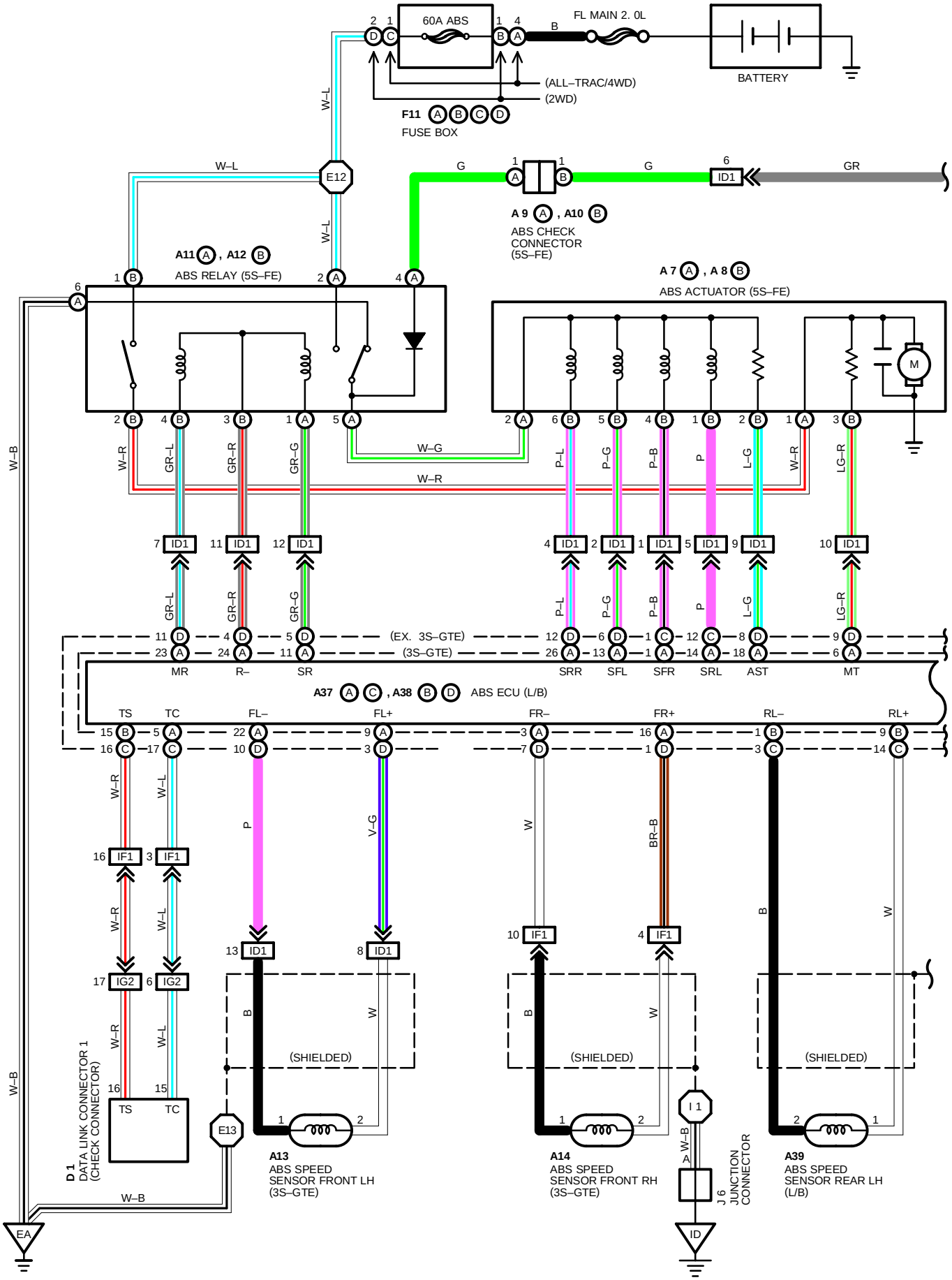
ABBREVIATIONS

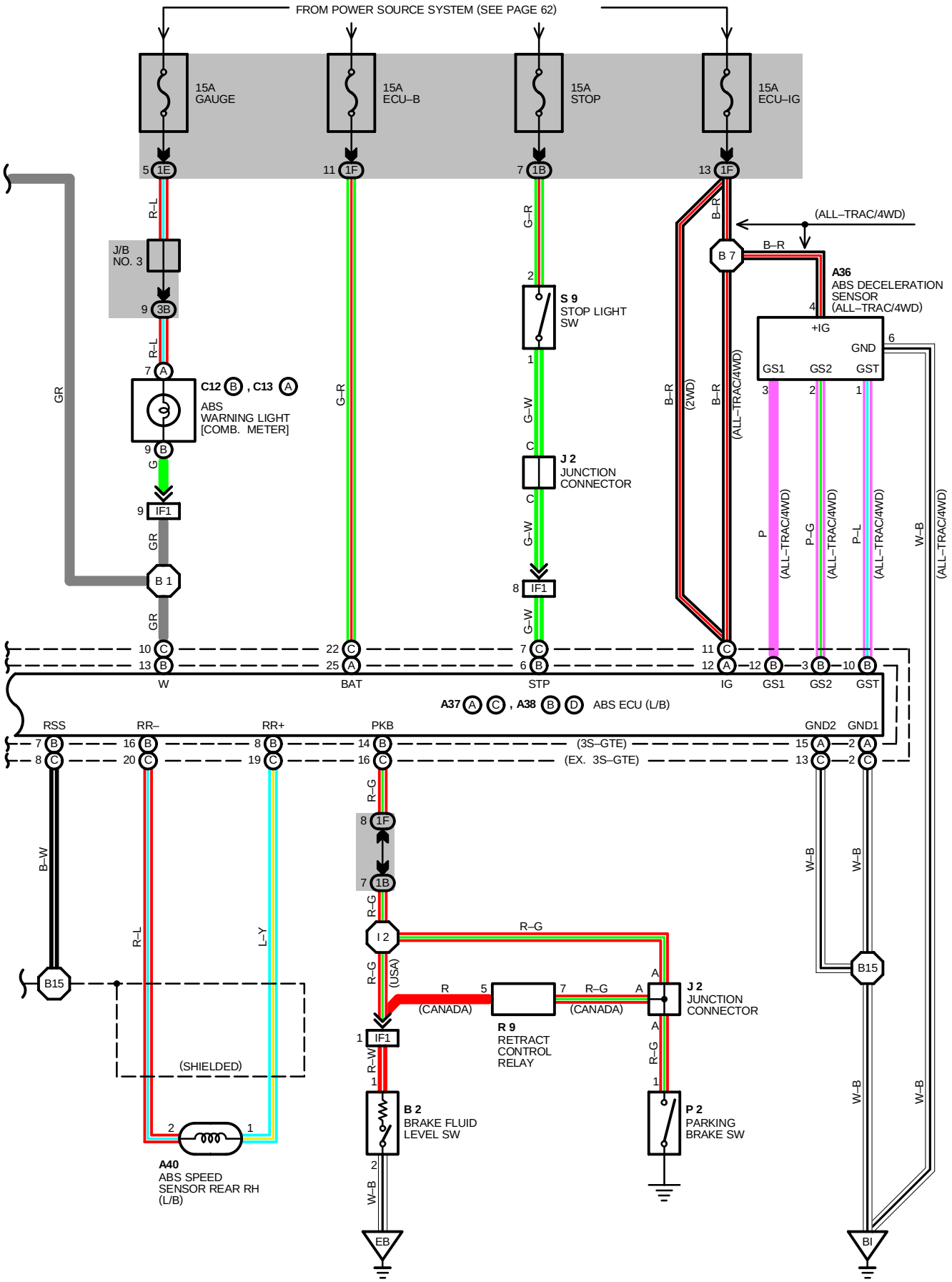
The following abbreviations are used in this manual.

A/C	=	Air Conditioning
ABS	=	Anti–Lock Brake System
A/T	=	Automatic Transmission
C/P	=	Coupe Type
COMB.	=	Combination
ECU	=	Electronic Control Unit
EFI	=	Electronic Fuel Injection
EGR	=	Exhaust Gas Recirculation
Ex.	=	Except
FL	=	Fusible Link
IIA	=	Integrated Ignition Assembly
J/B	=	Junction Block
L/B	=	Liftback Type
LH	=	Left-Hand
M/T	=	Manual Transmission
O/D	=	Overdrive
R/B	=	Relay Block
RH	=	Right–Hand
SRS	=	Supplemental Restraint System
SW	=	Switch
TEMP.	=	Temperature
VSV	=	Vacuum Switching Valve
w/	=	With
w/o	=	Without
2WD	=	Two Wheel Drive
4WD	=	Four Wheel Drive

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

ABS (ANTI–LOCK BRAKE SYSTEM)




