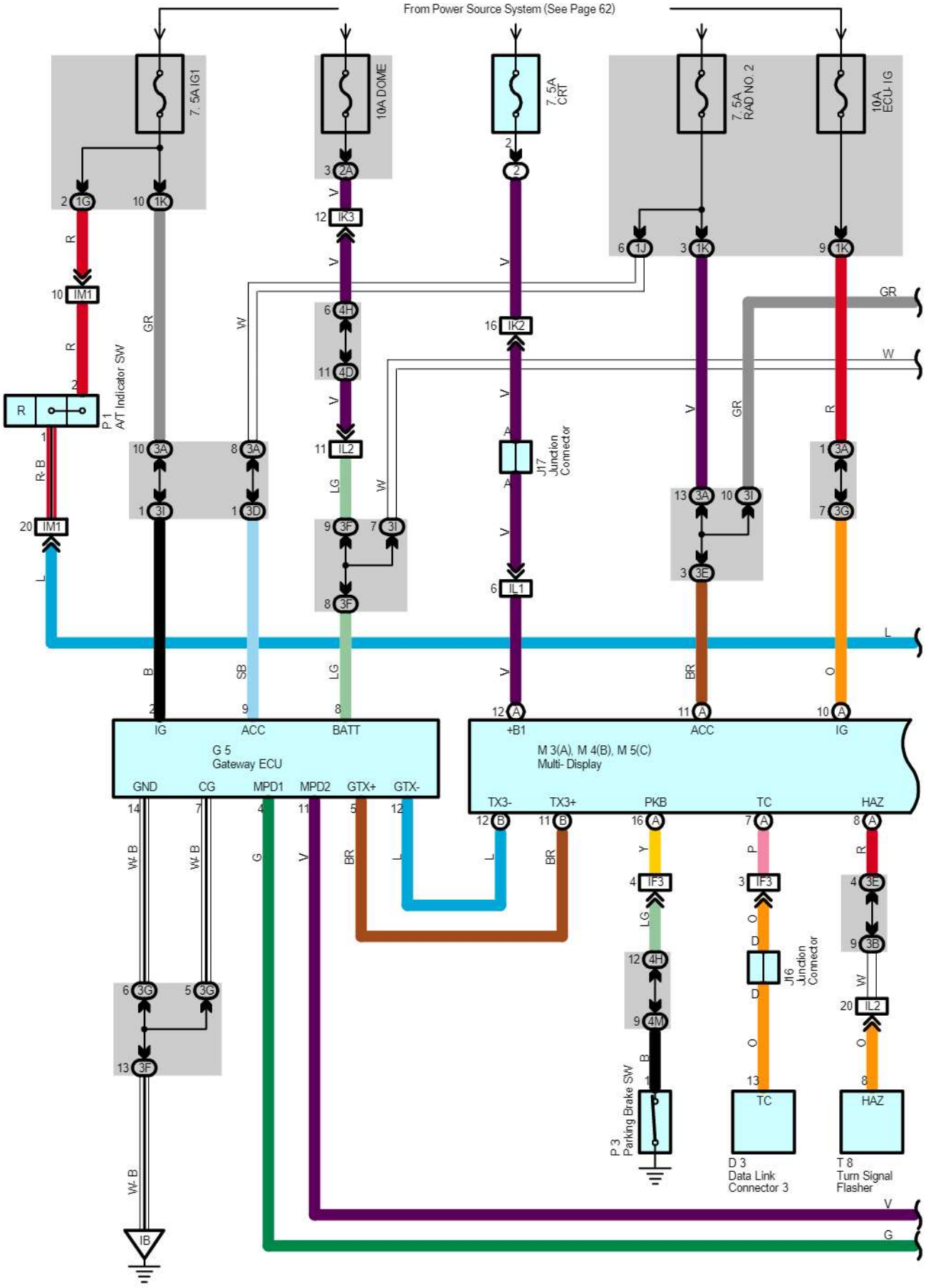
Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
4D	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4L	32	
4M		
4N		

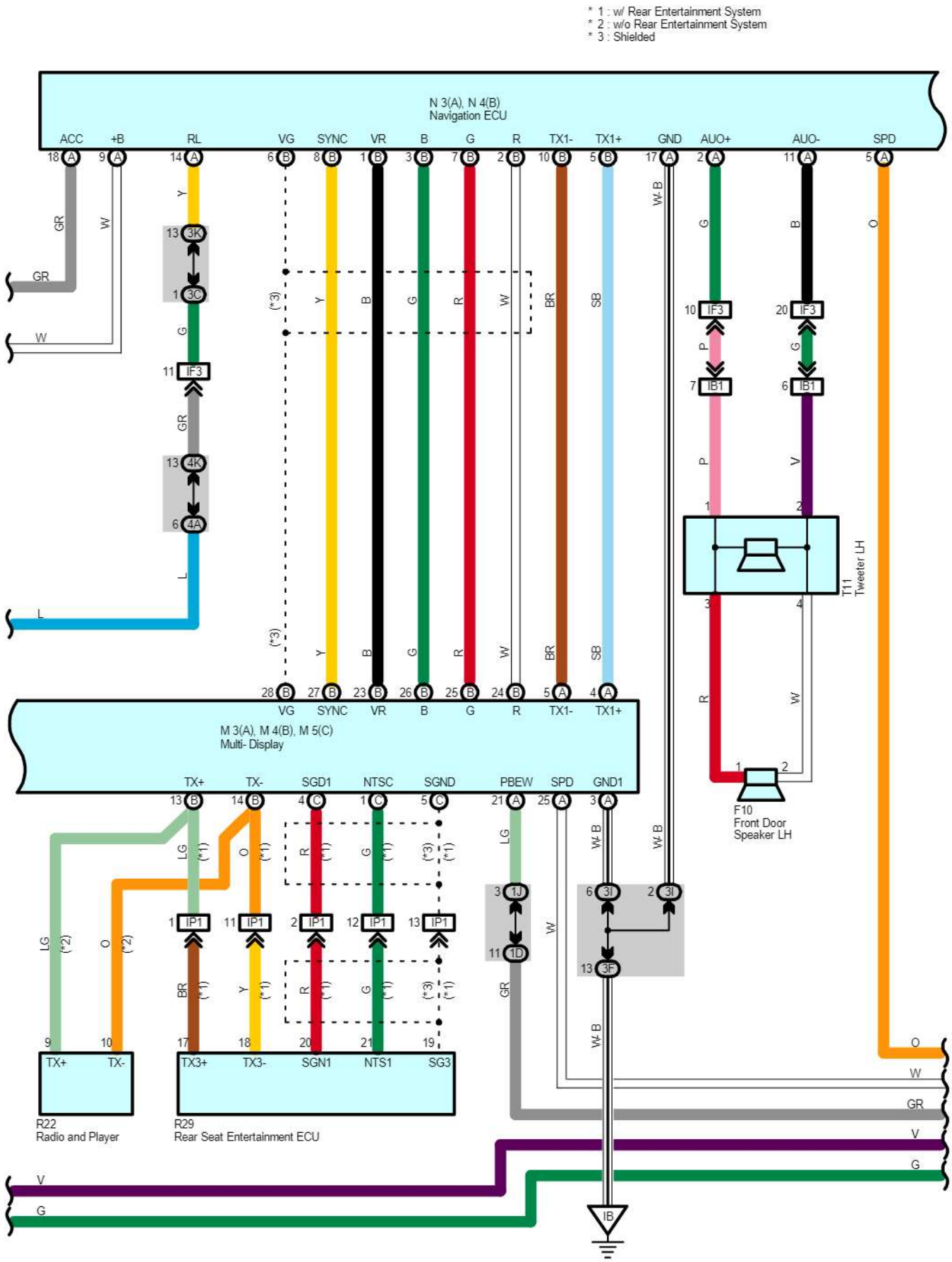
▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

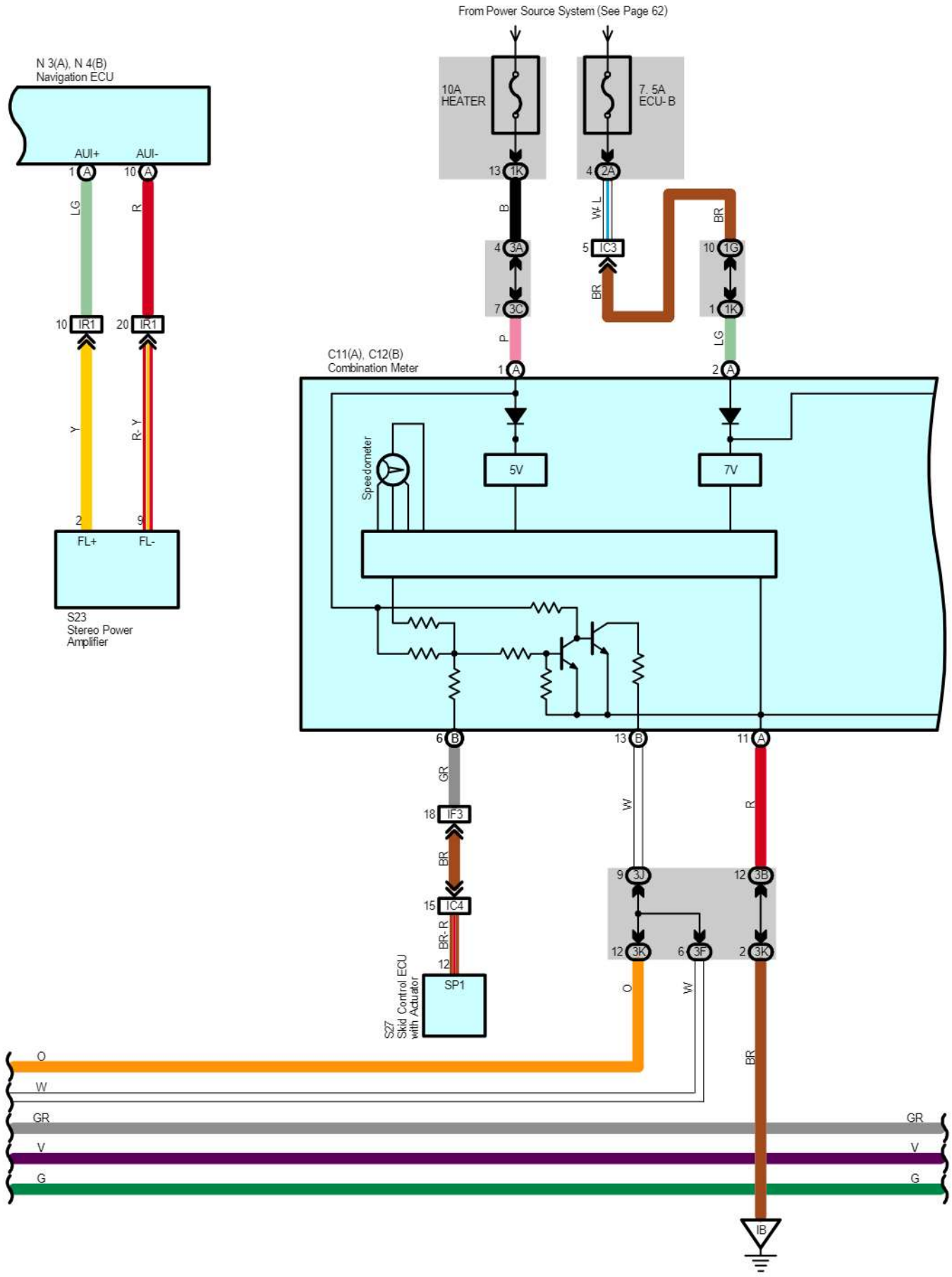
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	52	Roof Wire and Cowl Wire (Near the Bottom of Left Front Pillar)

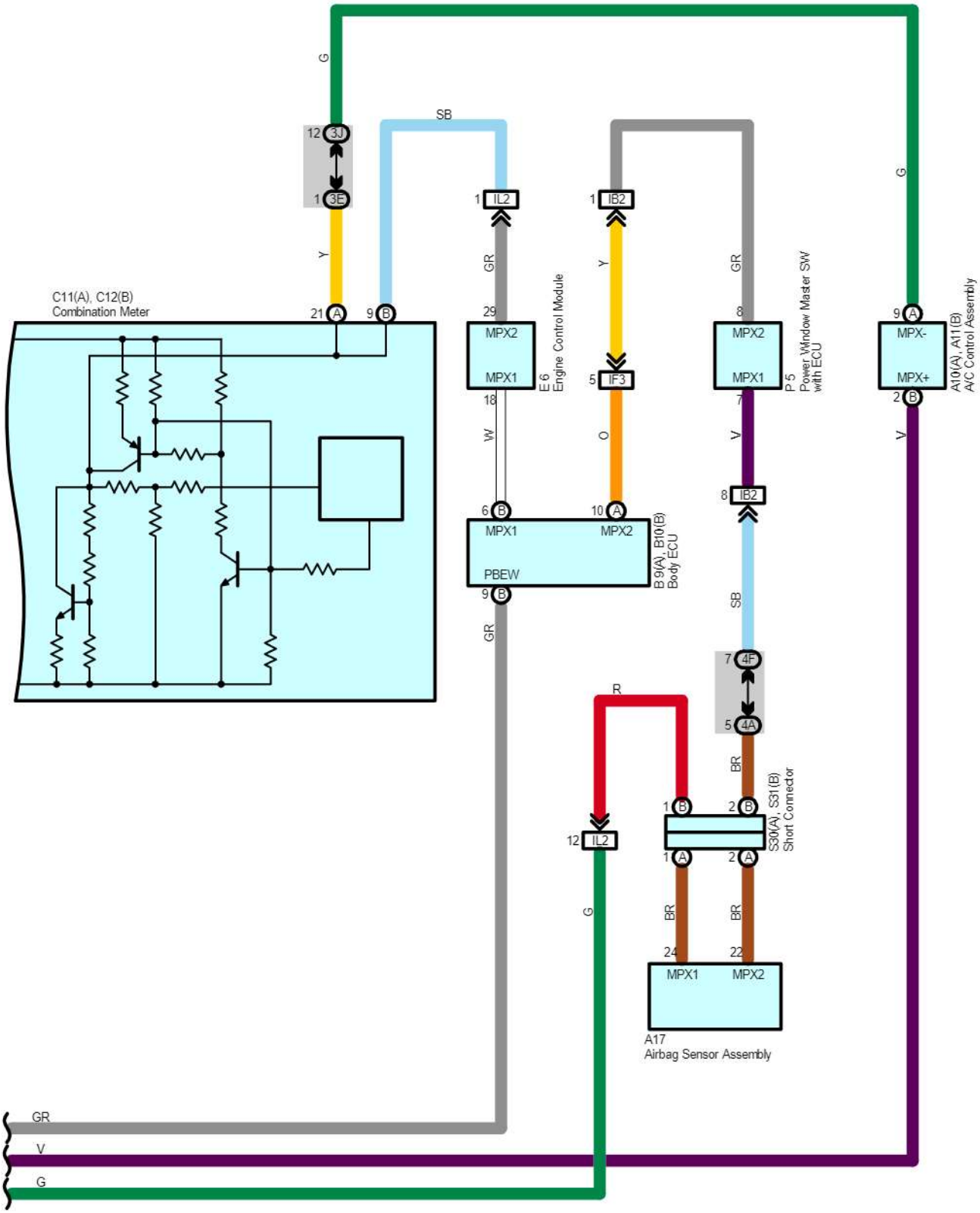
▽ : GROUND POINTS

Code	See Page	Ground Points Location
IA	52	Left Cowl Side Panel
IC	52	Right Cowl Side Panel


From Power Source System (See Page 62)
7.5A IG1
10A DOME
7.5A CRT
7.5A RAD NO.2
10A ECU-IG
P1 A/T Indicator SW
J17 Junction Connector
J16 Junction Connector
G5 Gateway ECU
M3(A), M4(B), M5(C) Multi-Display
IG
ACC
BATT
+B1
GND
CG
MPD1
MPD2
GTX+
GTX-
TX3-
TX3+
PKB
TC
HAZ
P3 Parking Brake SW
D3 Data Link Connector 3
T8 Turn Signal Flasher


* 1 : w/ Rear Entertainment System
* 2 : w/o Rear Entertainment System
* 3 : Shielded
N 3(A), N 4(B)
Navigation ECU
ACC
+B
RL
VG
SYNC
VR
B
G
R
TX1-
TX1+
GND
AUO+
AUO-
SPD
M 3(A), M 4(B), M 5(C)
Multi- Display
TX+
TX-
SGD1
NTSC
SGND
PBEW
SPD
GND1
T11
Tweeter LH
F10
Front Door
Speaker LH
R22
Radio and Player
R29
Rear Seat Entertainment ECU
TX3+
TX3-
SGN1
NTS1
SG3
IB


From Power Source System (See Page 62)
N 3(A), N 4(B)
Navigation ECU
AUI+
AUI-
10A
HEATER
7. 5A
ECU-B
C11(A), C12(B)
Combination Meter
Speedometer
5V
7V
IR1
IF3
IC3
IC4
3A
3C
1G
1K
2A
3J
3B
3K
3F
SP1
S23
Stereo Power
Amplifier
S27
Skid Control ECU
with Actuator
FL+
FL-
IB