FROM POWER SOURCE SYSTEM (SEE PAGE 62)
15A GAUGE
15A ECU–B
15A STOP
15A ECU–IG
5 1E
11 1F
7 1B
13 1F
R–L
J/B NO. 3
9 3B
R–L
7 A
C12 B , C13 A
ABS WARNING LIGHT [COMB. METER]
9 B
G
9 IF1
GR
B 1
GR
GR
G–R
G–R
2
S 9
STOP LIGHT SW
1
G–W
C
J 2
JUNCTION CONNECTOR
C
G–W
8 IF1
G–W
B–R
B–R
(ALL–TRAC/4WD)
B 7
B–R
A36
ABS DECELERATION SENSOR (ALL–TRAC/4WD)
4
+IG
GND
6
GS1
GS2
GST
3
2
1
B–R (2WD)
B–R (ALL–TRAC/4WD)
P
(ALL–TRAC/4WD)
P–G
(ALL–TRAC/4WD)
P–L
(ALL–TRAC/4WD)
W–B
(ALL–TRAC/4WD)
10 C
13 B
W
22 C
25 A
BAT
7 C
6 B
STP
11 C
12 A
IG
12 B
GS1
3 B
GS2
10 B
GST
A37 A C , A38 B D ABS ECU (L/B)
RSS
RR–
RR+
PKB
GND2
GND1
7 B
8 C
16 B
20 C
8 B
19 C
14 B
16 C
(3S–GTE)
(EX. 3S–GTE)
15 A
13 C
2 A
2 C
B–W
R–L
L–Y
R–G
8 1F
7 1B
R–G
I 2
R–G
(USA)
R–G
R
(CANADA)
5
7 R–G
(CANADA)
A
J 2
JUNCTION CONNECTOR
A
R–G
1
R 9
RETRACT CONTROL RELAY
B15
B15
(SHIELDED)
2
1
A40
ABS SPEED SENSOR REAR RH (L/B)
1 IF1
R–W
1
B 2
BRAKE FLUID LEVEL SW
2
W–B
EB
1
P 2
PARKING BRAKE SW
W–B
W–B
W–B
W–B
BI

ABS (ANTI–LOCK BRAKE SYSTEM)

SYSTEM OUTLINE

THIS SYSTEM CONTROLS THE RESPECTIVE BRAKE FLUID PRESSURES ACTING ON THE DISC BRAKE CYLINDERS OF THE RIGHT FRONT WHEEL, LEFT FRONT WHEEL AND REAR WHEELS WHEN THE BRAKES ARE APPLIED IN A PANIC STOP SO THAT THE WHEELS DO NOT LOCK. THIS RESULTS IN IMPROVED DIRECTIONAL STABILITY AND STEERABILITY DURING PANIC BRAKING.

1. INPUT SIGNALS

(1) SPEED SENSOR SIGNAL
THE SPEED OF THE WHEELS IS DETECTED AND INPUT TO **TERMINALS FL+, FR+, RL+** AND **RR+** OF THE ABS ECU.

(2) STOP LIGHT SW SIGNAL
A SIGNAL IS INPUT TO **TERMINAL STP** OF THE ABS ECU WHEN BRAKE PEDAL IS OPERATED.

(3) PARKING BRAKE SW SIGNAL
A SIGNAL IS INPUT TO **TERMINAL PKB** OF THE ABS ECU WHEN THE PARKING BRAKE IS OPERATED.

(4) DECELERATION SENSOR SIGNAL (ALL–TRAC/4WD)
THE DEGREE OF VEHICLC DECELERATION IS DETECTED AND INPUT TO THE ABS ECU.

2. SYSTEM OPERATION

DURING SUDDEN BRAKING THE ABS ECU WHICH HAS SIGNALS INPUT FROM EACH SENSOR, CONTROLS THE CURRENT FLOWING TO THE SOLENOID INSIDE THE ACTUATOR AND LETS THE HYDRAULIC PRESSURE ACTING ON EACH WHEEL CYLINDER ESCAPE TO THE RESERVOIR. THE PUMP INSIDE THE ACTUATOR IS ALSO OPERATING AT THIS TIME AND IT RETURNS THE BRAKE FLUID FROM THE RESERVOIR TO THE MASTER CYLINDER. THUS PREVENTING LOCKING OF THE VEHICLE WHEELS.

IF THE ECU JUDGES THAT THE HYDRAULIC PRESSURE ACTING ON THE WHEEL CYLINDER IS INSUFFICIENT, THE CURRENT ACTING ON THE SOLENOID IS CONTROLLED AND THE HYDRAULIC PRESSURE IS INCREASED. HOLDING OF THE HYDRAULIC PRESSURE IS ALSO CONTROLLED BY THE ECU, BY THE SAME METHOD AS ABOVE. BY REPEATED PRESSURE. REDUCTION, HOLDING AND INCREASE ARE REPLATED TO MAINTAIN VEHICLE STABILITY AND TO IMPROVE STEERABILITY DURING SUDDEN BRAKING.

SERVICE HINTS

A37(A)(C), A38(B)(D) ABS ECU

(CONNECT THE ECU CONNECTOR)

(B)15, **(C)**16–GROUND : APPROX. **12** VOLTS WITH THE IGNITION SW AT **ON** POSITION AND DATA LIKE CHECK CONNECTOR 1 (CHECK CONNECTOR) **TS–E1** CONNECTED
(A) 5, **(C)**17–GROUND : APPROX. **12** VOLTS WITH THE IGNITION SW AT **ON** POSITION AND DATA LIKE CHECK CONNECTOR 1 (CHECK CONNECTOR) **TS–E1** CONNECTED
(A)13, **(D)** 6–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION AND ABS WARNING LIGHT GOES OFF
(A)11, **(D)** 5–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION AND ABS WARNING LIGHT GOES OFF
(A)14, **(C)**12–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION AND ABS WARNING LIGHT GOES OFF
(A)18, **(D)** 8–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION AND ABS WARNING LIGHT GOES OFF
(A)26, **(D)**12–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION AND ABS WARNING LIGHT GOES OFF
(B)13, **(C)**10–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION AND ABS WARNING LIGHT GOES OFF
(A) 2, **(C)** 2–GROUND : ALWAYS CONTINUITY
(A)15, **(C)**12–GROUND : ALWAYS CONTINUITY
(A)12, **(C)**11–GROUND : APPORX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
(B) 6, **(C)** 7–GROUND : APPROX. **12** VOLTS WITH BRAKE PEDAL DEPRESSED
(A)25, **(C)**22–GROUND : ALWAYS APPROX. **12** VOLTS
(B)14, **(C)**16–GROUND : APPROX. **12** VOLTS WITH ENGINE RUNNING AND PARKING BRAKE LEVER RELEASED

(DISCONNECT THE ECU CONNECTOR)

(A) 1– **(A)**18, **(C)** 1– **(D)** 8 : APPROX. **6** Ω
(A)13– **(A)**18, **(D)** 6– **(D)** 8 : APPROX. **6** Ω
(A)14– **(A)**18, **(D)**12– **(D)** 8 : APPROX. **6** Ω
(A)26– **(A)**18, **(C)**12– **(D)** 8 : APPROX. **6** Ω
(A) 9– **(A)**22, **(D)** 3– **(D)**10 : APPROX. **0.8–1.3** Ω
(A)16– **(A)** 3, **(D)** 1– **(D)** 7 : APPROX. **0.8–1.3** Ω
(A)11– **(A)**24, **(D)** 5– **(D)** 4 : APPROX. **60–100** Ω
(A)23– **(A)**24, **(D)**11– **(D)** 4 : APPROX. **50–80** Ω
(B) 8–**(B)**16 : APPROX. **0.8–1.5** KΩ
(C)19–**(C)**20 : APPROX. **1.1–1.7** KΩ

: PARTS LOCATION

CODE		SEE PAGE	CODE		SEE PAGE	CODE		SEE PAGE
A 7	A	28 (3S–GTE), 30 (5S–FE)	A37	C	34 (L/B)	F11	B	30 (5S–FE)
A 8	B	28 (3S–GTE), 30 (5S–FE)	A38	B	34 (L/B)		C	28 (3S–GTE)
A 9	A	28 (3S–GTE), 30 (5S–FE)		D	34 (L/B)		D	30 (5S–FE)
A10	B	28 (3S–GTE), 30 (5S–FE)	A39		34 (L/B)	J 2		33
A11	A	28 (3S–GTE), 30 (5S–FE)	A40		34 (L/B)	J 6		33
A12	B	28 (3S–GTE), 30 (5S–FE)	B 2		28 (3S–GTE), 30 (5S–FE)	P 2		33
A13		28 (3S–GTE), 30 (5S–FE)	C12	B	32	R 9		33
A14		28 (3S–GTE), 30 (5S–FE)	C13	A	32	S 9		33
A36		34 (L/B)	D 1		28 (3S–GTE), 30 (5S–FE)			
A37	A	34 (L/B)	F11	A	28 (3S–GTE)			

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1B	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
1F	20	FLOOR WIRE AND J/B NO. 1 (LEFT KICK PANEL)
3B	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

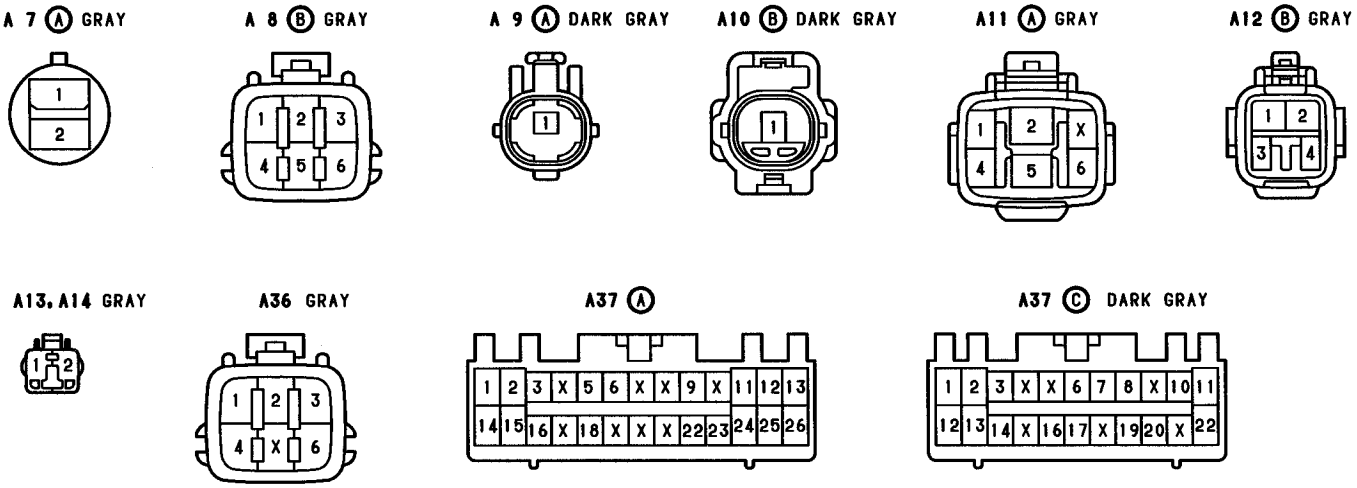
CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
ID1	42	ENGINE ROOM MAIN WIRE AND FLOOR WIRE (LEFT KICK PANEL)
IF1	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
IG2	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE CONTROL MODULE (ECU))