G
SB
12 3J
1 3E
Y
C11(A), C12(B)
Combination Meter
21 A
9 B
1 IL2
GR
29
MPX2
MPX1
E 6
Engine Control Module
18
W
6 B
MPX1
PBEW
9 B
GR
1 IB2
Y
5 IF3
O
10 A
MPX2
B 9(A), B10(B)
Body ECU
GR
8
MPX2
MPX1
P 5
Power Window Master SW
with ECU
7
V
8 IB2
SB
7 4F
5 4A
BR
G
9 A
MPX-
MPX+
2 B
A10(A), A11(B)
A/C Control Assembly
V
R
12 IL2
1 B
2 B
1 A
2 A
S30(A), S31(B)
Short Connector
BR
BR
24
22
MPX1
MPX2
A17
Airbag Sensor Assembly
GR
V
G

Service Hints

M3 (A) Multi-Display

(A)12-Ground : Always approx. 12 volts
(A)11-Ground : Approx. 12 volts with ignition SW at ON or ST position
(A)10-Ground : Approx. 12 volts with ignition SW at ON or ACC position
(A) 3-Ground : Always continuity

N3 (A) Navigation ECU

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

G5 Gateway ECU

2-Ground : Approx. 12 volts with ignition SW at ON or ST position
9-Ground : Approx. 12 volts with ignition SW at ON or ACC position
8-Ground : Always approx. 12 volts

: PARTS LOCATION

Code		See Page	Code		See Page	Code		See Page
A10	A	42	J16		43	R22		43
A11	B	42	J17		43	R29		45
A17		42	M3	A	43	S23		45
B9	A	42	M4	B	43	S27		39 (3MZ-FE)
B10	B	42	M5	C	43			41 (2AZ-FE)
C11	A	42	N3	A	43	S30	A	43
C12	B	42	N4	B	43	S31	B	43
D3		42	P1		39 (3MZ-FE)	T8		43
E6		42			41 (2AZ-FE)	T11		45
F10		44	P3		43			
G5		43	P5		44			

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1G		
1J	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1K		
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3D		
3E		
3F		
3G	31	
3I		
3J		
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4D		
4F		
4H		
4K	32	
4M		

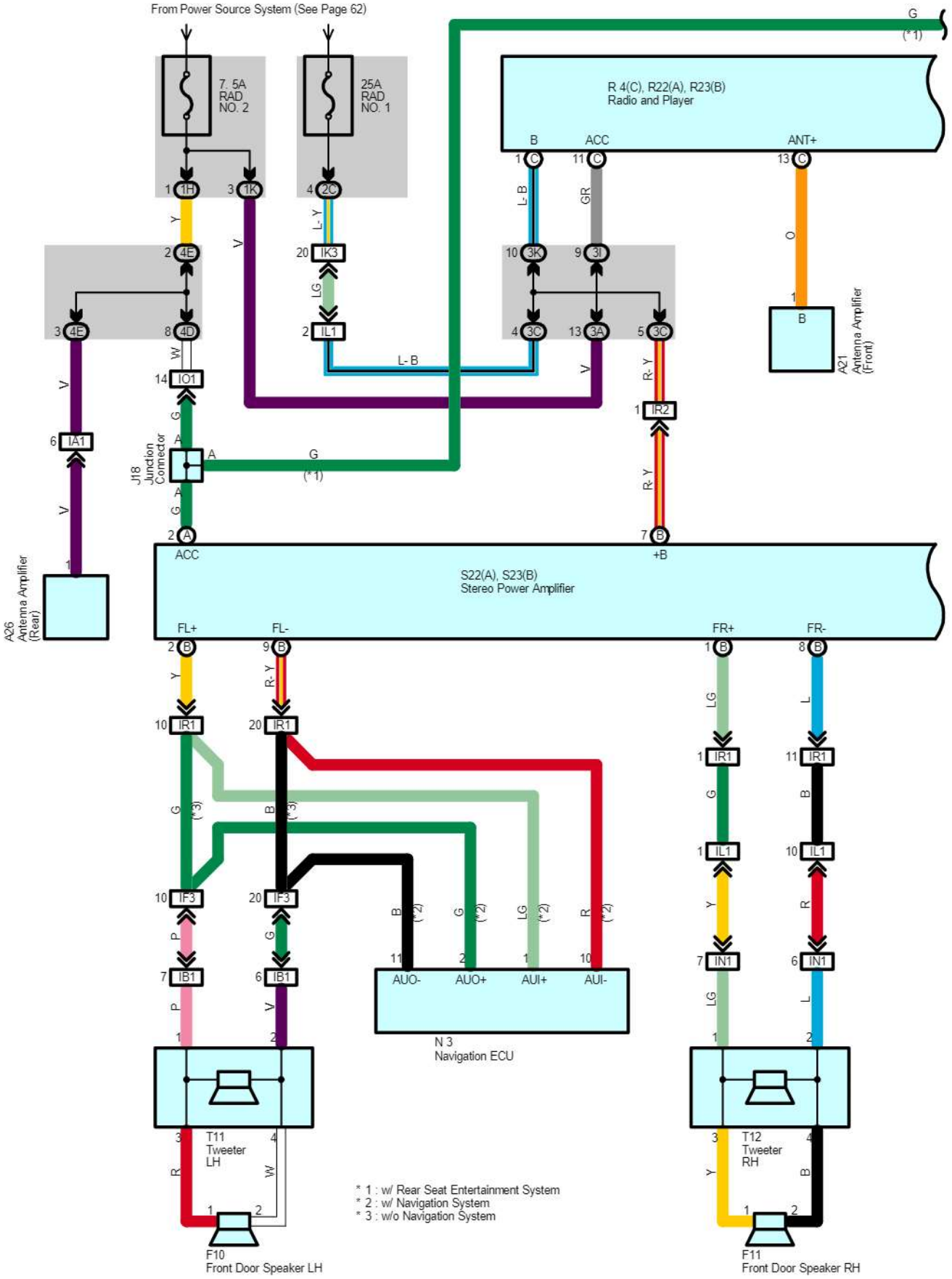
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

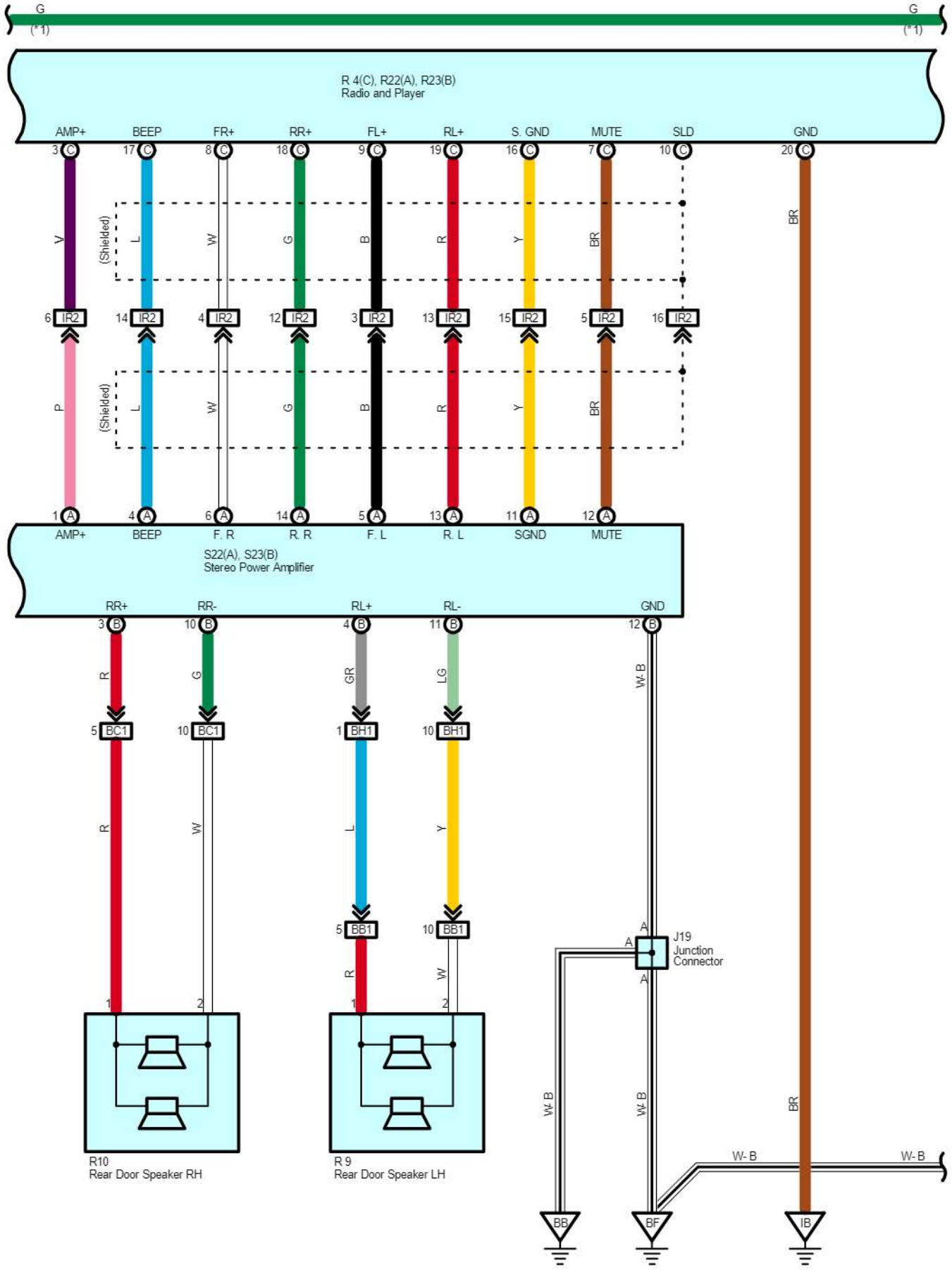
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB1	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IB2		
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC4		
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IL2		
IM1	54	Engine Wire and Cowl Wire (Right Kick Panel)
IP1	54	Instrument Panel Wire and Floor Wire (Left Side of Passenger Side J/B)
IR1	54	Instrument Panel Wire and Floor Wire (Under the Shift Lever)

: GROUND POINTS

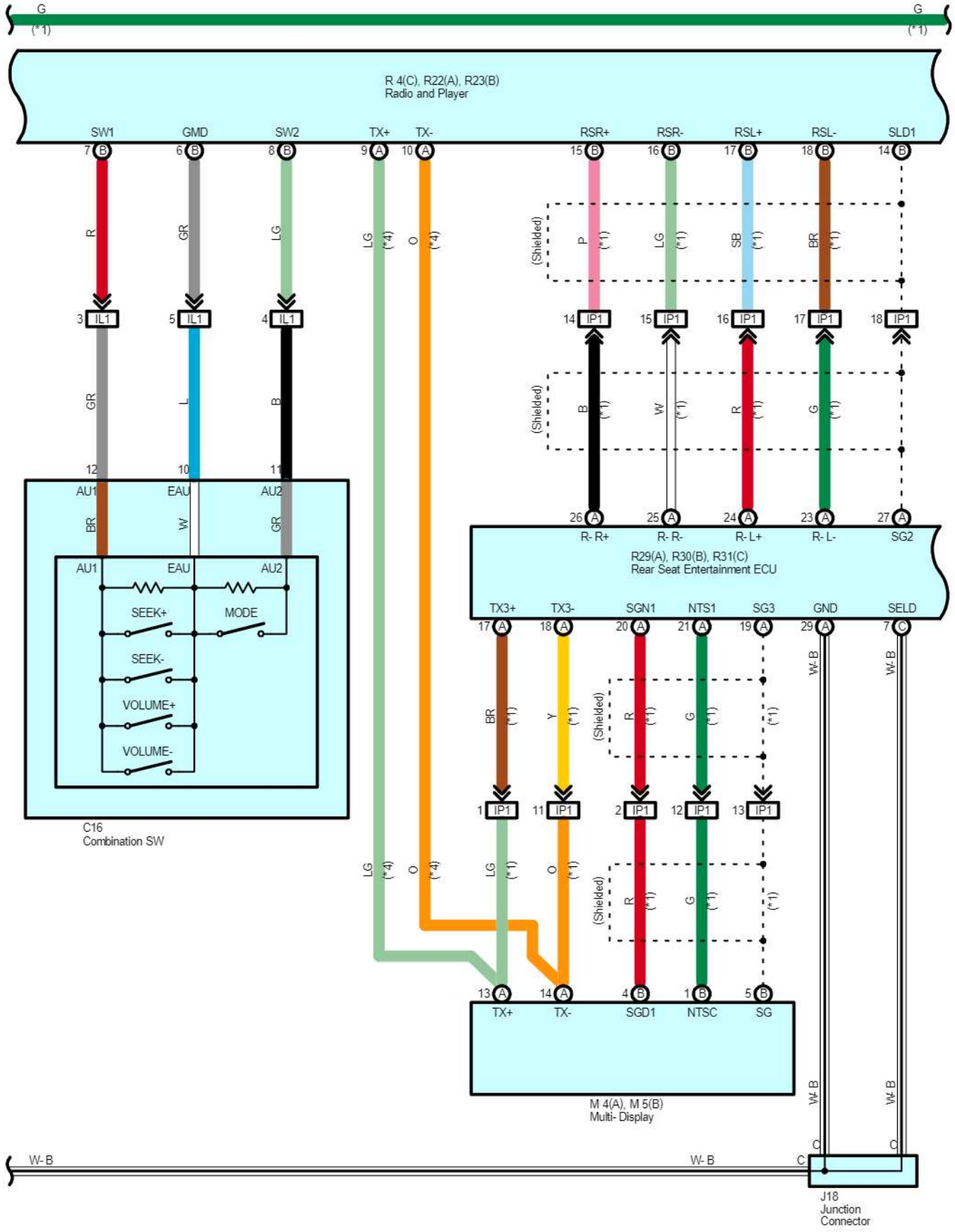
Code	See Page	Ground Points Location
IB	52	Right Instrument Panel Brace

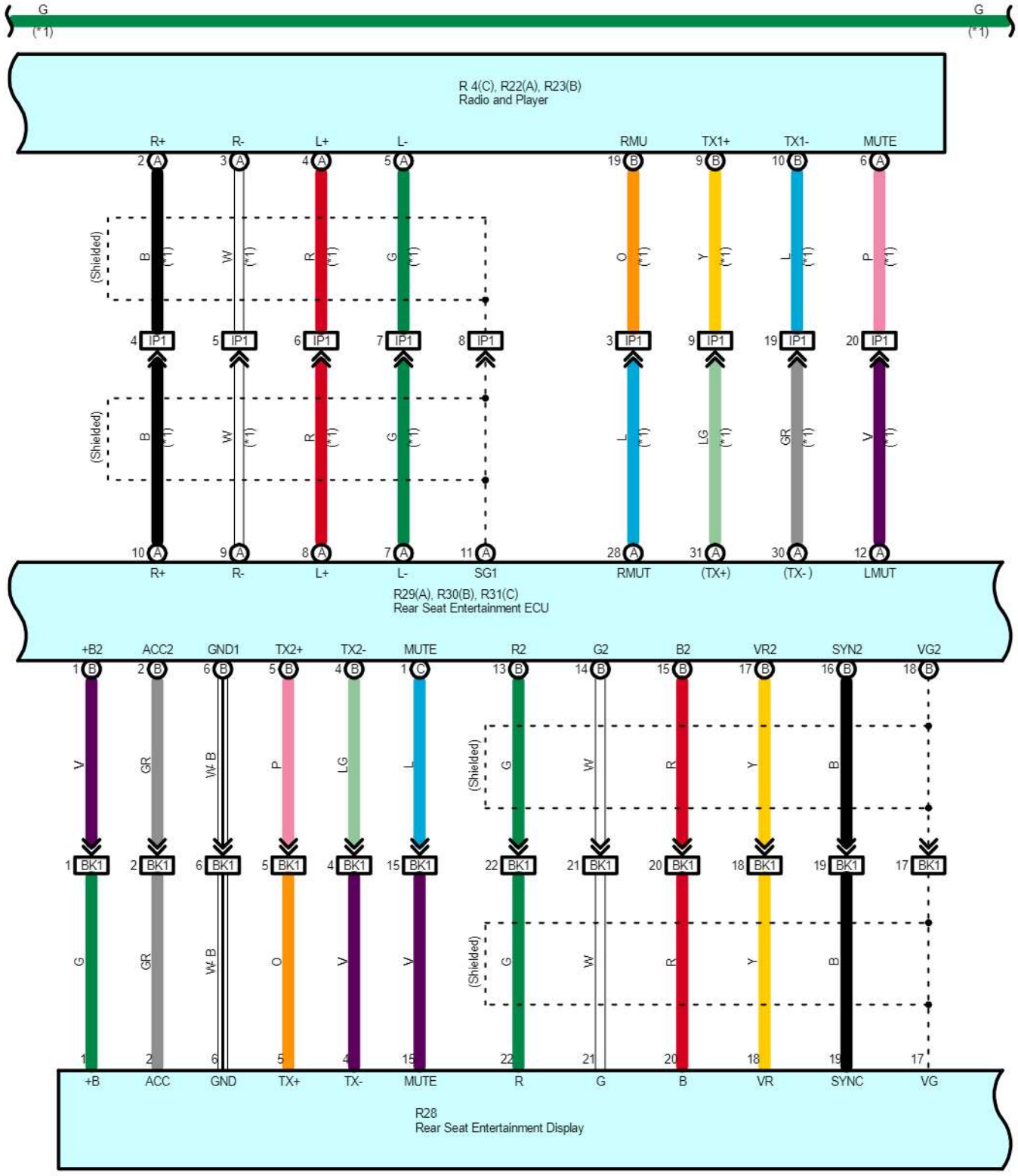
Audio System with 8 Speaker




G
(*1)
G
(*1)
R 4(C), R22(A), R23(B)
Radio and Player
AMP+
BEEP
FR+
RR+
FL+
RL+
S. GND
MUTE
SLD
GND
(Shielded)
(Shielded)
IR2
AMP+
BEEP
F. R
R. R
F. L
R. L
SGND
MUTE
S22(A), S23(B)
Stereo Power Amplifier
RR+
RR-
RL+
RL-
GND
BC1
BH1
BB1
J19
Junction
Connector
R10
Rear Door Speaker RH
R 9
Rear Door Speaker LH
BB
BF
IB

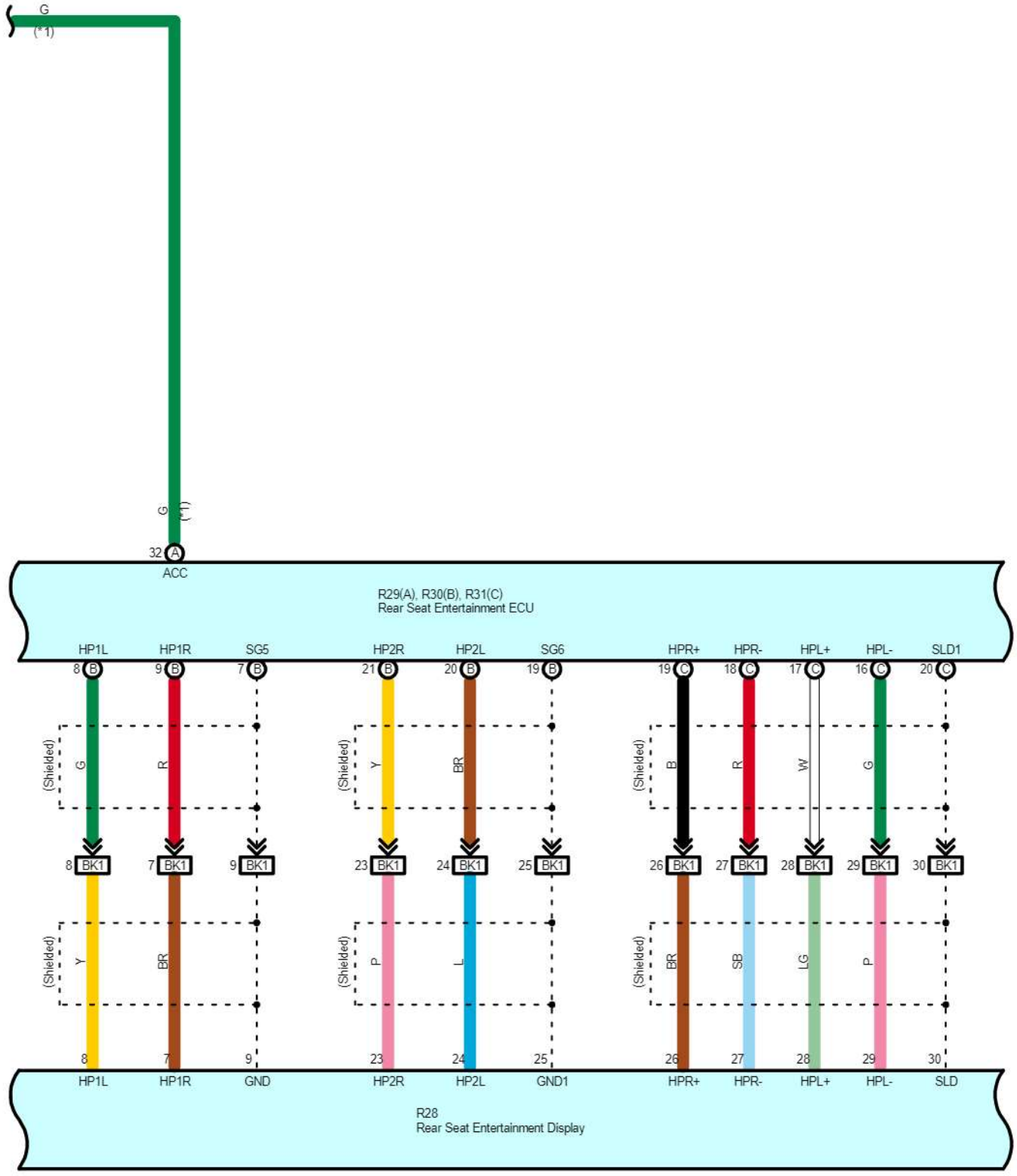
Audio System with 8 Speaker

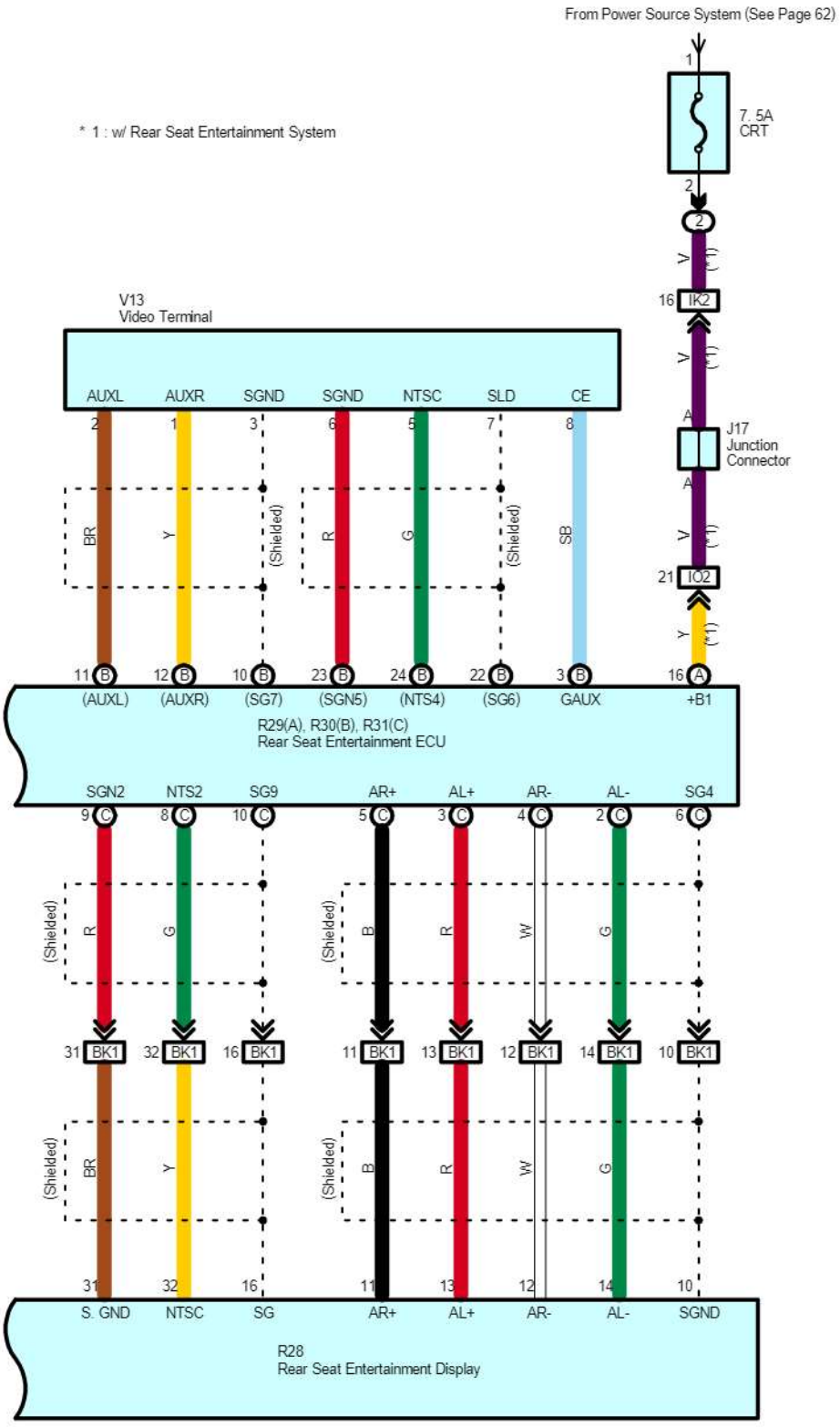




* 1 : w/ Rear Seat Entertainment System
* 4 : w/o Rear Seat Entertainment System

Audio System with 8 Speaker




From Power Source System (See Page 62)
* 1 : w/ Rear Seat Entertainment System
7. 5A
CRT
V13
Video Terminal
AUXL
AUXR
SGND
SGND
NTSC
SLD
CE
J17
Junction
Connector
IK2
IO2
(*1)
BR
Y
R
G
SB
(Shielded)
(AUXL)
(AUXR)
(SG7)
(SGN5)
(NTS4)
(SG6)
GAUX
+B1
R29(A), R30(B), R31(C)
Rear Seat Entertainment ECU
SGN2
NTS2
SG9
AR+
AL+
AR-
AL-
SG4
BK1
B
W
S. GND
NTSC
SG
AR+
AL+
AR-
AL-
SGND
R28
Rear Seat Entertainment Display

Audio System with 8 Speaker

Service Hints

R4 (C) Radio and Player

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

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

(B) 7-Ground : Always approx. 12 volts
(A) 2-Ground : Approx. 12 volts with ignition SW at ON or ACC position
(B)12-Ground : Always continuity

R29 (A), R30 (B), R31 (C) Rear Seat Entertainment ECU

(A)32-Ground : Approx. 12 volts with ignition SW at ON or ACC position
(A)16-Ground : Always approx. 12 volts
(A) 29, (C) 7-Ground : Always continuity

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A21	42	M5	43	R30 B	45
A26	44	N3	43	R31 C	45
C16	42	R4 C	43	S22 A	45
F10	44	R9	45	S23 B	45
F11	44	R10	45	T11	45
J17	43	R22 A	43	T12	45
J18	44	R23 B	43	V13	45
J19	44	R28	45		
M4	43	R29 A	45		

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1H	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
2C	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3C		
3I	31	
3K		
4D	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4E		

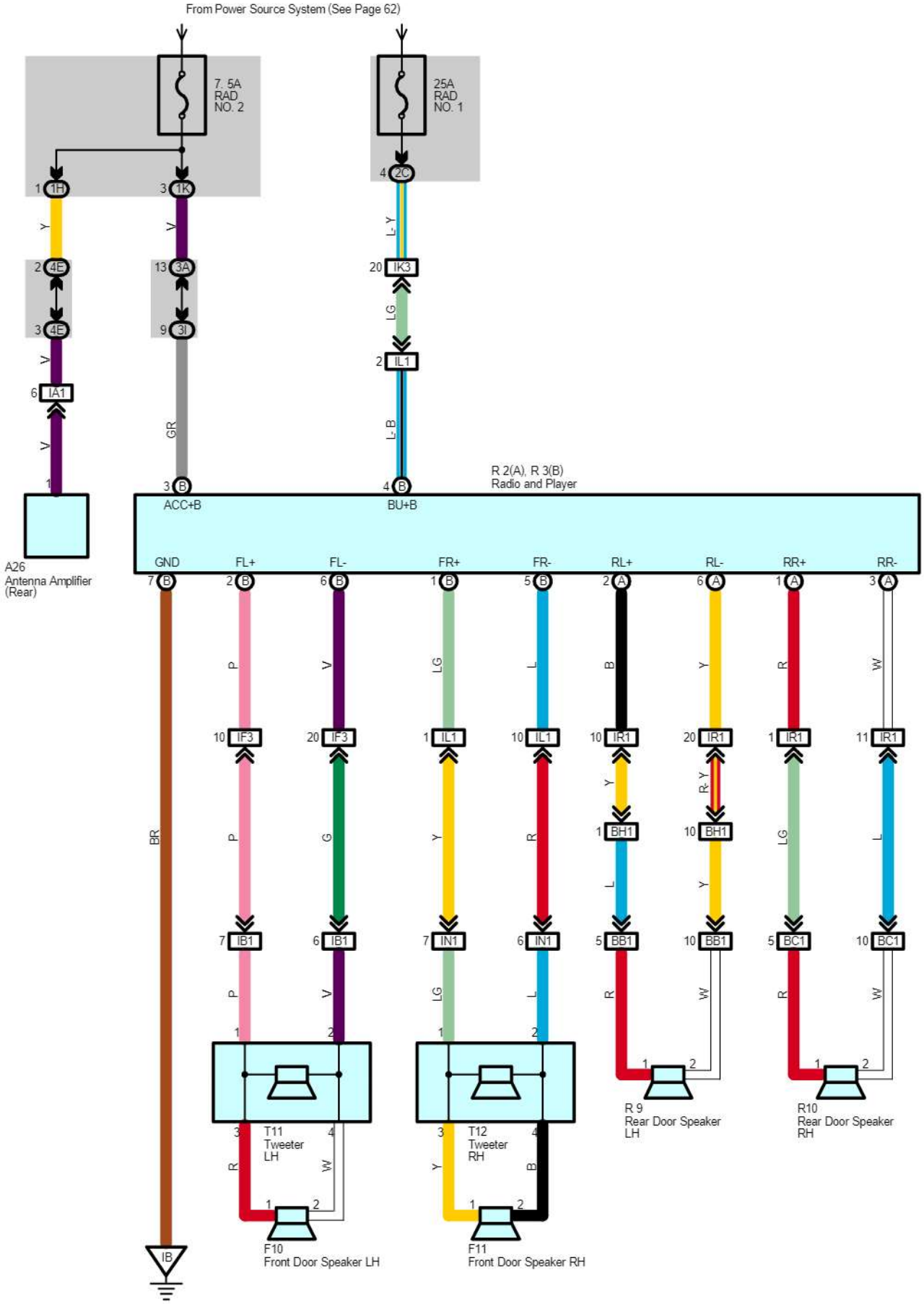
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IB1	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IN1	54	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IO1	54	Cowl Wire and Floor Wire (Right Kick Panel)
IO2		
IP1	54	Instrument Panel Wire and Floor Wire (Left Side of Passenger Side J/B)
IR1	54	Instrument Panel Wire and Floor Wire (Under the Shift Lever)
IR2		
BB1	56	Rear Door No.1 LH Wire and Floor No.2 Wire (Left Center Pillar)
BC1	56	Rear Door No.1 RH Wire and Floor Wire (Right Center Pillar)
BH1	56	Floor No.2 Wire and Floor Wire (Near the Rear Side Marker Light RH)
BK1	56	Roof No.2 Wire and Floor Wire (Right Rear Quarter Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
IB	52	Right Instrument Panel Brace
BB	56	Right Center Pillar
BF	56	Near the Rear Side Marker Light RH

Audio System with 6 Speaker



Service Hints

R3 (B) Radio and Player

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

: PARTS LOCATION

Code	See Page	Code		See Page	Code	See Page
A26	44	R2	A	43	R10	45
F10	44	R3	B	43	T11	45
F11	44	R9		45	T12	45

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

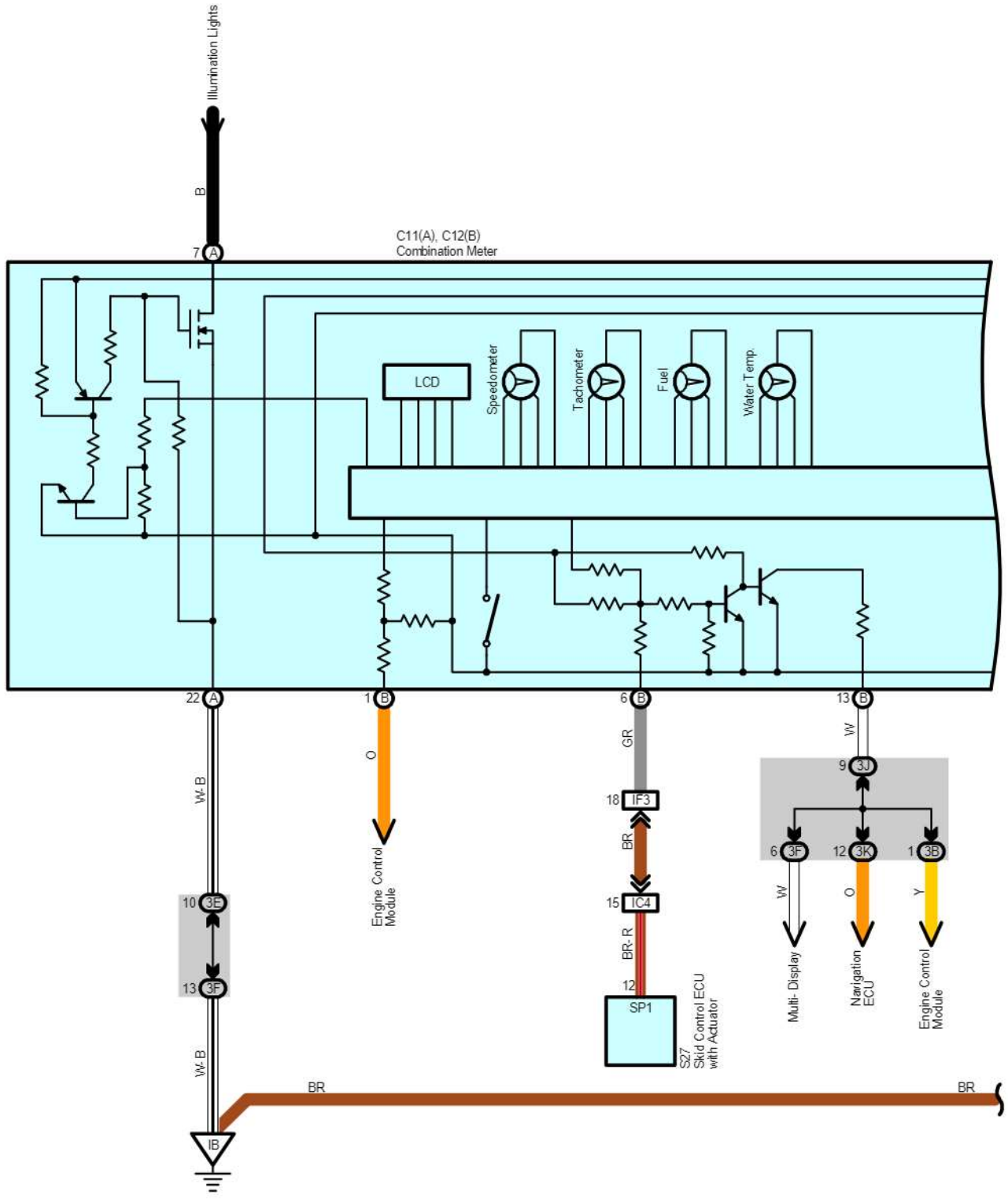
Code	See Page	Junction Block and Wire Harness (Connector Location)
1H	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
2C	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3I	31	
4E	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)