: GROUND POINTS

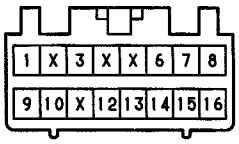
CODE	SEE PAGE	GROUND POINTS LOCATION
EA	36 (3S–GTE)	FRONT RIGHT FENDER
	38 (5S–FE)	
EB	36 (3S–GTE)	FRONT LEFT FENDER
	38 (5S–FE)	
ID	42	LEFT KICK PANEL
BI	46 (L/B)	UNDER THE LEFT CENTER PILLAR

: SPLICE POINTS

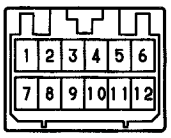
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E12	36 (3S–GTE)	ENGINE ROOM MAIN WIRE	I 2	44	COWL WIRE
	38 (5S–FE)		B 1	46 (L/B)	FLOOR WIRE
E13	36 (3S–GTE)		B 7	46 (L/B)	
	38 (5S–FE)		B15	46 (L/B)	
I 1	44	COWL WIRE			



A38 (B)



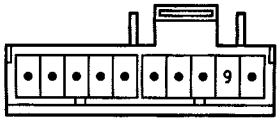
A38 (D) DARK GRAY



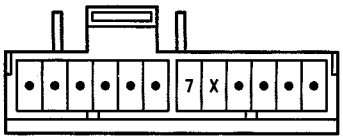
A39, A40 GRAY

B 2 GRAY

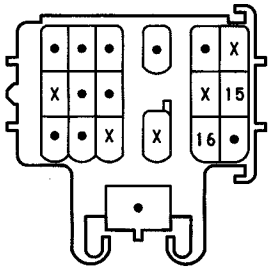
C12 (B) BROWN



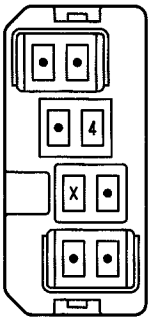
C13 (A)



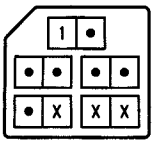
D 1 DARK GRAY



(ALL-TRAC/4WD) F11 (A) BLACK



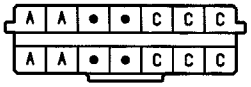
(2WD) F11 (B) BLACK



(ALL-TRAC/4WD) F11 (C) BLACK

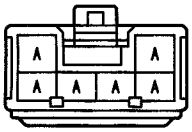
(2WD) F11 (D) BLACK

J 2

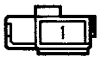


(HINT:SEE PAGE 7)

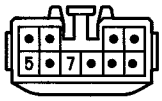
J 6



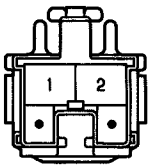
P 2 BLACK



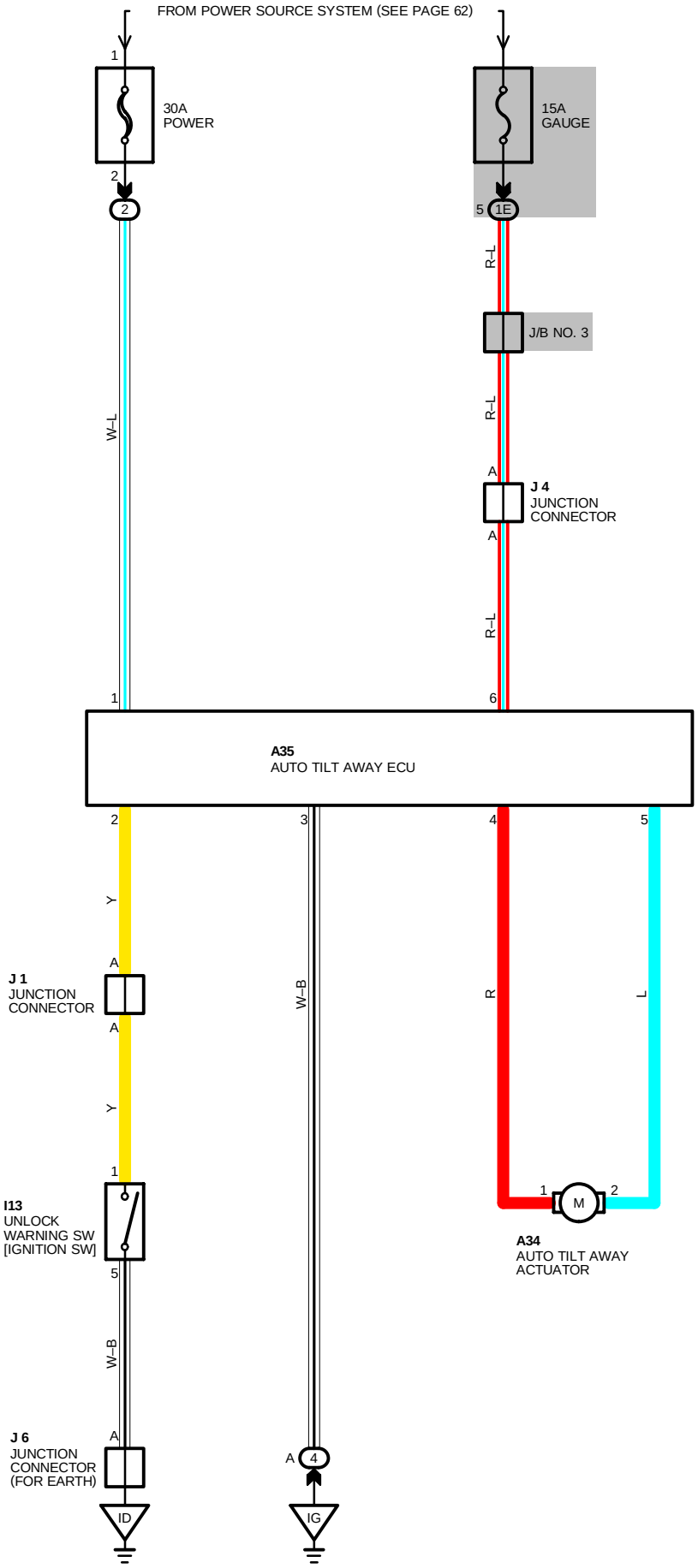
R 9



S 9



AUTO TILT AWAY STEERING



SYSTEM OUTLINE

THIS SYSTEM ALLOWS EASIER ENTRY AND EXIT BY THE DRIVER BY MOVING THE STEERING POSITION TO THE **UPPER** POSITION WHEN THE IGNITION KEY IS REMOVED.

CURRENT ALWAYS FLOWS, FROM THE POWER FUSE TO **TERMINAL 1** OF AUTO TILT AWAY ECU. WHEN THE IGNITION SW IS TURNED ON, CURRENT FLOWS THE GAUGE FUSE AS FAR AS **TERMINAL 6**.

1. TILT–UP OPERATION

WHEN IGNITION KEY IS REMOVED FROM THE IGNITION KEY CYLINDER (UNLOCK WARNING SW OFF), A WARNING SW OFF SIGNAL IS INPUT TO **TERMINAL 2** OF THE AUTO TILT AWAY ECU. AS A RESULT, THE AUTO TILT AWAY OPERATES AND CURRENT FLOWS FROM **TERMINAL 4** OF THE AUTO TILT AWAY ECU → **TERMINAL 1** OF THE AUTO TILT AWAY ACTUATOR → ACTUATOR → **TERMINAL 2** → **TERMINAL 5** OF THE AUTO TILT AWAY ECU, CAUSING THE ACTUATOR TO ROTATE AND RELEASE THE LOCK MECHANISM LOCKED AT THE **MEMORY** POSITION (THE POSITION SELECTED USING THE TILT ADJUSTMENT LEVER). THE STEERING WHEEL THE MOVES FROM THE **MEMORY** POSITION TO THE **UPPER** POSITION USING SPRING FORCE, THEN MECHANICAL LOCK OCCURS.

2. TILT DOWN OPERATION

WHEN IGNITION KEY IS INSERTED INTO THE IGNITION KEY CYLINDER (UNLOCK WARNING SW ON), A WARNING SW ON SIGNAL IS INPUT TO **TERMINAL 2** OF THE AUTO TILT AWAY ECU. AS A RESULT, THE AUTO TILT AWAY ECU OPERATES AND CURRENT FLOWS FROM **TERMINAL 5** OF THE AUTO TILT AWAY ECU → **TERMINAL 2** OF THE AUTO TILT AWAY ACTUATOR → ACTUATOR → **TERMINAL 1** → **TERMINAL 4** OF THE AUTO TILT AWAY ECU, CAUSING THE ACTUATOR TO ROTATE AND RELEASE THE LOCK MECHANISM LOCKED AT THE **UPPER** POSITION. THE STEERING WHEEL CAN THEN BE RETURNED BY HAND TO THE **MEMORY** POSITION, WHERE MECHANICAL LOCK OCCURS.

SERVICE HINTS

A35 AUTO TILT AWAY ECU

1–GROUND : ALWAYS APPROX. **12** VOLTS
6–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
5–GROUND : CONTINUITY WITH IGNITION KEY IN CYLINDER
3–GROUND : ALWAYS CONTINUITY

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
A34	32	**I13**	33	**J 4**	33
A35	32	**J 1**	33	**J 6**	33

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
2	26	R/B NO. 2 (LEFT KICK PANEL)
4	27	R/B NO. 4 (RIGHT KICK PANEL)

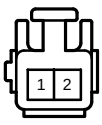
: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1E	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)

: GROUND POINTS

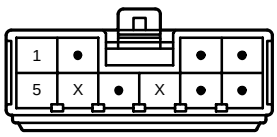
CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL
IG	42	R/B NO. 4 SET BOLT

A34

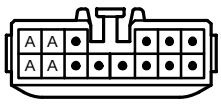


A35

I13 BLACK



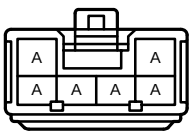
J 1



(HINT : SEE PAGE 7)

J 4

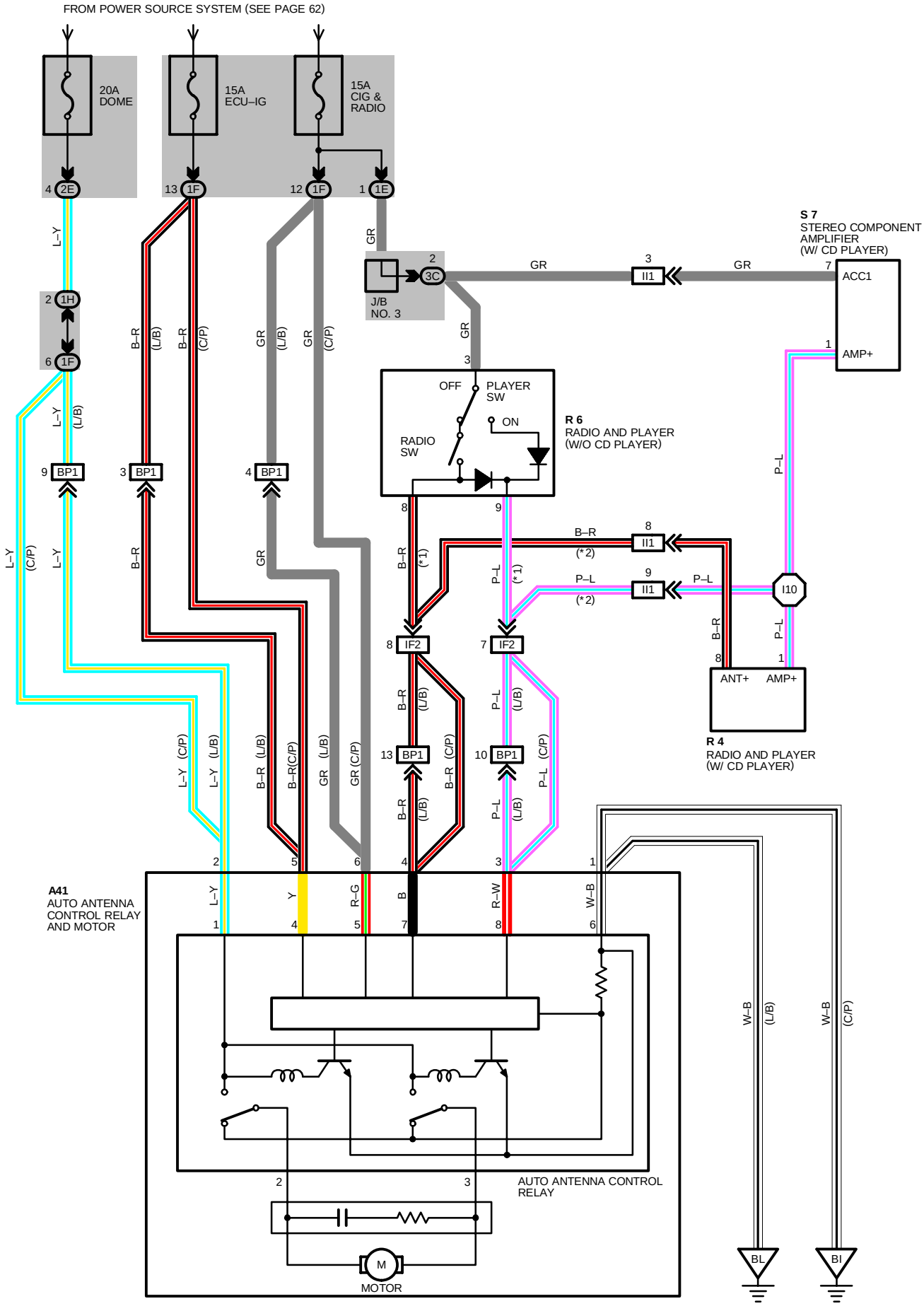
J 6



(HINT : SEE PAGE 7)

AUTO ANTENNA

*1 : W/O CD PLAYER
*2 : W/ CD PLAYER



SERVICE HINTS

A41 AUTO ANTENNA CONTROL RELAY AND MOTOR

5–GROUND	:	APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
6–GROUND	:	APPROX. **12** VOLTS WITH IGNITION SW AT **ACC** OR **ON** POSITION
2–GROUND	:	ALWAYS APPROX. **12** VOLTS
4–GROUND	:	APPROX. **12** VOLTS WITH IGNITION SW AT **ACC** OR **ON** POSITION AND RADIO SW ON
4, 3–GROUND	:	APPROX. **12** VOLTS WITH IGNITION SW AT **ACC** OR **ON** POSITION AND RADIO SW ON AND PLAYER SW OFF UNTIL ANTENNA AT **UPPERMOST** POSITION
3–GROUND	:	APPROX. **12** VOLTS WITH IGNITION SW AT **ACC** OR **ON** POSITION AND RADIO SW OFF AND PLAYER SW OFF UNTIL ANTENNA AT **LOWERMOST** POSITION

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
A41	34 (L/B), 35 (C/P)	**R 6**	33		
R 4	33	**S 7**	33		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1E	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1F	20	FLOOR WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2E	22 (2WD) 23(ALL–TRAC/4WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
3C	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IF2	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
II1	44	COWL WIRE AND CONSOLE BOX WIRE (INSTRUMENT PANEL CENTER)
BP1	46 (L/B)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LEFT QUARTER PANEL CENTER)

: GROUND POINTS

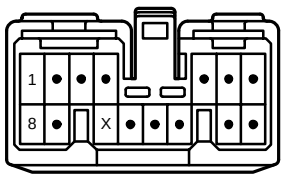
CODE	SEE PAGE	GROUND POINTS LOCATION
BI	48 (C/P)	UNDER THE LEFT CENTER PILLAR
BL	46 (L/B)	BACK PANEL CENTER

: SPLICE POINTS

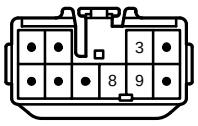
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I10	44	CONSOLE BOX WIRE (2WD)			