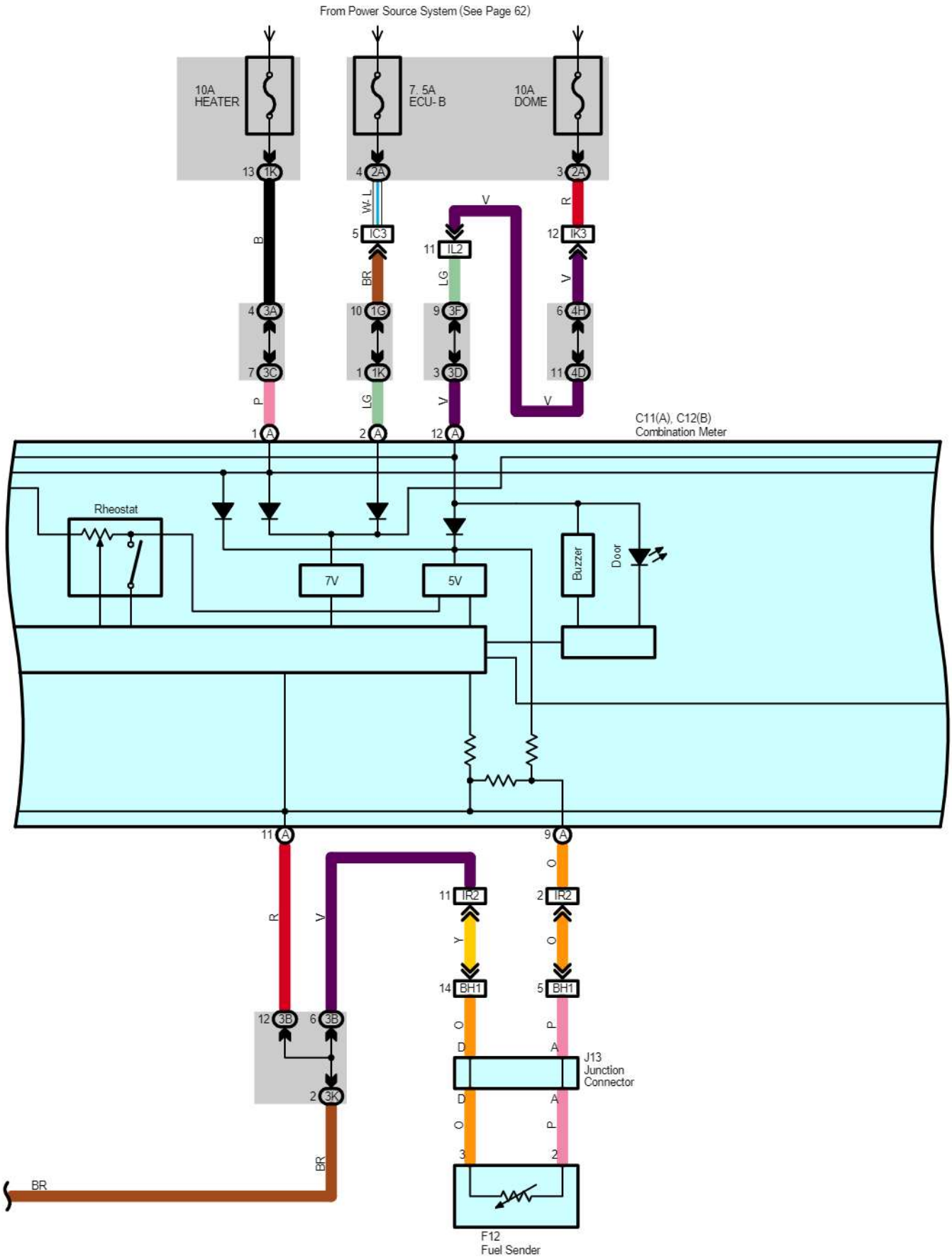
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

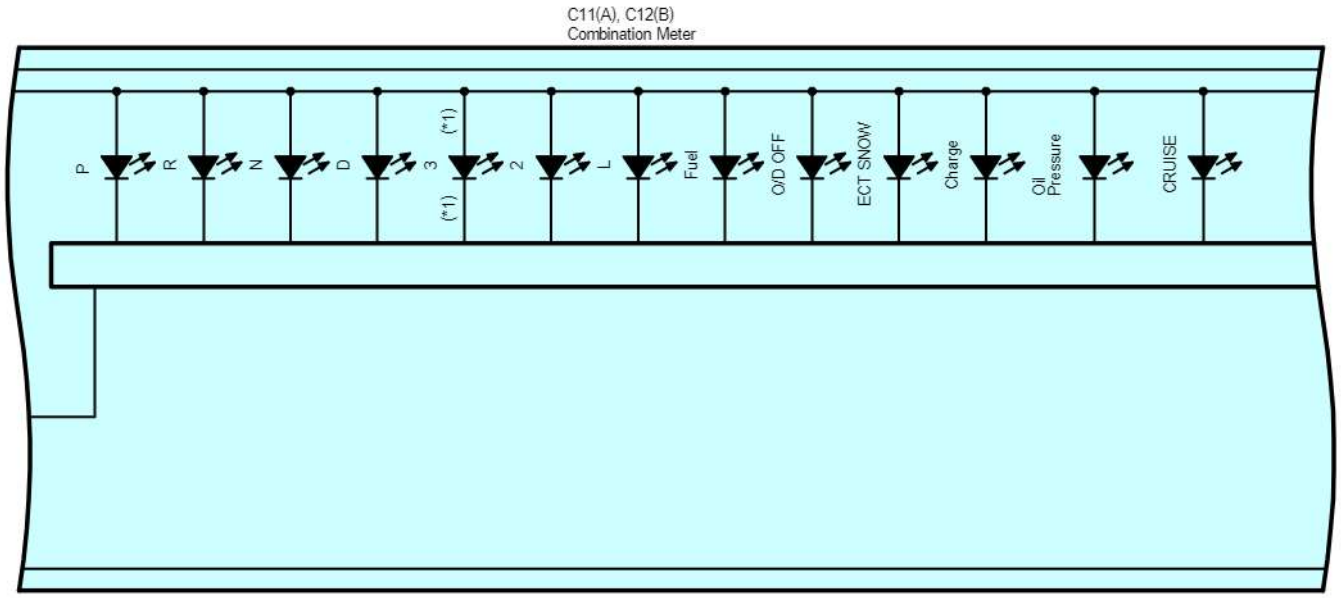
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IB1	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IK3	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IN1	54	Front Door RH Wire and Cowl Wire (Right Kick Panel)
IR1	54	Instrument Panel Wire and Floor Wire (Under the Shift Lever)
BB1	56	Rear Door No.1 LH Wire and Floor No.2 Wire (Left Center Pillar)
BC1	56	Rear Door No.1 RH Wire and Floor Wire (Right Center Pillar)
BH1	56	Floor No.2 Wire and Floor Wire (Near the Rear Side Marker Light RH)

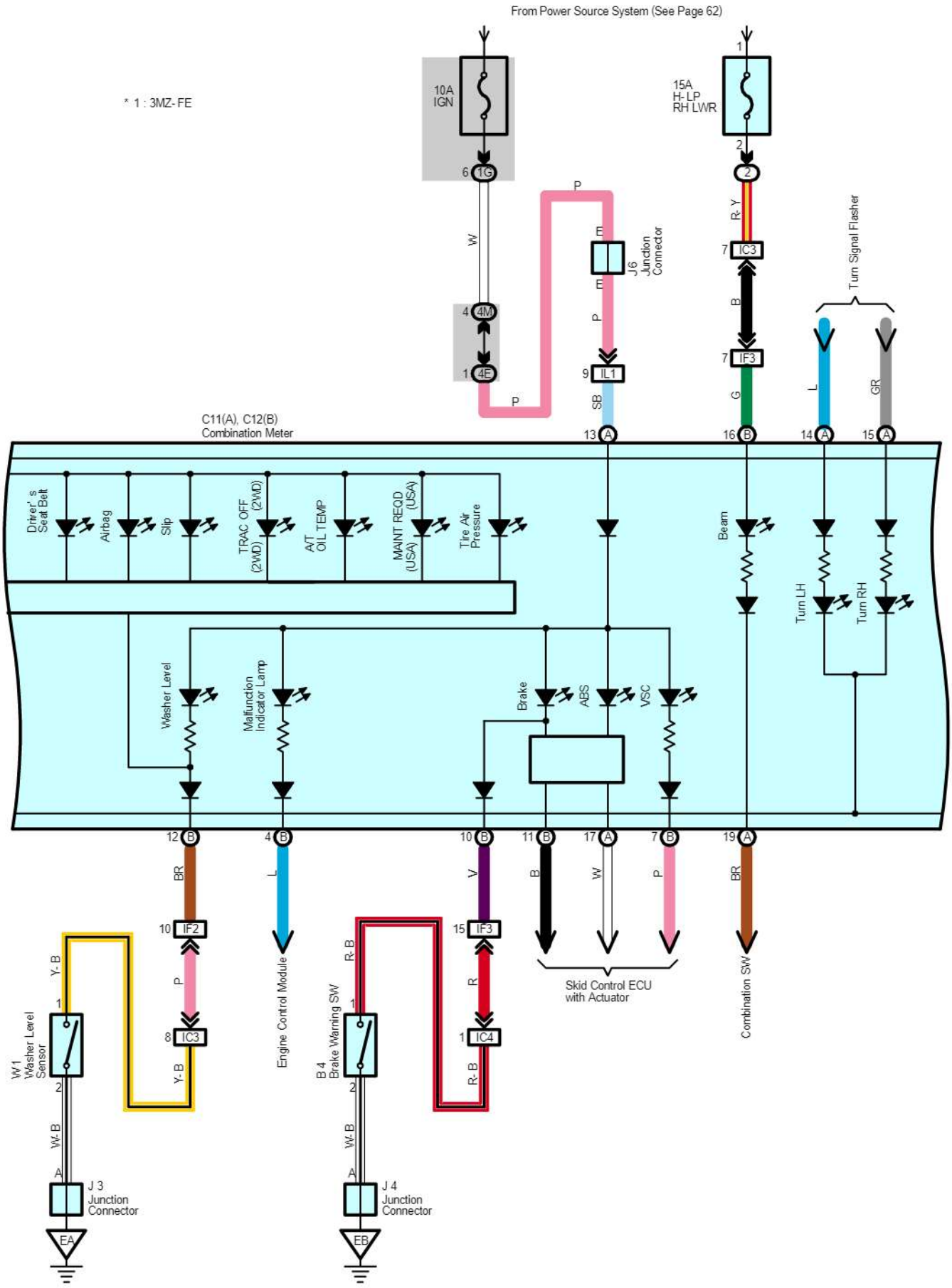
: GROUND POINTS

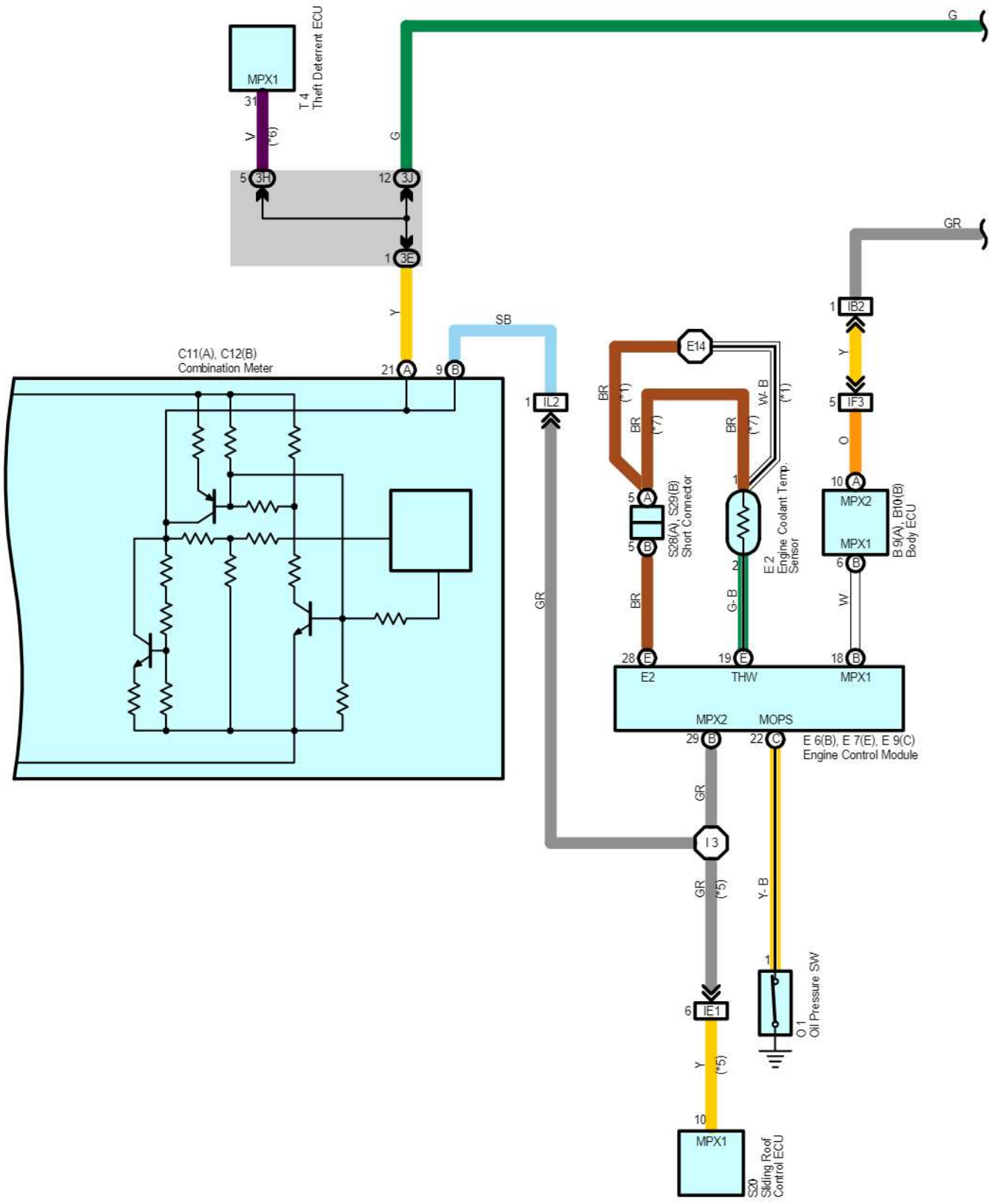
Code	See Page	Ground Points Location
IB	52	Right Instrument Panel Brace

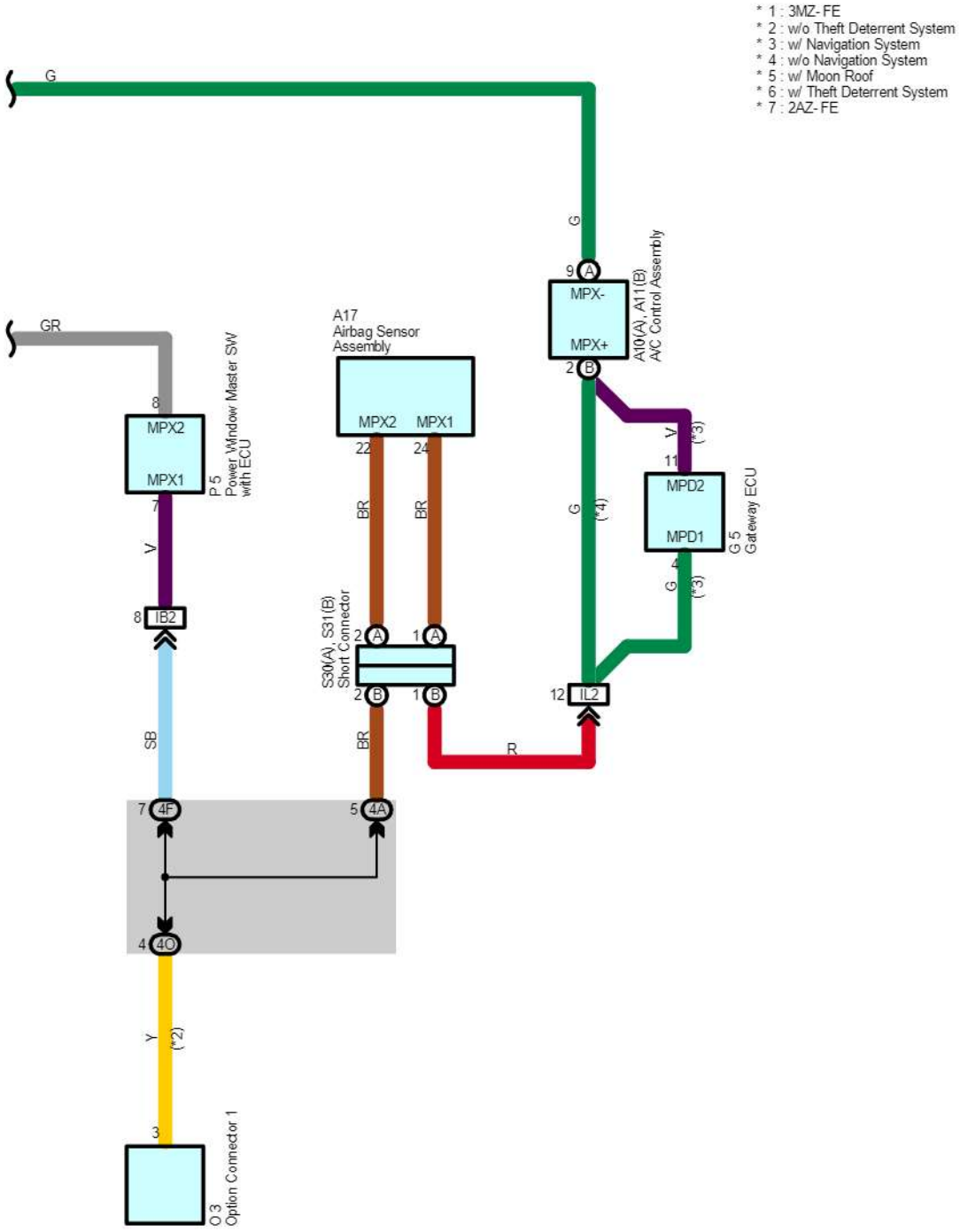

Illumination Lights
B
7 A
C11(A), C12(B)
Combination Meter
LCD
Speedometer
Tachometer
Fuel
Water Temp.
22 A
1 B
6 B
13 B
W-B
O
GR
W
9 3J
18 IF3
BR
6 3F
12 3K
1 3B
10 3E
15 IC4
BR-R
12
SP1
S27
Skid Control ECU
with Actuator
Multi- Display
Navigation
ECU
Engine Control
Module
13 3F
W-B
BR
BR
1B


From Power Source System (See Page 62)
10A
HEATER
7.5A
ECU-B
10A
DOME
13 1K
4 2A
3 2A
W-L
B
5 IC3
BR
11 IL2
LG
V
R
12 IK3
V
4 3A
10 1G
9 3F
6 4H
7 3C
1 1K
3 3D
11 4D
P
LG
V
V
1 A
2 A
12 A
C11(A), C12(B)
Combination Meter
Rheostat
7V
5V
Buzzer
Door
11 A
9 A
R
V
O
11 IR2
2 IR2
Y
O
14 BH1
5 BH1
12 3B
6 3B
O
P
D
A
J13
Junction
Connector
2 3K
D
A
O
P
BR
3
2
BR
F12
Fuel Sender


C11(A), C12(B)
Combination Meter
P
R
N
D
3
(*1)
(*1)
2
L
Fuel
O/D OFF
ECT SNOW
Charge
Oil Pressure
CRUISE


From Power Source System (See Page 62)
* 1 : 3MZ-FE
10A IGN
15A H-LP RH LWR
J6 Junction Connector
Turn Signal Flasher
C11(A), C12(B) Combination Meter
Driver's Seat Belt
Airbag
Slip
TRAC OFF (2WD)
A/T OIL TEMP
MAINT REQD (USA)
Tire Air Pressure
Beam
Turn LH
Turn RH
Washer Level
Malfunction Indicator Lamp
Brake
ABS
VSC
Skid Control ECU with Actuator
Combination SW
Engine Control Module
W1 Washer Level Sensor
B4 Brake Warning SW
J 3 Junction Connector
J 4 Junction Connector
EA
EB


MPX1
31
V
(*6)
T4
Theft Deterrent ECU
5 3H
12 3J
1 3E
G
G
GR
Y
SB
C11(A), C12(B)
Combination Meter
21 A
9 B
1 IL2
1 IB2
Y
5 IF3
O
10 A
MPX2
MPX1
6 B
W
B9(A), B10(B)
Body ECU
E14
BR
(*1)
BR
(*7)
BR
(*7)
W-B
(*1)
5 A
5 B
S28(A), S29(B)
Short Connector
1
2
E2
Engine Coolant Temp.
Sensor
BR
G-B
28 E
19 E
18 B
E2
THW
MPX1
MPX2
MOPS
29 B
22 C
E 6(B), E 7(E), E 9(C)
Engine Control Module
GR
I 3
GR
(*5)
Y-B
1
O 1
Oil Pressure SW
6 IE1
Y
(*5)
10
MPX1
S20
Sliding Roof
Control ECU


* 1 : 3MZ- FE
* 2 : w/o Theft Deterrent System
* 3 : w/ Navigation System
* 4 : w/o Navigation System
* 5 : w/ Moon Roof
* 6 : w/ Theft Deterrent System
* 7 : 2AZ- FE
G
GR
A17
Airbag Sensor
Assembly
MPX2
MPX1
MPX-
MPX+
A10(A), A11(B)
A/C Control Assembly
P 5
Power Window Master SW
with ECU
MPD2
MPD1
G 5
Gateway ECU
S30(A), S31(B)
Short Connector
IB2
IL2
4F
4A
4O
O 3
Option Connector 1
V
BR
SB
R
Y
(*2)
(*3)
(*4)

Combination Meter

Service Hints

C11 (A) Combination Meter

(A)12-Ground : Always approx. 12 volts
(A) 1-Ground : Approx. 12 volts with the ignition SW at ON position
(A) 2-Ground : Always approx. 12 volts
(A)11-Ground : Always continuity
(A)22-Ground : Always continuity

F12 Fuel Sender

2-3 : Approx. 1.9-2.1 Ω at fuel full
Approx. 38.6-38.8 Ω at fuel empty

○ : PARTS LOCATION

Code		See Page	Code		See Page	Code		See Page
A10	A	42	E6	B	42	P5		44
A11	B	42	E7	E	42	S20		45
A17		42	F12		44	S27		39 (3MZ-FE)
B4		38 (3MZ-FE)	G5		43			41 (2AZ-FE)
		40 (2AZ-FE)	J4		39 (3MZ-FE)	S28	A	43
B9	A	42			41 (2AZ-FE)	S29	B	43
B10	B	42	J6		43	S30	A	43
C11	A	42	J13		44	S31	B	43
C12	B	42	O1		39 (3MZ-FE)	T4		43
E2		38 (3MZ-FE)			41 (2AZ-FE)	W1		39 (3MZ-FE)
		40 (2AZ-FE)	O3		43			41 (2AZ-FE)

▭ : RELAY BLOCKS

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

▭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3B		
3C		
3D		
3E		
3F		
3H	31	
3J		
3K		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4D		
4E		
4F		
4H		
4M	32	
4O		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IC4		
IE1	52	Roof Wire and Cowl Wire (Near the Bottom of Left Front Pillar)
IF2	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IF3		
IK3	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IL1	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)
IL2		
IR2	54	Instrument Panel Wire and Floor Wire (Under the Shift Lever)
BH1	56	Floor No.2 Wire and Floor Wire (Near the Rear Side Marker Light RH)

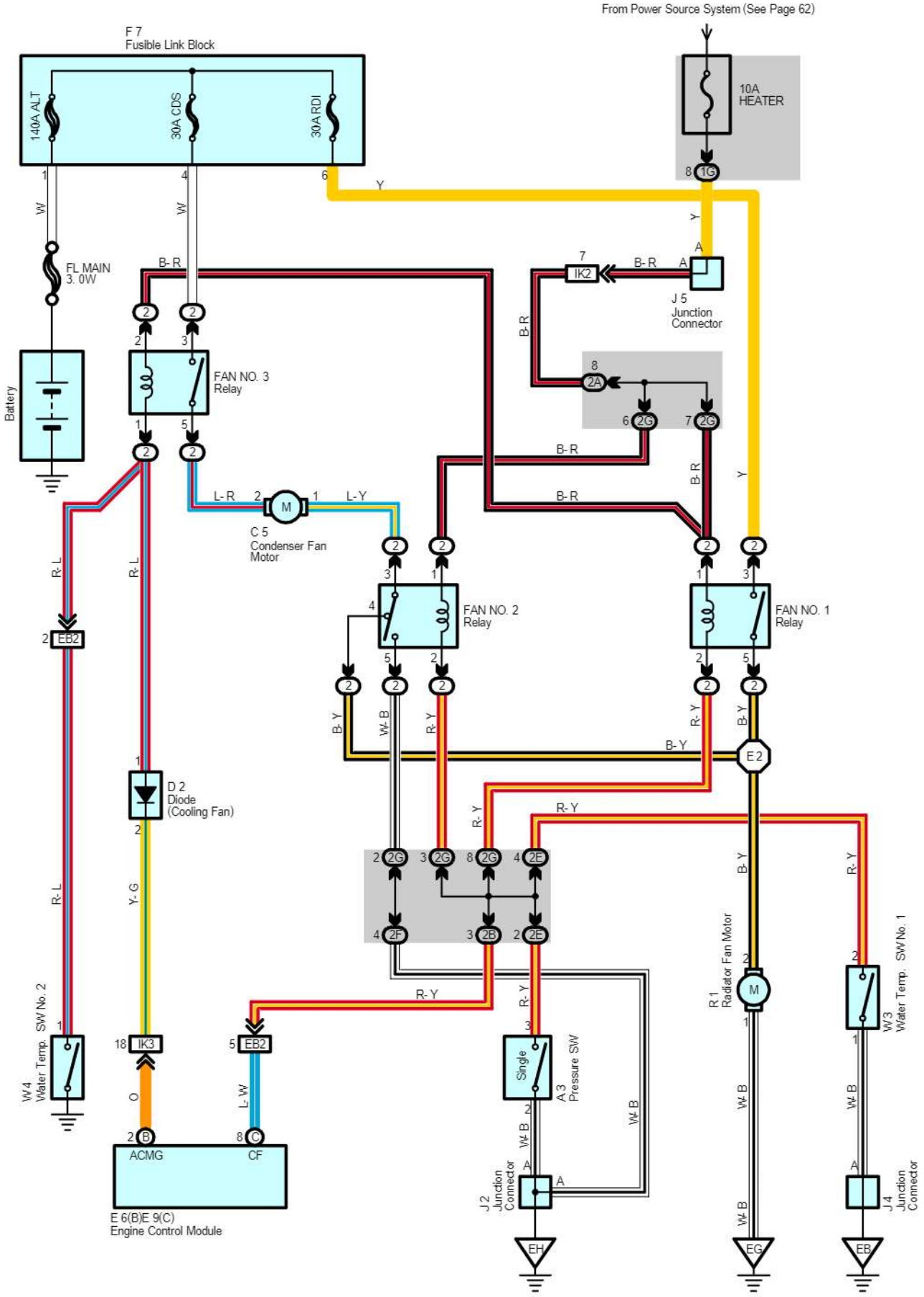
: GROUND POINTS

Code	See Page	Ground Points Location
EA	48 (3MZ-FE)	Right Front Fender Apron
	50 (2AZ-FE)	
EB	48 (3MZ-FE)	
	50 (2AZ-FE)	
IB	52	Right Instrument Panel Brace

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E14	48 (3MZ-FE)	Engine Wire	I3	54	Cowl Wire

Radiator Fan and Condenser Fan for 3MZ-FE



System Outline

The radiator fan motor and condenser fan motor operates according to the water temp. SW NO.1, water temp. SW NO.2, A/C single pressure SW, and the A/C system condition. The FAN NO.1 relay, FAN NO.2 relay, FAN NO.3 relay are turned on/off, to operate the fan motors at low speed (In series), or high speed (In parallel).

Low Speed Operation

When the A/C system is operated, or the water temp. SW no.2 is turned on, the condenser fan motor and radiator fan motor rotate at low speed.

High Speed Operation

When the A/C single pressure SW is turned on, or the water temp. SW no.1 is turned on, the condenser fan motor and radiator fan motor rotate at high speed.

Service Hints

A3 Pressure SW

3-2 : Close above approx. 15.5 kgf/cm^2 (220 psi, 1520 kpa)
Open below approx. 12.5 kgf/cm^2 (178 psi, 1226 kpa)

W3 Water Temp. SW No. 1

2-1 : Close above approx. 95°C (203°F)

W4 Water Temp. SW No. 2

1-Ground : Close above approx. 90°C (198°F)

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A3	38 (3MZ-FE)	E9 C	42	J5	43
C5	38 (3MZ-FE)	F7	38 (3MZ-FE)	R1	39 (3MZ-FE)
D2	42	J2	39 (3MZ-FE)	W3	39 (3MZ-FE)
E6 B	42	J4	39 (3MZ-FE)	W4	39 (3MZ-FE)

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2E		
2F		
2G		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB2	48 (3MZ-FE)	Engine Wire and Engine Room Main Wire (Front Side of Engine Room R/B)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		

: GROUND POINTS

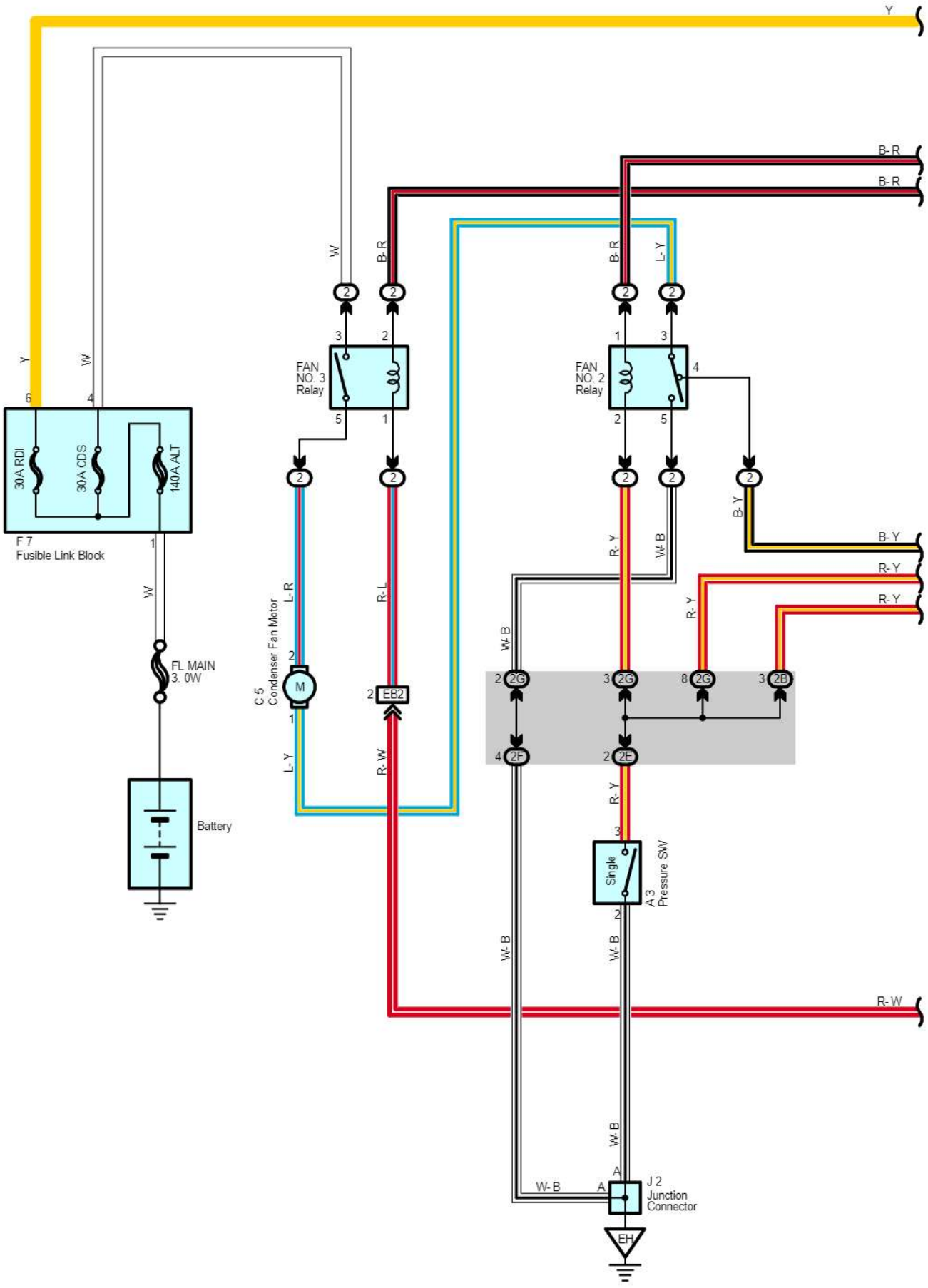
Code	See Page	Ground Points Location
EB	48 (3MZ-FE)	Right Front Fender Apron
EG	48 (3MZ-FE)	Under the Left Headlight
EH		