A41

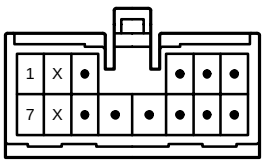
R 4



R 6

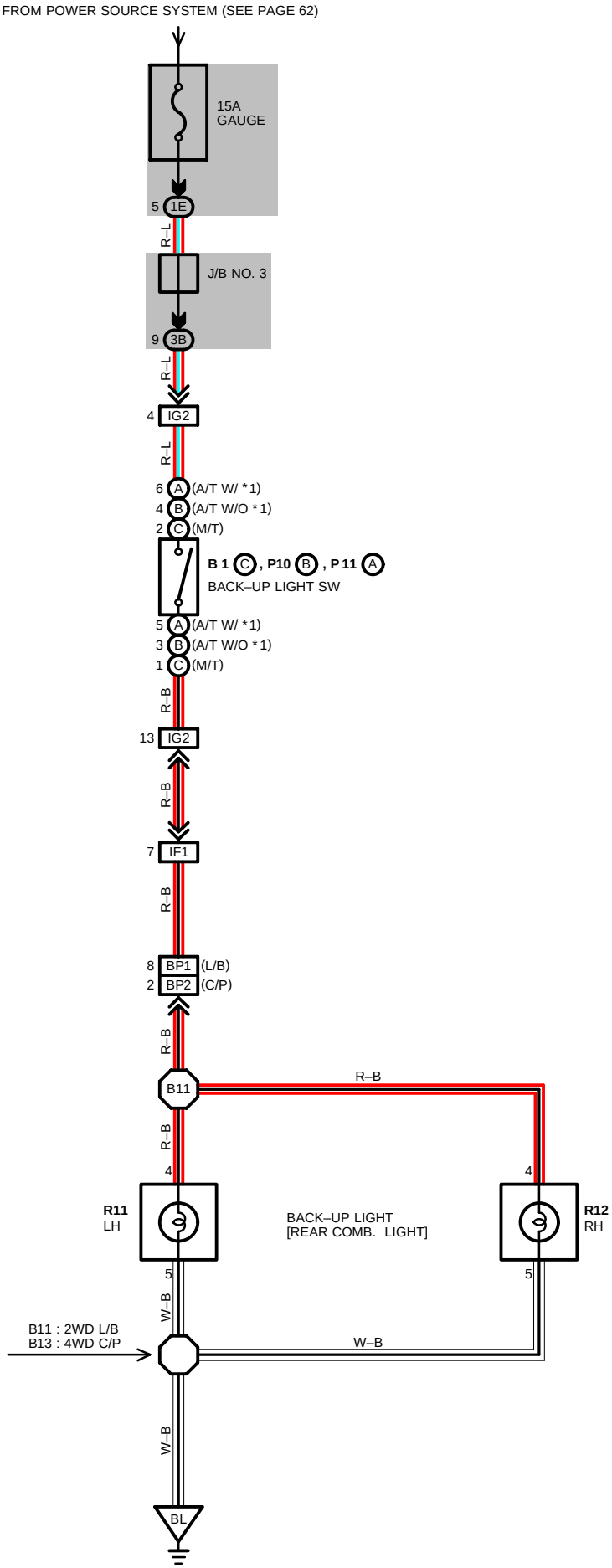


S 7



BACK–UP LIGHT

*1 : ELECTRONIC CONTROLLED TRANSMISSION



SERVICE HINTS

B 1(C), P10(B), P11(A) BACK–UP LIGHT SW
(A) 5–6, **(B)** 3–4, **(C)** 1–2 : CLOSED WITH SHIFT LEVER IN **R** POSITION

: PARTS LOCATION

CODE		SEE PAGE	CODE		SEE PAGE	CODE	SEE PAGE
B 1	C	28 (3S–GTE), 30 (5S–FE)	**P10**	B	31 (4A–FE)	**R11**	34 (L/B), 35 (C/P)
		31 (4A–FE)	**P11**	A	30 (5S–FE)	**R12**	34 (L/B), 35 (C/P)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1E	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
3B	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

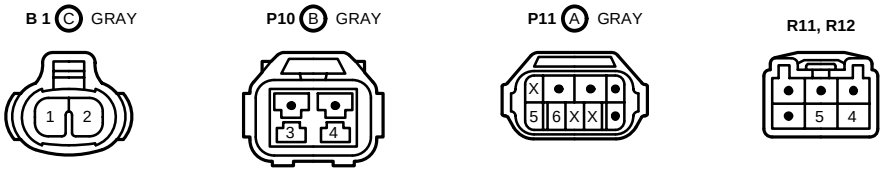
CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IF1	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
IG2	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE CONTROL MODULE (ECU))
BP1	46 (L/B)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LEFT QUARTER PANEL CENTER)
BP2	50 (C/P)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LUGGAGE COMPARTMENT LEFT)

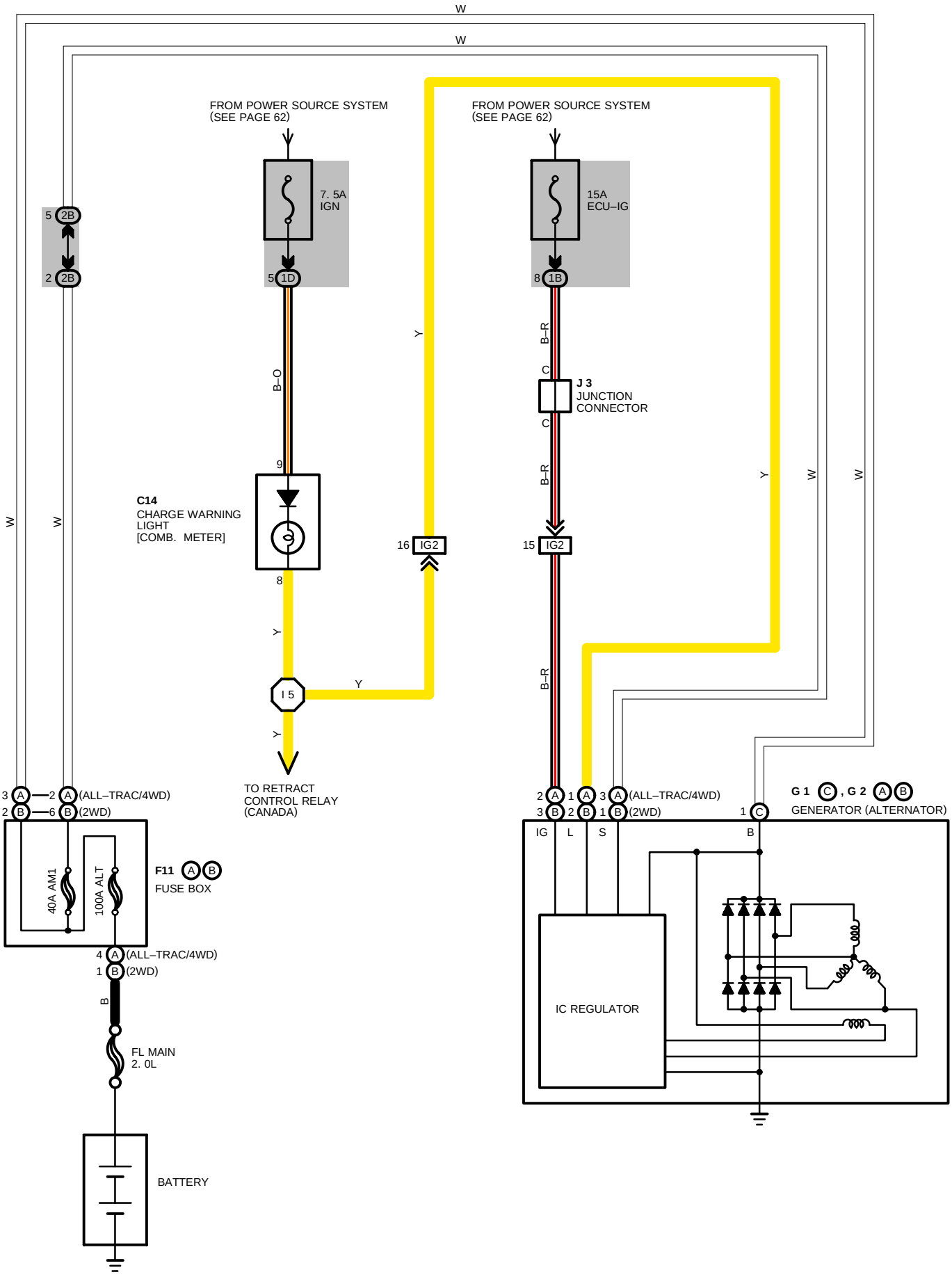
: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
BL	46 (L/B)	BACK PANEL CENTER
	48 (C/P)	

: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
B11	46 (L/B), 48 (C/P)	LUGGAGE ROOM WIRE	**B13**	46 (L/B), 48 (C/P)	LUGGAGE ROOM WIRE




W
W
FROM POWER SOURCE SYSTEM
(SEE PAGE 62)
FROM POWER SOURCE SYSTEM
(SEE PAGE 62)
7. 5A
IGN
15A
ECU–IG
5 2B
2 2B
5 1D
8 1B
B–O
Y
B–R
C
J 3
JUNCTION
CONNECTOR
C
B–R
C14
CHARGE WARNING
LIGHT
[COMB. METER]
9
8
16 IG2
15 IG2
Y
I 5
Y
Y
B–R
W
W
W
Y
TO RETRACT
CONTROL RELAY
(CANADA)
3 A 2 A (ALL–TRAC/4WD)
2 B 6 B (2WD)
2 A 1 A 3 A (ALL–TRAC/4WD)
3 B 2 B 1 B (2WD)
1 C
G 1 C , G 2 A B
GENERATOR (ALTERNATOR)
IG
L
S
B
F11 A B
FUSE BOX
40A AM1
100A ALT
4 A (ALL–TRAC/4WD)
1 B (2WD)
B
FL MAIN
2. 0L
IC REGULATOR
BATTERY

SERVICE HINTS

G 1(C), G 2(A) (B) GENERATOR (ALTERNATOR)

(C) 1–GROUND: **13.9–15.1** VOLTS WITH ENGINE RUNNING AT **2000** RPM AND **25**˚C (**77**˚F)
13.5–14.3 VOLTS WITH ENGINE RUNNING AT **2000** RPM AND **115**˚C (**239**˚F)

(A) 1, **(B)** 2 –GROUND : **0–4** VOLTS WITH IGNITION SW AT **ON** POSITION AND ENGINE NOT RUNNING

○ : PARTS LOCATION

CODE		SEE PAGE	CODE		SEE PAGE	CODE		SEE PAGE
C14		32	**G 1**	C	28 (3S–GTE), 30 (5S–FE)	**G 2**	B	30 (5S–FE), 31 (4A–FE)
F11	A	28 (3S–GTE)			31 (4A–FE)	**J 3**		33
	B	30 (5S–FE), 31 (4A–FE)	**G 2**	A	28 (3S–GTE)			

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1B	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1D		
2B	22 (2WD)	ENGINE WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	

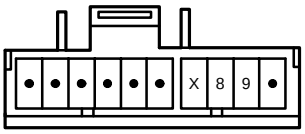
▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IG2	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE CONTROL MODULE) (ENGINE ECU))

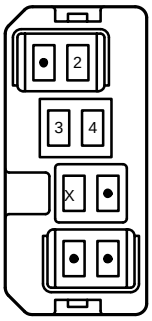
⬡ : SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 5	44	COWL WIRE			