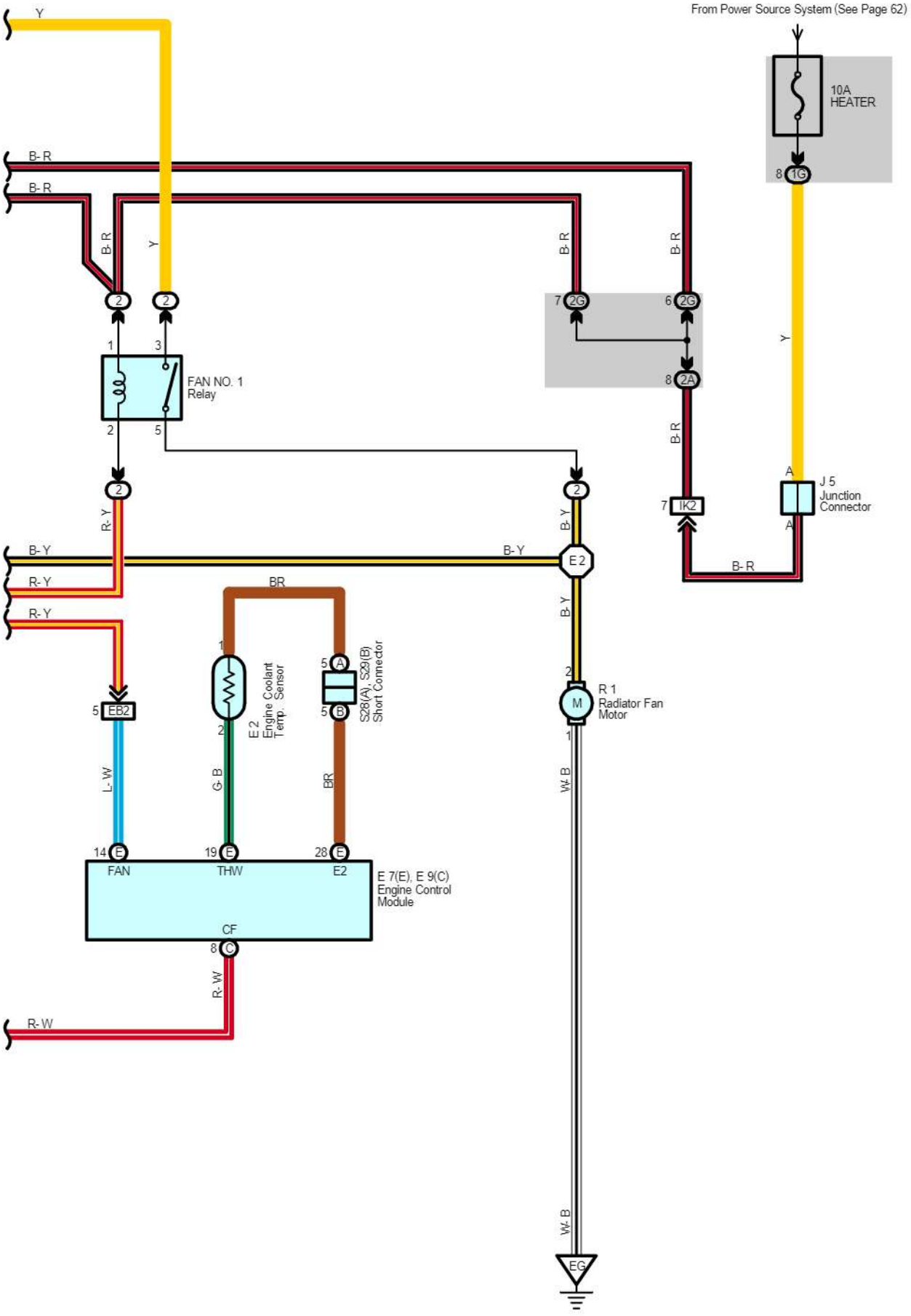
Radiator Fan and Condenser Fan for 3MZ-FE

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E2	48 (3MZ-FE)	Engine Room Main Wire			

Radiator Fan and Condenser Fan for 2AZ-FE




From Power Source System (See Page 62)
10A
HEATER
8 1G
Y
B-R
B-R
B-R
Y
B-R
B-R
2
2
7 2G
6 2G
1
3
FAN NO. 1
Relay
2
5
8 2A
B-R
A
J 5
Junction
Connector
7 IK2
A
B-R
2
2
R-Y
B-Y
B-Y
B-Y
E 2
R-Y
BR
R-Y
1
5 A
5 B
S28(A), S29(B)
Short Connector
2
E 2
Engine Coolant
Temp. Sensor
2
R 1
Radiator Fan
Motor
M
1
5 EB2
L-W
G-B
BR
W-B
14 E
19 E
28 E
FAN
THW
E2
E 7(E), E 9(C)
Engine Control
Module
CF
8 C
R-W
R-W
W-B
EG

Radiator Fan and Condenser Fan for 2AZ-FE

System Outline

The radiator fan motor and condenser fan motor operates according to the engine coolant temp. SW, A/C single pressure SW, the engine system condition, and the A/C system condition. The FAN NO.1 relay, FAN NO.2 relay, FAN NO.3 relay are turned on/off, to operate the fan motors at low speed (In series), or high speed (In parallel).

1. Low Speed Operation

Either when the A/C system is operating, the radiator fan motor and A/C condenser fan motor operates at low speed.

2. High Speed Operation

When either the engine coolant temp. SW or A/C single pressure SW is, or both of them are turned on, the radiator fan motor and A/C condenser fan motor operate at high speed.

Service Hints

A3 Pressure SW

3-2 : Open above approx. 15.5 kgf/cm^2 (220 psi, 1520 kpa)
Close below approx. 12.5 kgf/cm^2 (178 psi, 1226 kpa)

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A3	40 (2AZ-FE)	E9 C	42	R1	41 (2AZ-FE)
C5	40 (2AZ-FE)	F7	40 (2AZ-FE)	S28 A	43
E2	40 (2AZ-FE)	J2	41 (2AZ-FE)	S29 B	43
E7 E	42	J5	43		

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2B		
2E		
2F		
2G		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

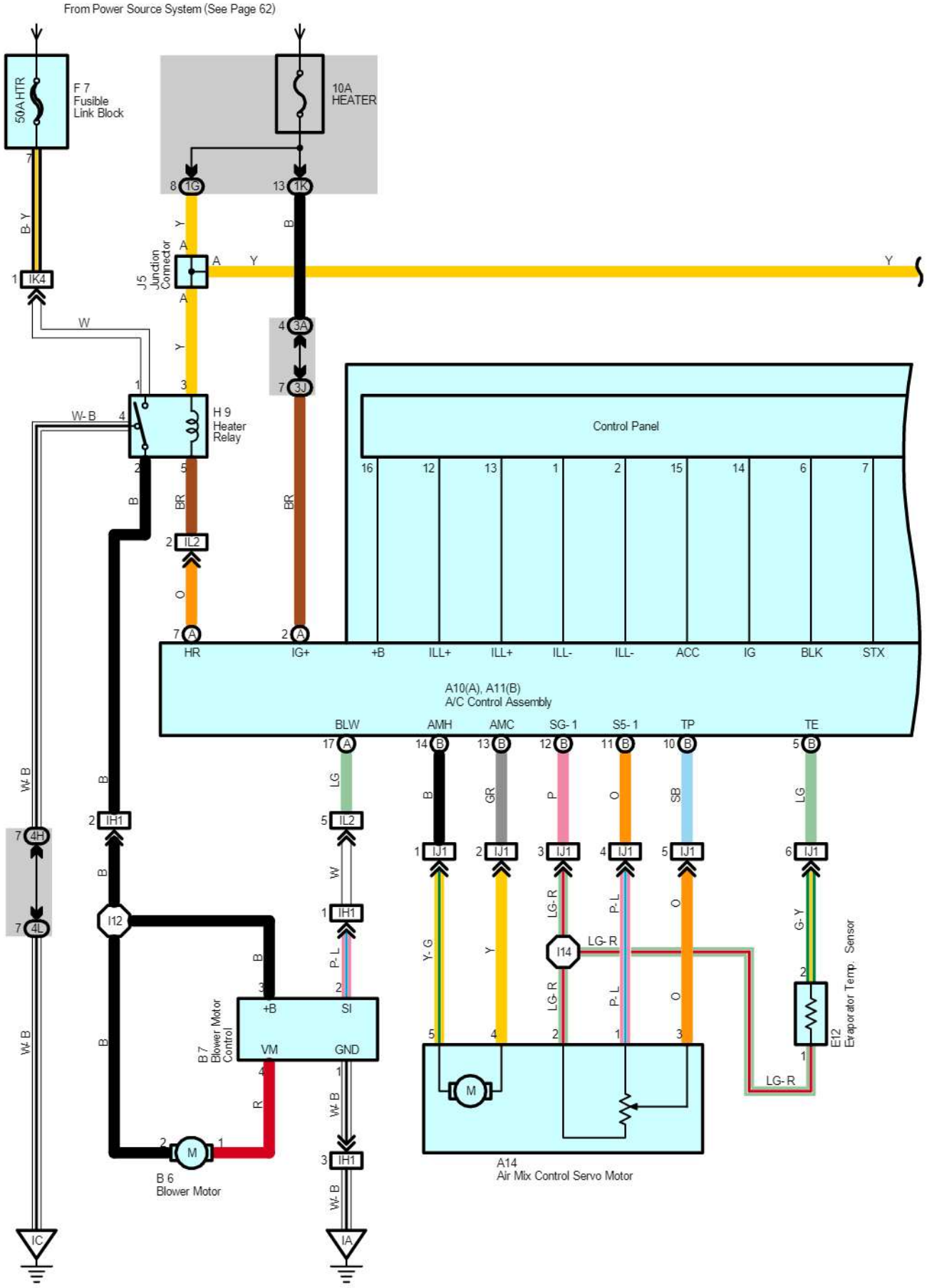
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB2	50 (2AZ-FE)	Engine Wire and Engine Room Main Wire (Front Side of Engine Room R/B)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)

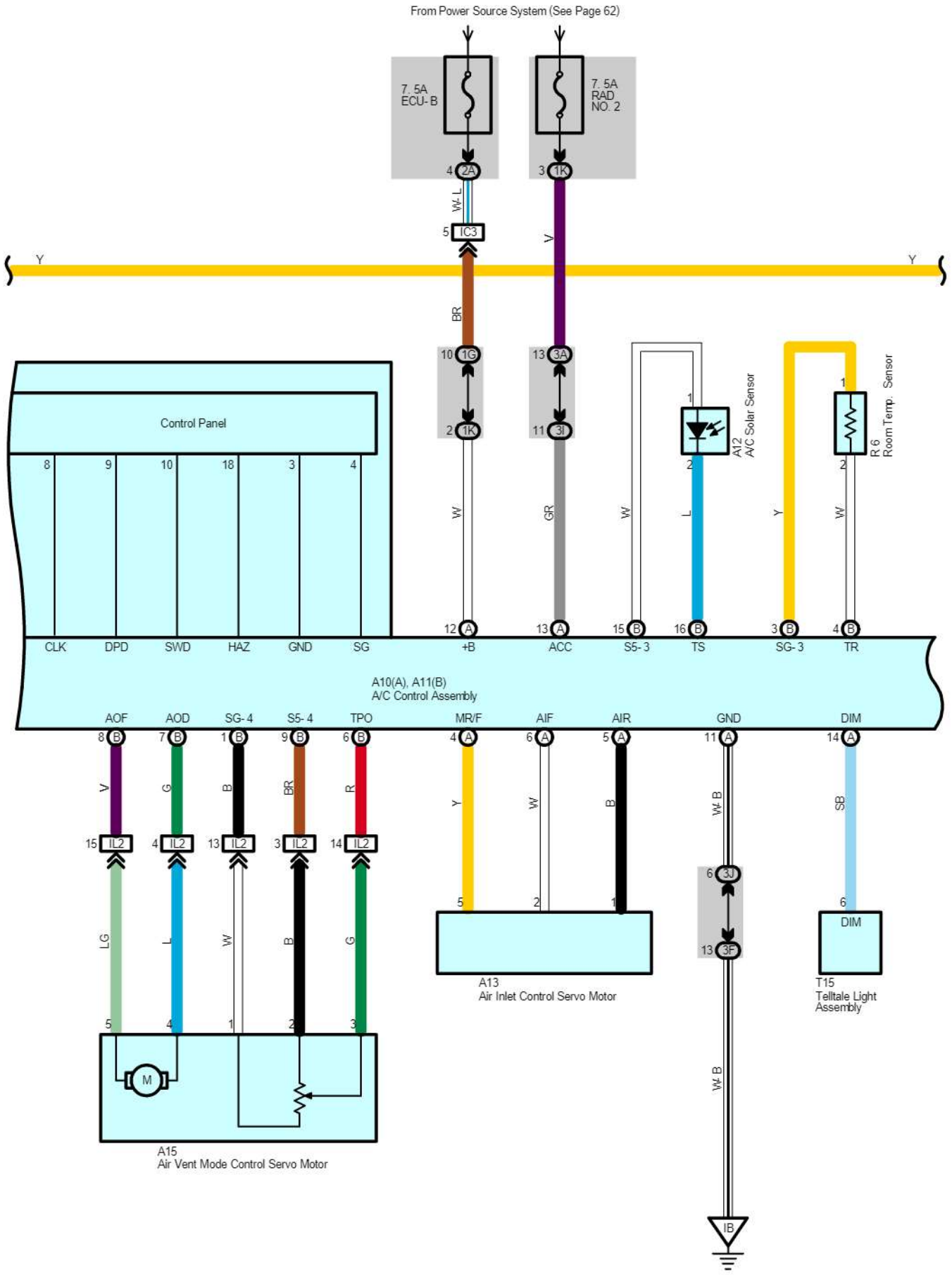
: GROUND POINTS

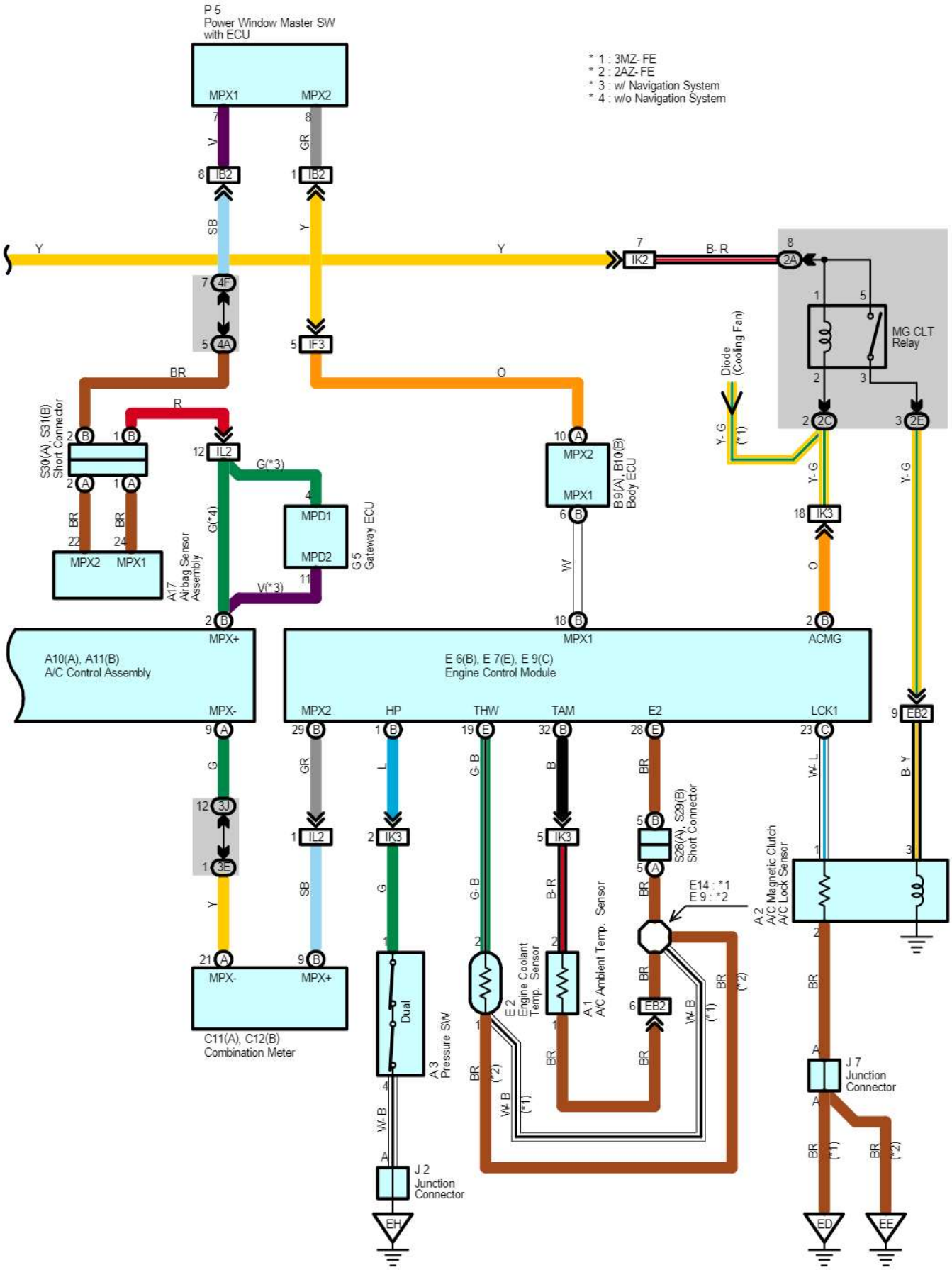
Code	See Page	Ground Points Location
EG	50 (2AZ-FE)	Under the Left Headlight
EH		