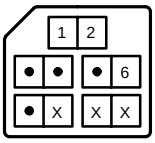
C14 GRAY



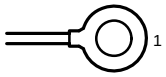
(ALL–TRAC/4WD) **F11** (A) BLACK



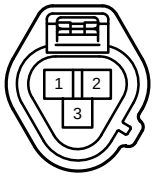
(2WD) **F11** (B) BLACK



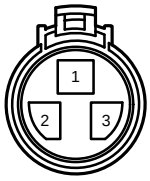
G 1 (C)



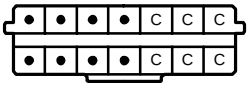
(ALL–TRAC/4WD) **G 2** (A) GRAY



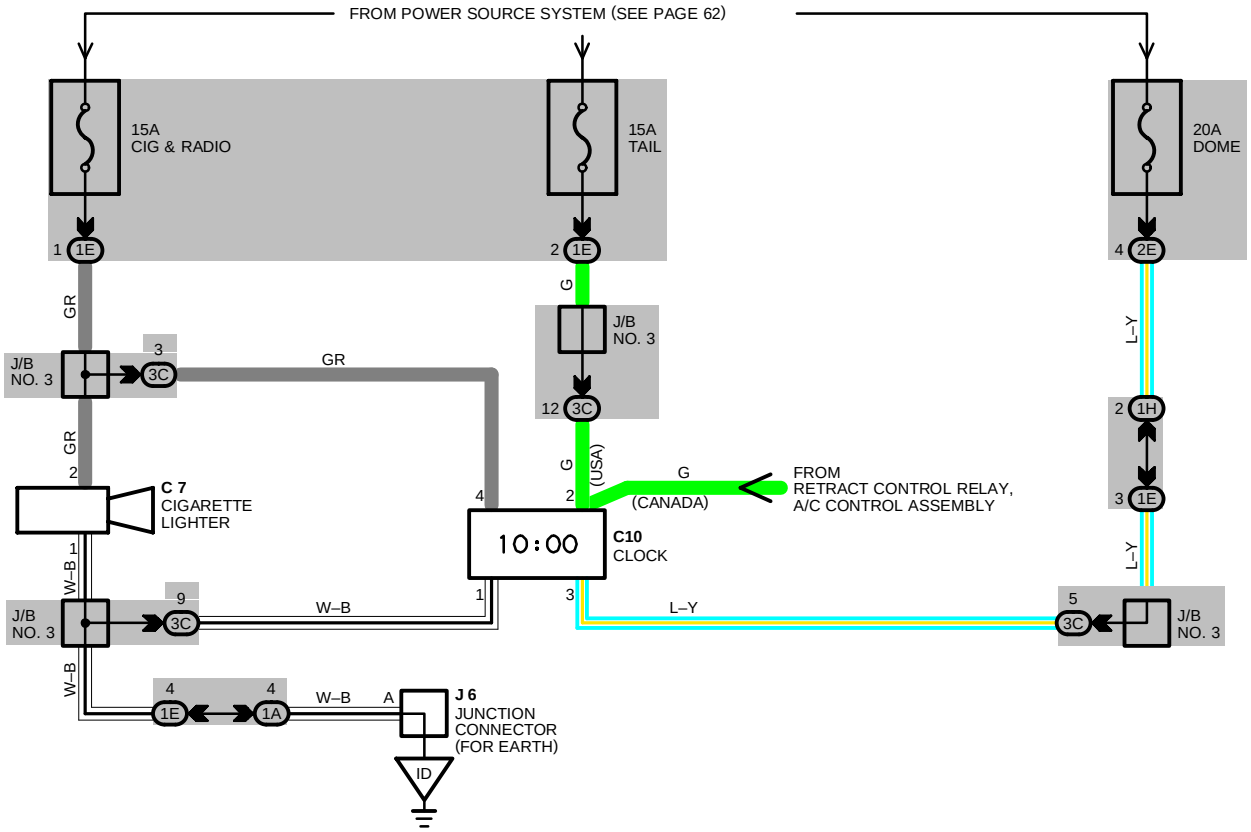
(2WD) **G 2** (B) BLACK



J 3



(HINT : SEE PAGE 7)



SERVICE HINTS

C 7 CIGARETTE LIGHTER

2–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ACC** OR **ON** POSITION
1–GROUND : ALWAYS CONTINUITY

C10 CLOCK

3–GROUND : ALWAYS APPROX. **12** VOLTS (POWER FOR CLOCK)
4–GROUND : APPROX .**12** VOLTS WITH IGNITION SW AT **ACC** OR **ON** POSITION (POWER FOR INDICATION)
2–GROUND : APPROX .**12** VOLTS WITH LIGHT CONTROL SW AT **TAIL** OR **HEAD** POSITION
APPROX .**12** VOLTS WITH ENGINE RUNNING AND PARKING BRAKE LEVER RELEASED (CANADA)
1–GROUND : ALWAYS CONTINUITY

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
C 7	32	**C10**	32	**J 6**	33

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2E	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	
3C	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

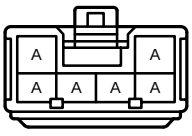
: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL

C 7

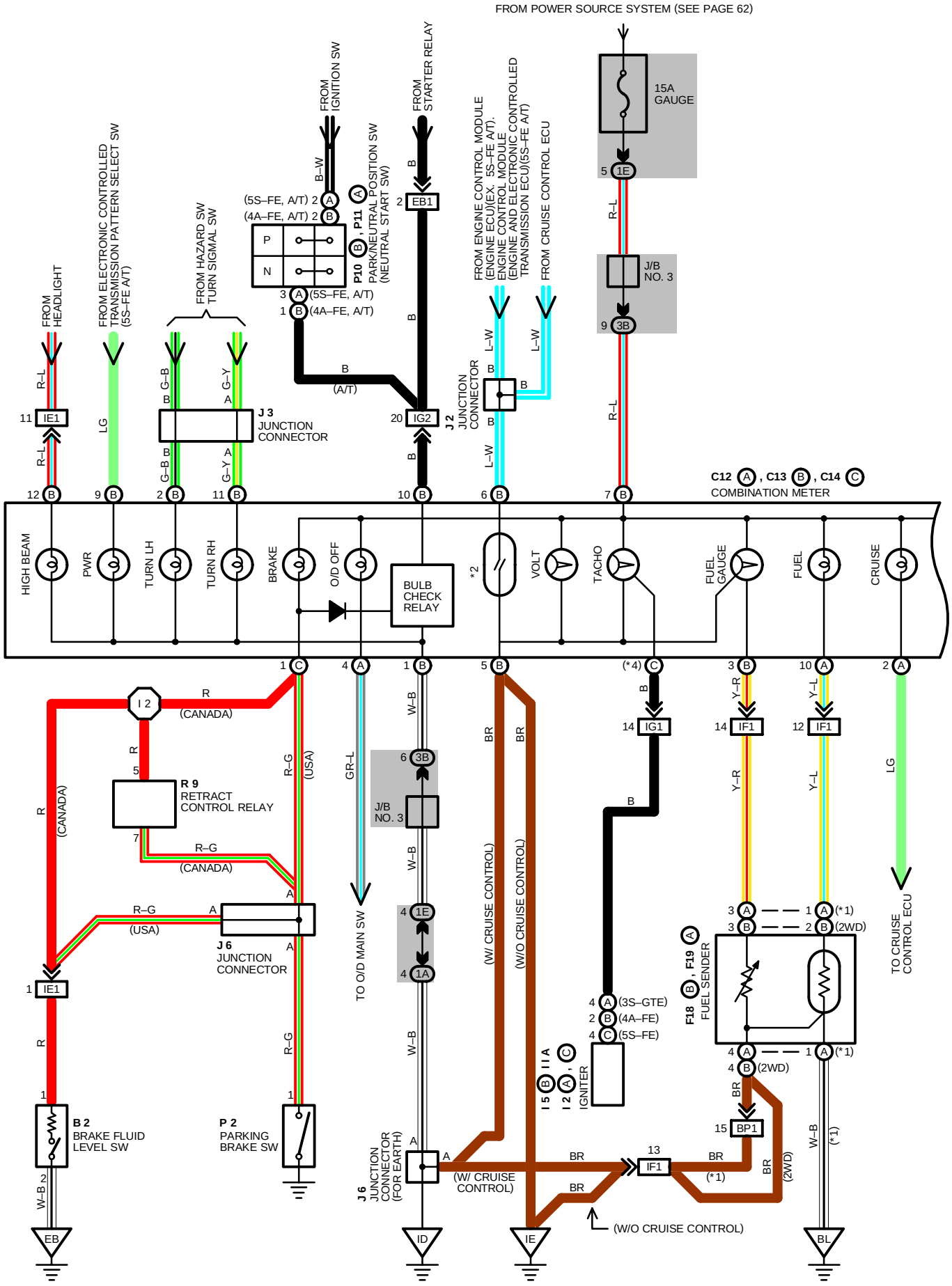
C10 BLACK

J 6

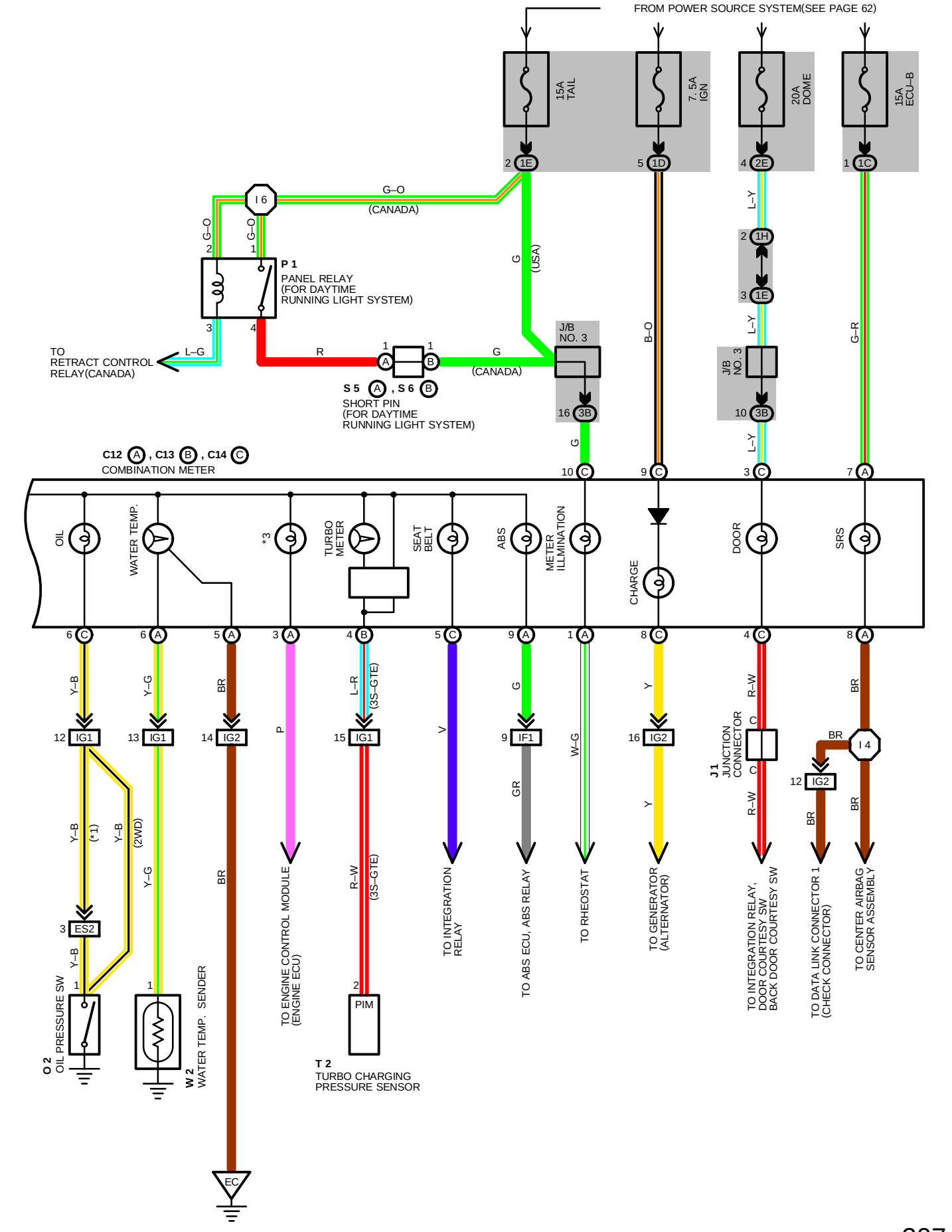


(HINT : SEE PAGE 7)

COMBINATION METER



*1 : ALL–TRAC/4WD
*2 : VEHICLE SPEED SENSOR (SPEED SENSOR)
*3 : MALFUNCTION INDICATOR LAMP (CHECK ENGINE WARNING LIGHT)
*4 : W/O ELECTRONIC CONTROLLED TRANSMISSION



COMBINATION METER

SERVICE HINTS

B 2 BRAKE FLUID LEVEL SW

1–2 : CLOSED WITH FLOAT DOWN

C12(A), C13(B), C14(C) COMBINATION METER

(A) 7, **(C)** 3–GROUND : ALWAYS APPROX. **12** VOLTS

(B) 7, **(C)** 9–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION

(A) 5, **(B)** 1, **(B)** 5–GROUND : ALWAYS CONTINUITY

F18, F19 FUEL SENDER

3–4 : APPROX. **3** Ω WITH FUEL FULL
APPROX. **110.0** Ω WITH FUEL EMPTY

O 2 OIL PRESSURE SW

1–GROUND : CLOSED WITH OIL PRESSURE BELOW **0.2** KG/CM^2 (**2.84** SPI, **19.61** KPA)

P 2 PARKING BRAKE SW

1–GROUND : CLOSED WITH PARKING BRAKE LEVER PULLED UP

W 2 WATER TEMP. SENDER

1–GROUND : APPROX. **226** Ω AT **50**°C (**122**°F)
APPROX. **26.4** Ω AT **115**°C (**239**°F)

○ : PARTS LOCATION

CODE		SEE PAGE	CODE		SEE PAGE	CODE		SEE PAGE
B 2		28 (3S–GTE), 30 (5S–FE)	**I 5**	B	31 (4A–FE)	**P10**	B	30 (5S–FE), 31 (4A–FE)
		31 (4A–FE)	**J 1**		33	**P11**	A	30 (5S–FE)
C12	A	32	**J 2**		33	**R 9**		31
C13	B	32	**J 3**		33	**S 5**	A	31
C14	C	32	**J 6**		33	**S 6**	B	31
F18	B	34 (L/B), 35 (C/P)	**O 2**		29 (3S–GTE), 30 (5S–FE)	**T 2**		27 (3S–GTE)
F19	A	34 (L/B)			31 (4A–FE)	**W 2**		27 (3S–GTE), 28 (5S–FE)
I 2	A	29 (3S–GTE)	**P 1**		31			29 (4A–FE)
	C	30 (5S–FE)	**P 2**		33			

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1C		
1D		
1E		
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2E	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	21 (ALL–TRAC/4WD)	
3B	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EB1	36 (3S–GTE)	ENGINE WIRE AND COWL WIRE (REAR SIDE OF RIGHT FRONT FENDER)
	38 (5S–FE)	
	40 (4A–FE)	
ES2	36 (3S–GTE)	ENGINE WIRE AND ENGINE ROOM NO. 2 WIRE (NEAR THE DISTRIBUTOR)
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)
IF1	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
IG1	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE CONTROL MODULE (ECU))
IG2		
BP1	46 (L/B)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LEFT QUARTER PANEL CENTER)

: GROUND POINTS

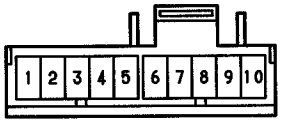
CODE	SEE PAGE	GROUND POINTS LOCATION
EB	36 (3S–GTE)	FRONT LEFT FENDER
	38 (5S–FE)	
	40 (4A–FE)	
EC	36 (3S–GTE)	INTAKE MANIFOLD
	38 (5S–FE)	
	40 (4A–FE)	
ID	42	LEFT KICK PANEL
IE	42	INSTRUMENT PANEL BRACE LH
BL	46 (L/B)	BACK PANEL CENTER
	48 (C/P)	

: SPLICE POINTS

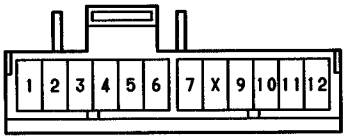
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I2	44	COWL WIRE	I6	44	COWL WIRE
I4					

B 2 GRAY

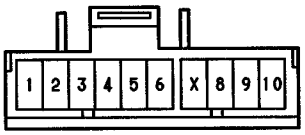
C12 (A) BROWN



C13 (B)



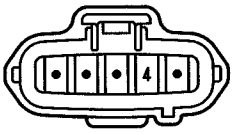
C14 (C) GRAY



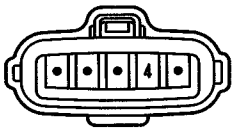
F18 DARK GRAY

F19

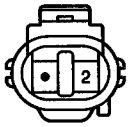
(3S-GTE) I 2 (A) BLACK



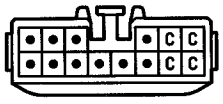
(5S-FE) I 2 (C) BLACK



(4A-FE) I 5 (B) DARK GRAY

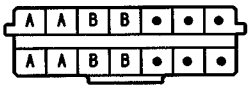


J 1



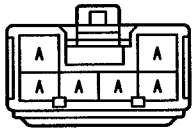
(HINT:SEE PAGE 7)

J 2, J 3



(HINT:SEE PAGE 7)

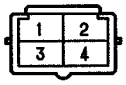
J 6



(HINT:SEE PAGE 7)

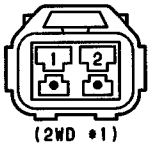
O 2 BLACK

P 1



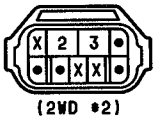
P 2 BLACK

N 1 (B) GRAY



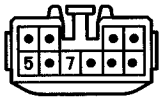
(2WD *1)

N 2 (A) GRAY



(2WD *2)