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E2	50 (2AZ-FE)	Engine Room Main Wire			


From Power Source System (See Page 62)
50A HTR
F 7
Fusible
Link Block
10A
HEATER
1G
1K
B-Y
IK4
J5
Junction
Connector
W
H 9
Heater
Relay
W-B
3A
3J
Control Panel
16
12
13
1
2
15
14
6
7
BR
IL2
O
HR
IG+
+B
ILL+
ILL+
ILL-
ILL-
ACC
IG
BLK
STX
A10(A), A11(B)
A/C Control Assembly
BLW
AMH
AMC
SG-1
S5-1
TP
TE
LG
IH1
I12
4H
4L
IC
IA
B 7
Blower Motor
Control
+B
SI
VM
GND
R
B 6
Blower Motor
IJ1
GR
P
SB
LG-R
P-L
Y-G
G-Y
I14
E12
Evaporator Temp. Sensor
A14
Air Mix Control Servo Motor


From Power Source System (See Page 62)
7. 5A ECU- B
7. 5A RAD NO. 2
4 2A
3 1K
W- L
5 IC3
Y
BR
10 1G
2 1K
13 3A
11 3I
Control Panel
8 9 10 18 3 4
CLK DPD SWD HAZ GND SG
W
GR
A12 A/C Solar Sensor
R 6 Room Temp. Sensor
12 A
13 A
15 B
16 B
3 B
4 B
+B ACC S5- 3 TS SG- 3 TR
A10(A), A11(B) A/C Control Assembly
AOF AOD SG- 4 S5- 4 TPO MR/F AIF AIR GND DIM
V G B BR R Y W B W- B SB
15 IL2
4 IL2
13 IL2
3 IL2
14 IL2
LG L W B G
M
A15 Air Vent Mode Control Servo Motor
A13 Air Inlet Control Servo Motor
6 3J
13 3F
DIM
T15 Telltale Light Assembly
IB


P 5
Power Window Master SW with ECU
MPX1
MPX2
* 1 : 3MZ- FE
* 2 : 2AZ- FE
* 3 : w/ Navigation System
* 4 : w/o Navigation System
IB2
IF3
IK2
4F
4A
2A
MG CLT Relay
Diode (Cooling Fan)
2C
2E
IK3
EB2
S30(A), S31(B) Short Connector
IL2
MPD1
MPD2
G 5 Gateway ECU
A17 Airbag Sensor Assembly
B 9(A), B10(B) Body ECU
A10(A), A11(B) A/C Control Assembly
MPX+
MPX-
E 6(B), E 7(E), E 9(C) Engine Control Module
ACMG
MPX2
HP
THW
TAM
E2
LCK1
3J
3E
C11(A), C12(B) Combination Meter
A 3 Pressure SW
Dual
E 2 Engine Coolant Temp. Sensor
A 1 A/C Ambient Temp. Sensor
S28(A), S29(B) Short Connector
E14 : *1
E 9 : *2
A 2 A/C Magnetic Clutch A/C Lock Sensor
J 2 Junction Connector
J 7 Junction Connector
EH
ED
EE

Service Hints

A3 Pressure SW

1-4 : Open with the pressure less than 2.0 kgf/cm^2 (28 psi, 196 kpa) or above 32 kgf/cm^2 (455 psi, 3138 kpa)

A10 (A) A/C Control Assembly

(A)12-Ground : Always approx. 12 volts
(A) 2-Ground : Approx. 12 volts with the ignition SW at ON position
(A)11-Ground : Always continuity

○ : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A1	38 (3MZ-FE)	B7	42	H9	43
	40 (2AZ-FE)	B9 A	42	J2	39 (3MZ-FE)
A2	38 (3MZ-FE)	B10 B	42		41 (2AZ-FE)
	40 (2AZ-FE)	C11 A	42	J5	43
A3	38 (3MZ-FE)	C12 B	42	J7	43
	40 (2AZ-FE)	E2	38 (3MZ-FE)	P5	44
A10 A	42		40 (2AZ-FE)	R6	43
A11 B	42	E6 B	42	S28 A	43
A12	42	E7 E	42	S29 B	43
A13	42	E9 C	42	S30 A	43
A14	42	E12	42	S31 B	43
A15	42	F7	38 (3MZ-FE)	T15	43
A17	42		40 (2AZ-FE)		
B6	42	G5	43		

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2C		
2E		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3E		
3F		
3I	31	
3J		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4F		
4H		
4L	32	

▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB2	48 (3MZ-FE)	Engine Wire and Engine Room Main Wire (Front Side of Engine Room R/B)
	50 (2AZ-FE)	
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IH1	54	Cowl Wire and A/C Sub No.2 Wire (Upper Portion of Right Instrument Panel Brace)
IJ1	54	Instrument Panel Wire and A/C Sub No.3 Wire (Upper Portion of Right Instrument Panel Brace)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		
IK4		
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)



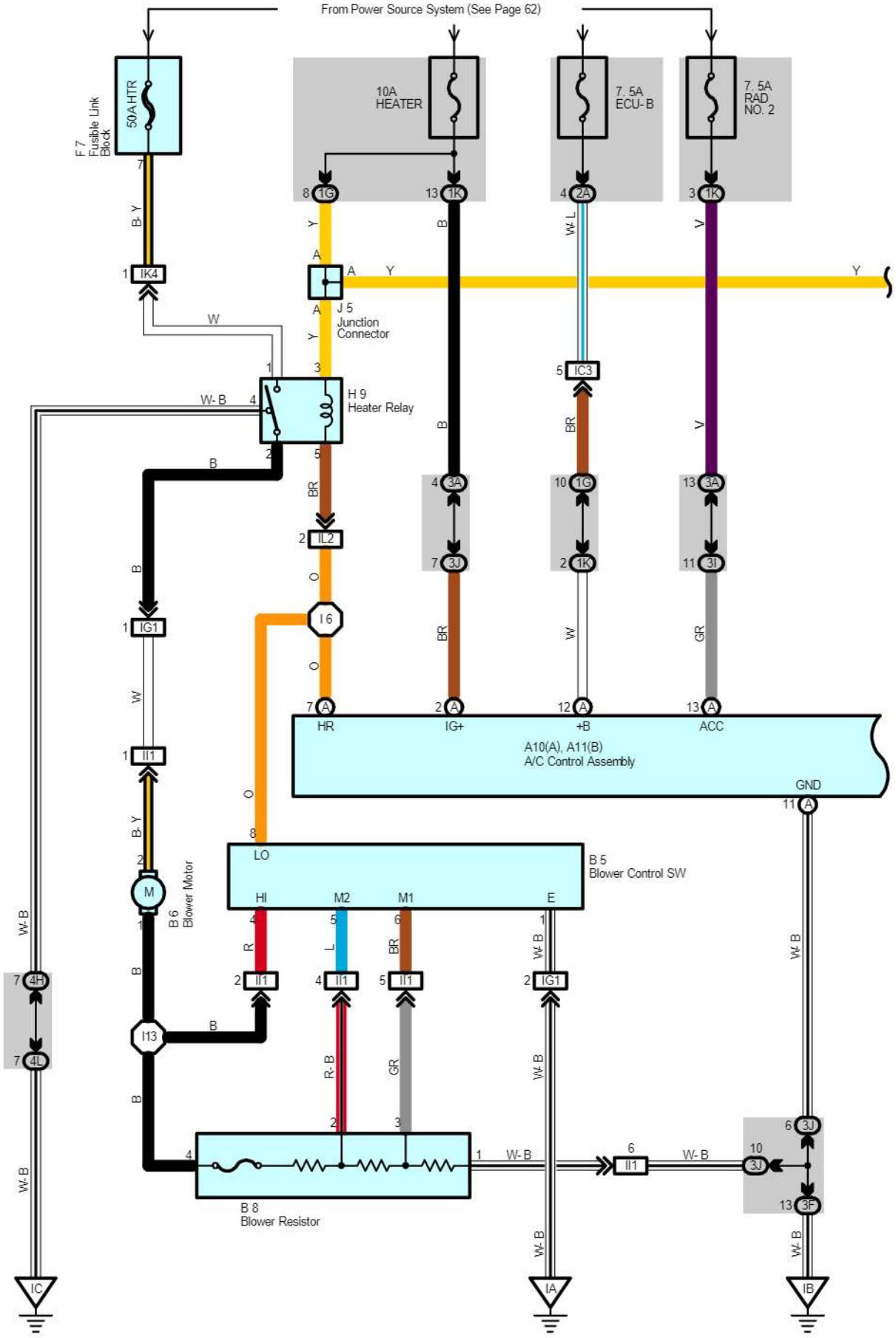
: GROUND POINTS

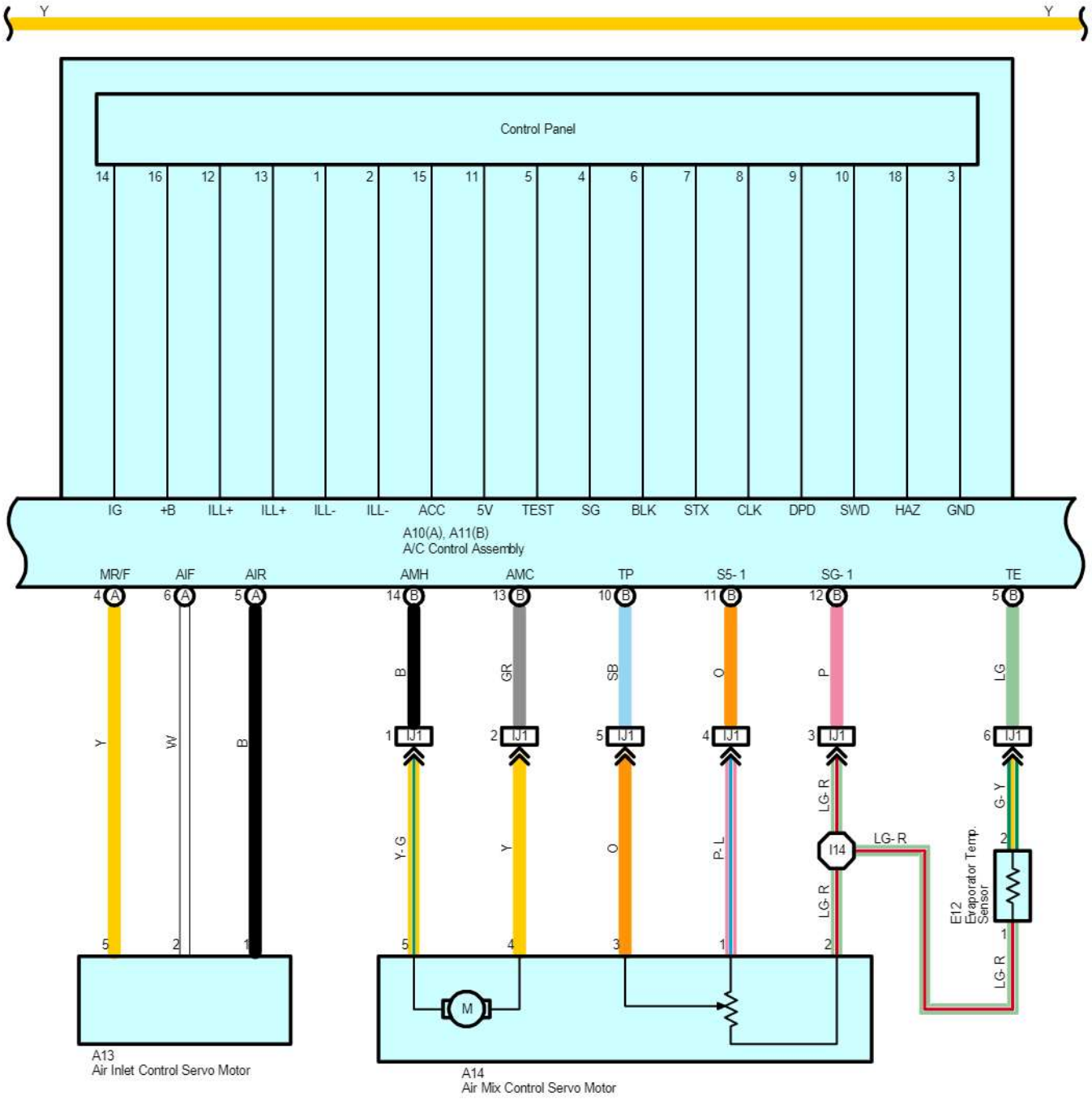
Code	See Page	Ground Points Location
ED	48 (3MZ-FE)	Rear Side of
EE	50 (2AZ-FE)	Intake Side of Cylinder Block
EH	48 (3MZ-FE)	Under the Left Headlight
	50 (2AZ-FE)	
IA	52	Left Cowl Side Panel
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel

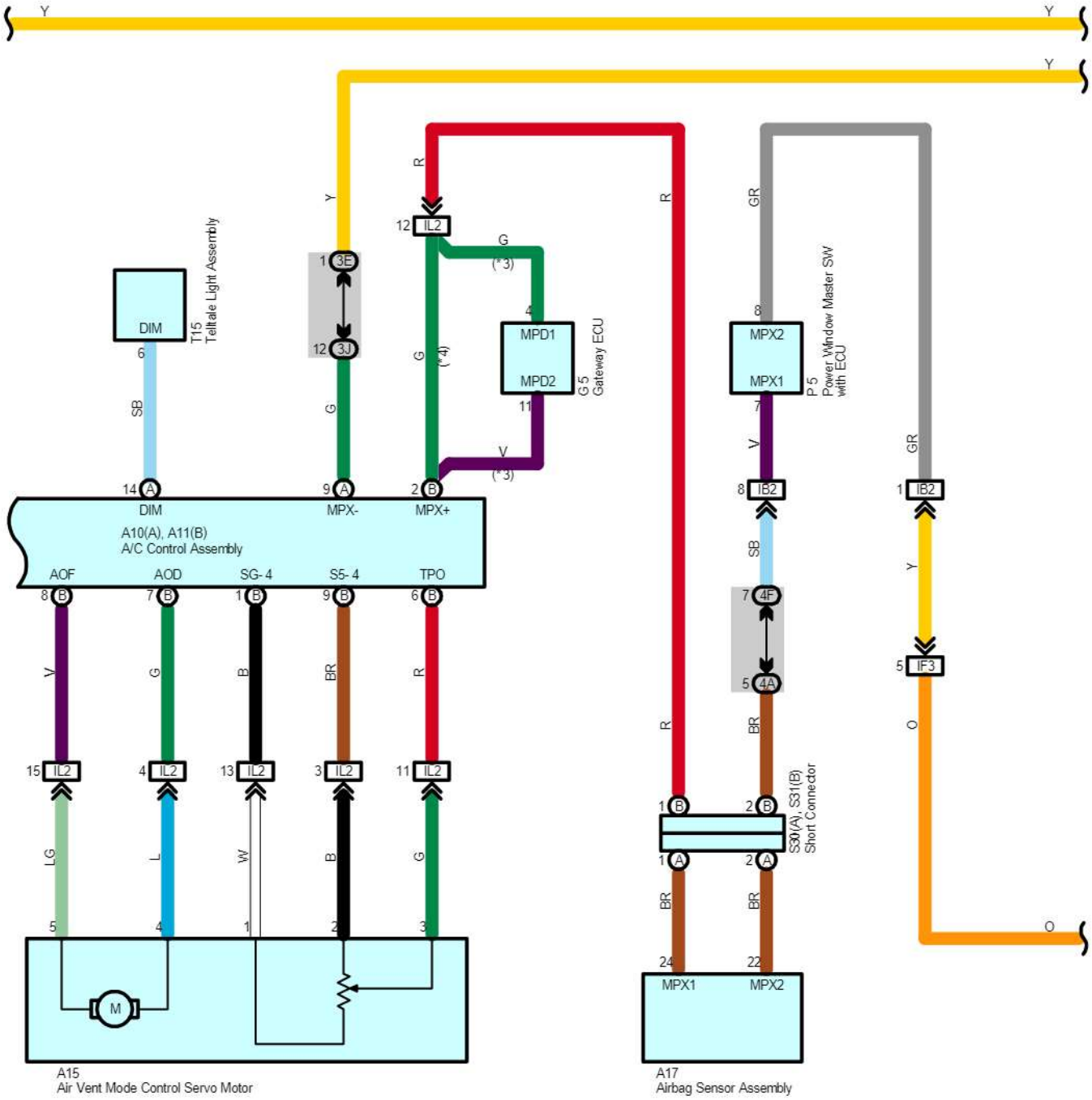


: SPLICE POINTS

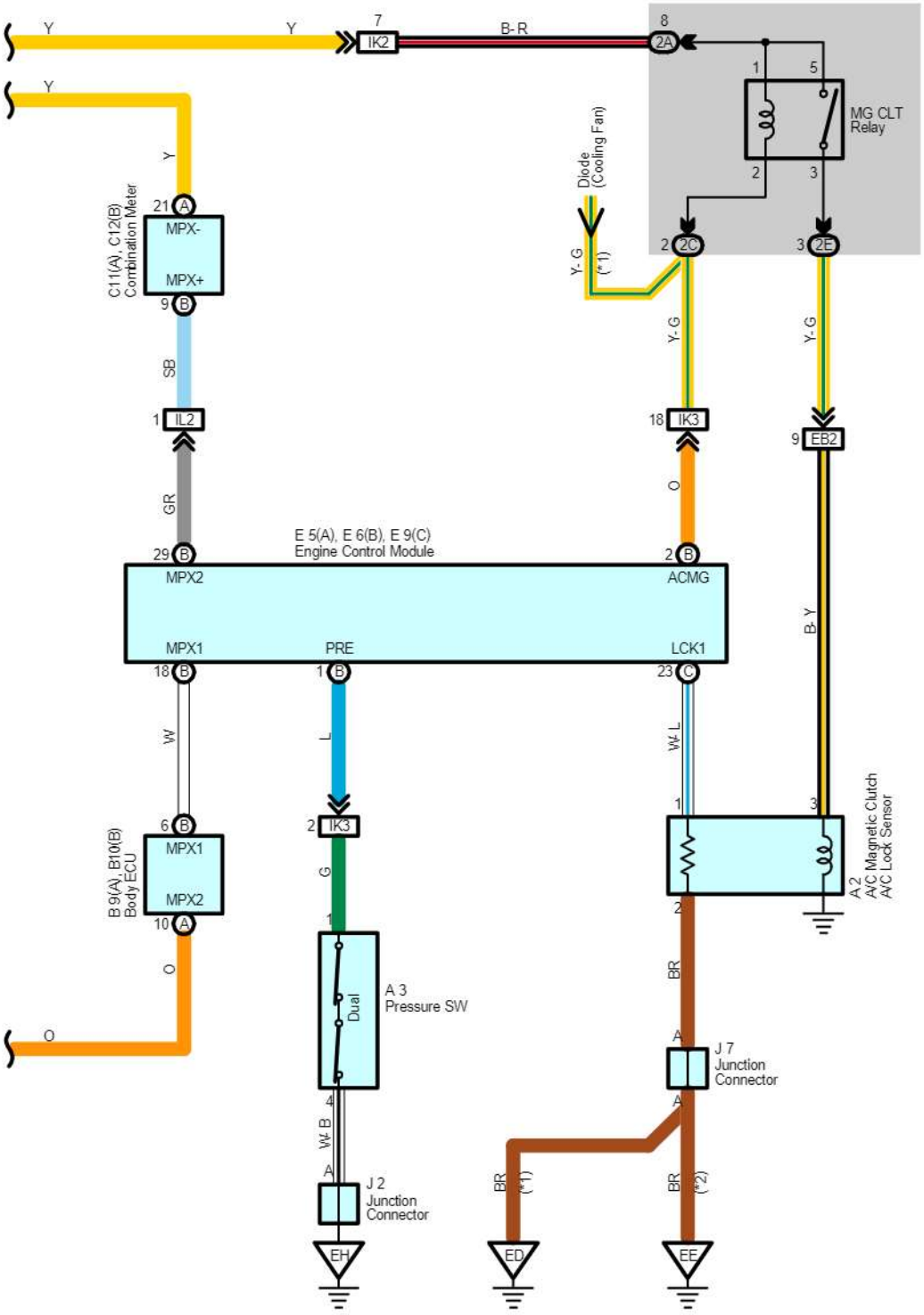
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E9	50 (2AZ-FE)	Engine Wire	I12	54	A/C Sub No.2 Wire
E14	48 (3MZ-FE)		I14	54	A/C Sub No.3 Wire


From Power Source System (See Page 62)
F 7
Fusible Link
Block
50A HTR
10A
HEATER
7. 5A
ECU- B
7. 5A
RAD
NO. 2
J 5
Junction
Connector
H 9
Heater Relay
A10(A), A11(B)
A/C Control Assembly
HR
IG+
+B
ACC
GND
B 5
Blower Control SW
LO
HI
M2
M1
E
B 6
Blower Motor
B 8
Blower Resistor


Y
Y
Control Panel
14 16 12 13 1 2 15 11 5 4 6 7 8 9 10 18 3
IG +B ILL+ ILL+ ILL- ILL- ACC 5V TEST SG BLK STX CLK DPD SWD HAZ GND
A10(A), A11(B)
A/C Control Assembly
MR/F AIF AIR AMH AMC TP S5-1 SG-1 TE
4 6 5 14 13 10 11 12 5
Y W B B GR SB O P LG
1 2 3 4 5 6
IJ1
Y-G Y O P-L LG-R G-Y
LG-R
I14
LG-R
LG-R
E12
Evaporator Temp. Sensor
5 2 1 5 4 3 1 2 1
M
A13
Air Inlet Control Servo Motor
A14
Air Mix Control Servo Motor


Y
Y
Y
R
Y
12 IL2
G
(*3)
1 3E
12 3J
G
G
(*4)
4
MPD1
MPD2
11
G 5
Gateway ECU
V
(*3)
R
GR
8
MPX2
MPX1
7
P 5
Power Window Master SW
with ECU
V
8 IB2
SB
7 4F
5 4A
BR
S30(A), S31(B)
Short Connector
GR
1 IB2
Y
5 IF3
O
O
R
1 B
2 B
1 A
2 A
BR
BR
24
22
MPX1
MPX2
A17
Airbag Sensor Assembly
DIM
T15
Telltale Light Assembly
6
SB
14 A
DIM
9 A
MPX-
2 B
MPX+
A10(A), A11(B)
A/C Control Assembly
AOF
AOD
SG- 4
S5- 4
TPO
8 B
7 B
1 B
9 B
6 B
V
G
B
BR
R
15 IL2
4 IL2
13 IL2
3 IL2
11 IL2
LG
L
W
B
G
5
4
1
2
3
M
A15
Air Vent Mode Control Servo Motor

* 1 : 3MZ-FE
* 2 : 2AZ-FE
* 3 : w/ Navigation System
* 4 : w/o Navigation System



System Outline

1. Heater Blower Motor Operation

Current is applied at all times through the HTR fuse to TERMINAL 1 of the HEATER relay.
When the ignition SW is turned on, current flows through the HEATER fuse to TERMINAL 3 of the HEATER relay to TERMINAL 5 to TERMINAL 8 of the blower control SW.

* Low speed operation
  When the blower SW is moved to LO position, the current to TERMINAL 8 of the blower control SW flows to TERMINAL 1 to GROUND, causing the HEATER relay is turned on. This causes the current to flow from the HTR fuse to TERMINAL 1 of the HEATER relay to TERMINAL 2 to TERMINAL 2 of the blower motor to TERMINAL 1 to TERMINAL 1 of the blower resistor to TERMINAL 4 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, the current to TERMINAL 8 of the blower control SW flows to TERMINAL 1 to GROUND, turns the HEATER relay on. This causes the current to flow from the HTR fuse to TERMINAL 1 of the HEATER relay to TERMINAL 2 to TERMINAL 2 of the blower motor to TERMINAL 1 to TERMINAL 1 of the blower resistor to TERMINAL 2 to TERMINAL 6 of the blower control 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 control SW is moved to M2 position, current flowing through the motor flows from TERMINAL 1 of the blower resistor to TERMINAL 3 to TERMINAL 5 of the blower control 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 HI position, the current flows to TERMINAL 8 of the blower control SW to TERMINAL 1 to GROUND and turns the HEATER relay on.
  This causes the current to flow from the HTR fuse to TERMINAL 1 of the HEATER relay to TERMINAL 2 to TERMINAL 2 of the blower motor to TERMINAL 1 to TERMINAL 4 of the blower control SW to TERMINAL 1 to GROUND, causing the blower motor to rotate at high speed.

2. Air Conditioning Operation

If the A/C control SW is turned on when the blower SW is set to on, A/C operation starts. However, when the mode SW is at DEF or FOOT/DEF position, forcibly the air intake is set to FRESH mode and the A/C operates.

Service Hints

A3 Pressure SW

1-4 : Open with the pressure less than 2.0 kgf/cm^2 (28 psi, 196 kpa) or above 32 kgf/cm^2 (455 psi, 3138 kpa)

A10 (A) A/C Control Assembly

(A)11-Ground : Always continuity
(A) 2-Ground : Approx. 12 volts with the ignition SW at ON position
(A)12-Ground : Always approx. 12 volts
(A)13-Ground : Approx. 12 volts with the ignitino SW at ACC or ON position

B8 Blower Resistor

1-3 : Approx. 0.22 Ω
1-2 : Approx. 0.69 Ω
1-4 : Approx. 1.69 Ω

B5 Blower Control SW

8-1 : Continuity with the blower SW at LO, M1, M2 or HI position
6-1 : Continuity with the blower SW at M1 position
5-1 : Continuity with the blower SW at M2 position
4-1 : Continuity with the blower SW at HI position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
A2	38 (3MZ-FE)	B6	42	F7	40 (2AZ-FE)
	40 (2AZ-FE)	B8	42	G5	43
A3	38 (3MZ-FE)	B9 A	42	H9	43
	40 (2AZ-FE)	B10 B	42	J2	39 (3MZ-FE)
A10 A	42	C11 A	42		41 (2AZ-FE)
A11 B	42	C12 B	42	J5	43
A13	42	E5 A	42	J7	43
A14	42	E6 B	42	P5	44
A15	42	E9 C	42	S30 A	43
A17	42	E12	42	S31 B	43
B5	42	F7	38 (3MZ-FE)	T15	43

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
2A	27	Engine Room Main Wire and Engine Room J/B (Engine Compartment Left)
2C		
2E		
3A	30	Instrument Panel Wire and Center J/B (Behind the Instrument Panel Center)
3E		
3F		
3I	31	
3J		
4A	33	Cowl Wire and Passenger Side J/B (Right Side of Grove Box)
4F		
4H		
4L	32	

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

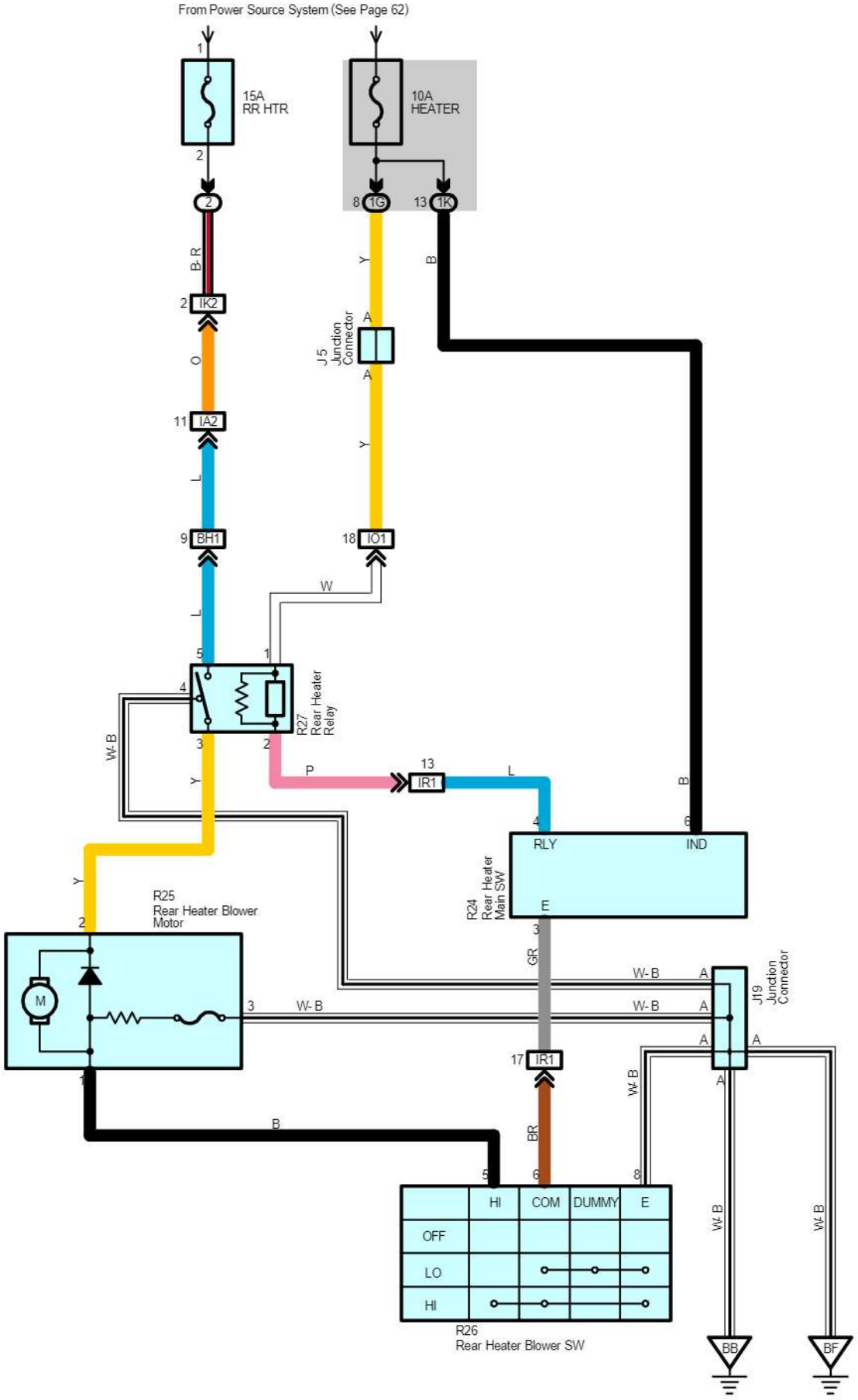
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EB2	48 (3MZ-FE)	Engine Wire and Engine Room Main Wire (Front Side of Engine Room R/B)
	50 (2AZ-FE)	
IB2	52	Front Door LH Wire and Cowl Wire (Left Kick Panel)
IC3	52	Engine Room Main Wire and Cowl Wire (Left Cowl Side Panel)
IF3	52	Instrument Panel Wire and Cowl Wire (Right Side of Instrument Panel J/B)
IG1	52	Instrument Panel Wire and Cowl Wire (Upper Portion of Right Instrument Panel Brace)
II1	54	Instrument Panel Wire and A/C Sub No.1 Wire (Upper Portion of Right Instrument Panel Brace)
IJ1	54	Instrument Panel Wire and A/C Sub No.3 Wire (Upper Portion of Right Instrument Panel Brace)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IK3		
IK4		
IL2	54	Instrument Panel Wire and Cowl Wire (Upper Side of Passenger Side J/B)

▽ : GROUND POINTS

Code	See Page	Ground Points Location
ED	48 (3MZ-FE)	Rear Side of Cylinder Head
EE	50 (2AZ-FE)	Intake Side of Cylinder Block
EH	48 (3MZ-FE) 50 (2AZ-FE)	Under the Left Headlight
IA	52	Left Cowl Side Panel
IB	52	Right Instrument Panel Brace
IC	52	Right Cowl Side Panel

○ : SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I6	54	Engine Wire	I14	54	A/C Sub No.3 Wire
I13	54	A/C Sub No.1 Wire			


From Power Source System (See Page 62)
15A
RR HTR
10A
HEATER
1
2
8 1G
13 1K
B-R
2 IK2
O
11 IA2
L
9 BH1
J5
Junction
Connector
A
A
Y
Y
B
18 IO1
W
L
5
1
4
3
2
R27
Rear Heater
Relay
W-B
Y
P
13
IR1
L
B
4
6
RLY
IND
R24
Rear Heater
Main SW
E
3
GR
Y
2
R25
Rear Heater Blower
Motor
M
3
W-B
W-B
A
A
J19
Junction
Connector
A
A
17 IR1
W-B
A
B
BR
5
6
8
HI
COM
DUMMY
E
OFF
LO
HI
R26
Rear Heater Blower SW
W-B
W-B
BB
BF

Service Hints

R24 Rear Heater Main SW

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

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
J5	43	R24	43	R26	45
J19	44	R25	45	R27	45

: RELAY BLOCKS

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

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	29	Cowl Wire and Instrument Panel J/B (Lower Finish Panel)
1K	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA2	52	Cowl Wire and Floor No.2 Wire (Left Kick Panel)
IK2	54	Engine Room Main Wire and Cowl Wire (Right Cowl Side Panel)
IO1	54	Cowl Wire and Floor Wire (Right Kick Panel)
IR1	54	Instrument Panel Wire and Floor Wire (Under the Shift Lever)
BH1	56	Floor No.2 Wire and Floor Wire (Near the Rear Side Marker Light RH)

: GROUND POINTS

Code	See Page	Ground Points Location
BB	56	Right Center Pillar
BF	56	Near the Rear Side Marker Light RH

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