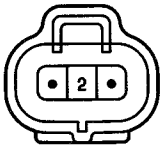
R 9



S 5 (A) GRAY

S 6 (B) GRAY

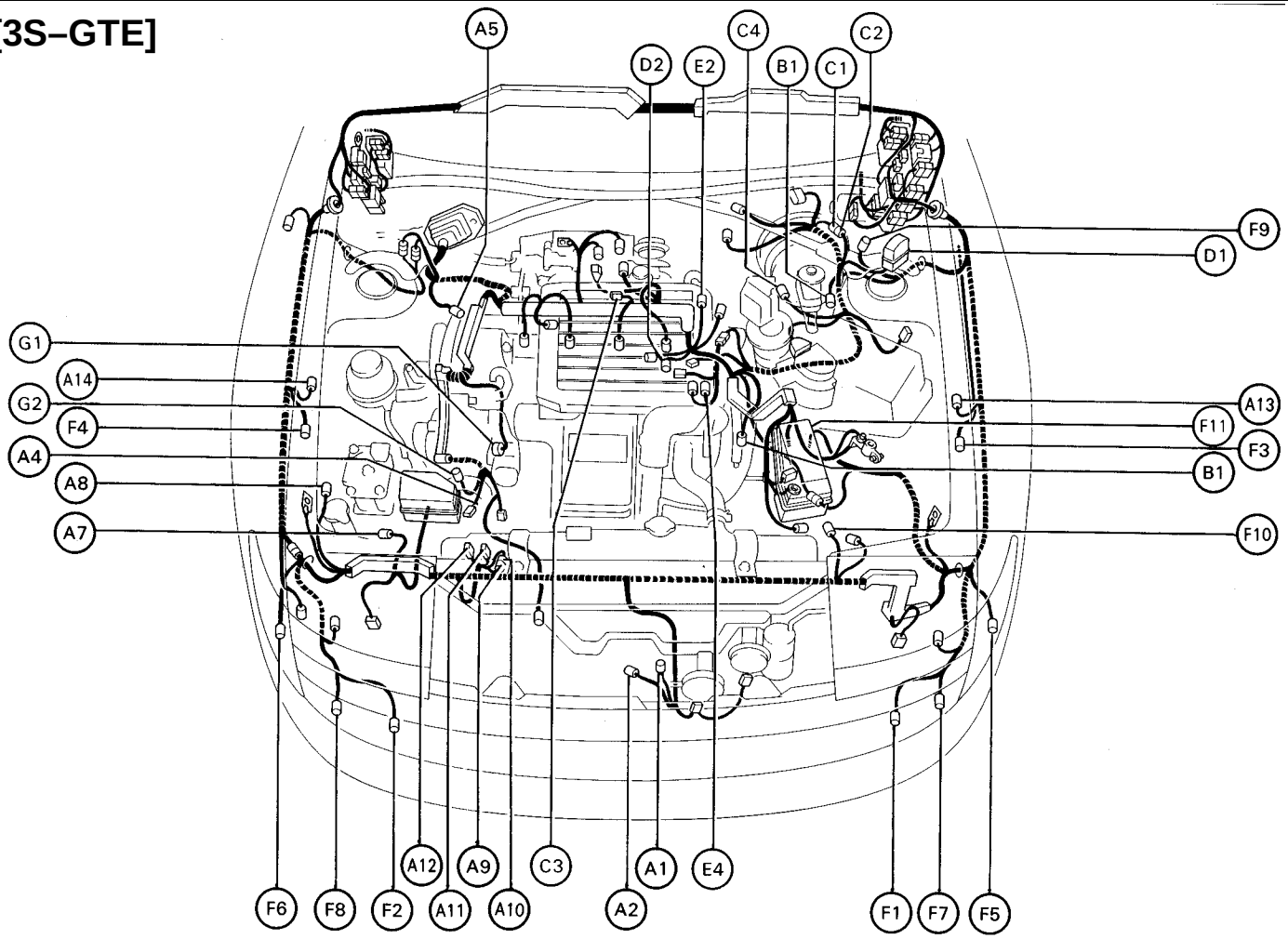
T 2 BLACK



W 2 GRAY

Position of Parts in Engine Compartment

[3S–GTE]



A 1 A/C Ambient Temp. Sensor
A 2 A/C Condenser Fan Motor
A 4 A/C Magnetic Clutch and Compressor Sensor
A 5 A/C Pressure SW or Short Pin
A 7 ABS Actuator
A 8 ABS Actuator
A 9 ABS Check Connector
A 10 ABS Check Connector
A 11 ABS Relay
A 12 ABS Relay
A 13 ABS Speed Sensor Front LH (3S–GTE)
A 14 ABS Speed Sensor Front RH (3S–GTE)

B 1 Back–Up Light SW (M/T)
B 2 Brake Fluid Level SW

C 1 Check Connector (for Fan Check)
C 2 Check Connector (for Fan Check)
C 3 Cold Start Injector
C 4 Cruise Control Actuator

D 1 Date Link Connector 1 (Check Connector)
D 2 Distributor

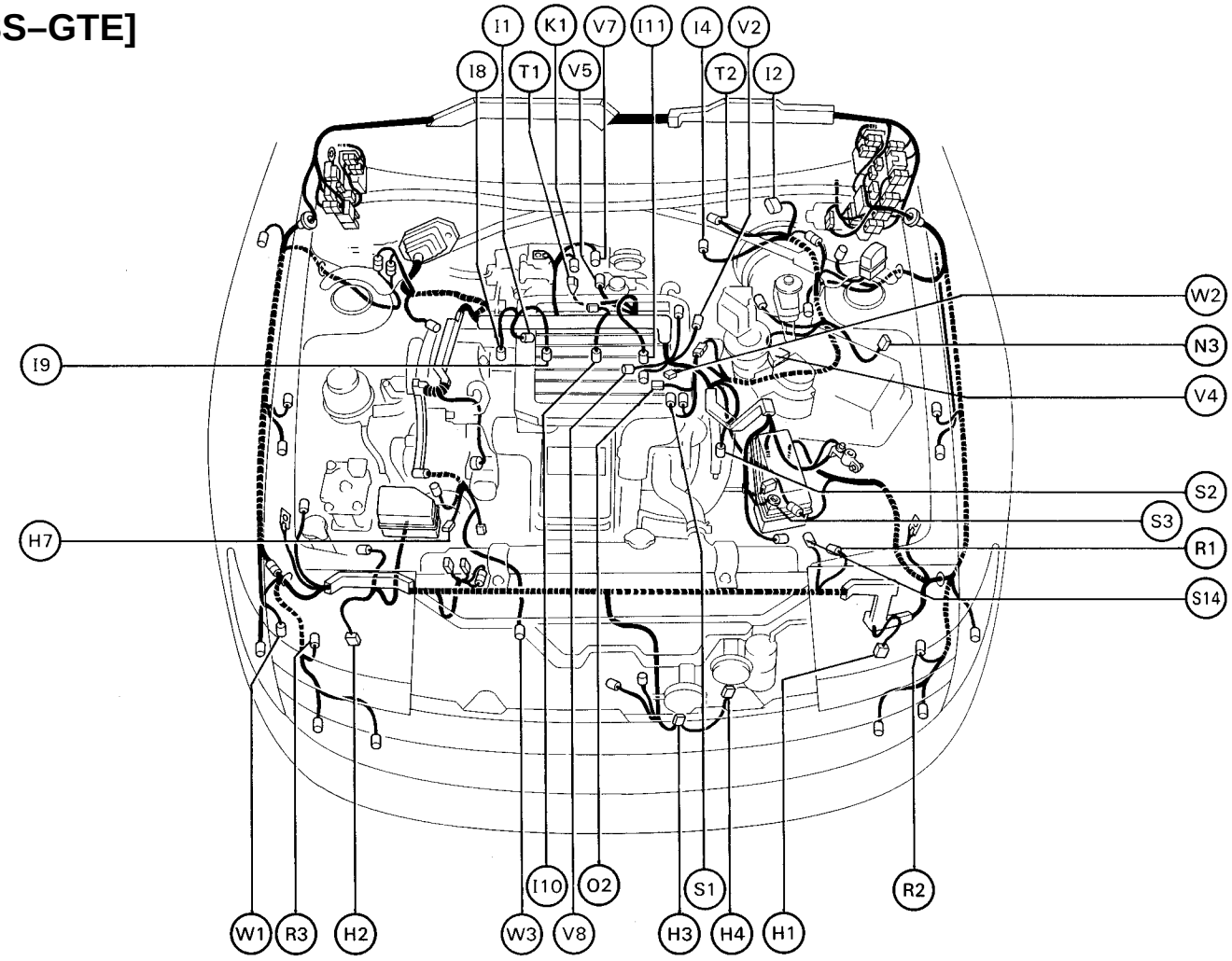
E 2 EGR Gas Temp. Sensor (for California) or Short Pin (for Ex. California)
E 4 Engine Coolant Temperature Sensor (EFI Water Temp. Sensor

F 1 Fog Light LH
F 2 Fog Light RH
F 3 Front Airbag Sensor LH
F 4 Front Airbag Sensor RH
F 5 Front Side Marker Light LH
F 6 Front Side Marker Light RH
F 7 Front Turn Signal Light and Clearance Light LH
F 8 Front Turn Signal Light and Clearance Light RH
F 9 Front Wiper Motor
F 10 Fuel Pump Resistor
F 11 Fuse Box (All–Trac/4WD)

G 1 Ganerator (Alternator)
G 2 Ganerator (Alternator)

Position of Parts in Engine Compartment

[3S–GTE]



H 1 Headlight LH
H 2 Headlight RH
H 3 Horn LH
H 4 Horn RH
H 7 Heated Oxygen Sensor (Oxygen Sensor)

I 1 Idle Air Control Valve (ISC Valve)
I 2 Igniter
I 4 Ignition Coil
I 8 Injector No. 1
I 9 Injector No. 2
I 10 Injector No. 3
I 11 Injector No. 4

K 1 Knock Sensor

N 3 Noise Filter (for Ignition System)

O 2 Oil Pressure SW

R 1 Radiator Fan Motor
R 2 Retract Motor LH
R 3 Retract Motor RH

S 1 Start Injector Time SW
S 2 Starter
S 3 Starter
S 14 SFI Resistor (EFI Resistor)

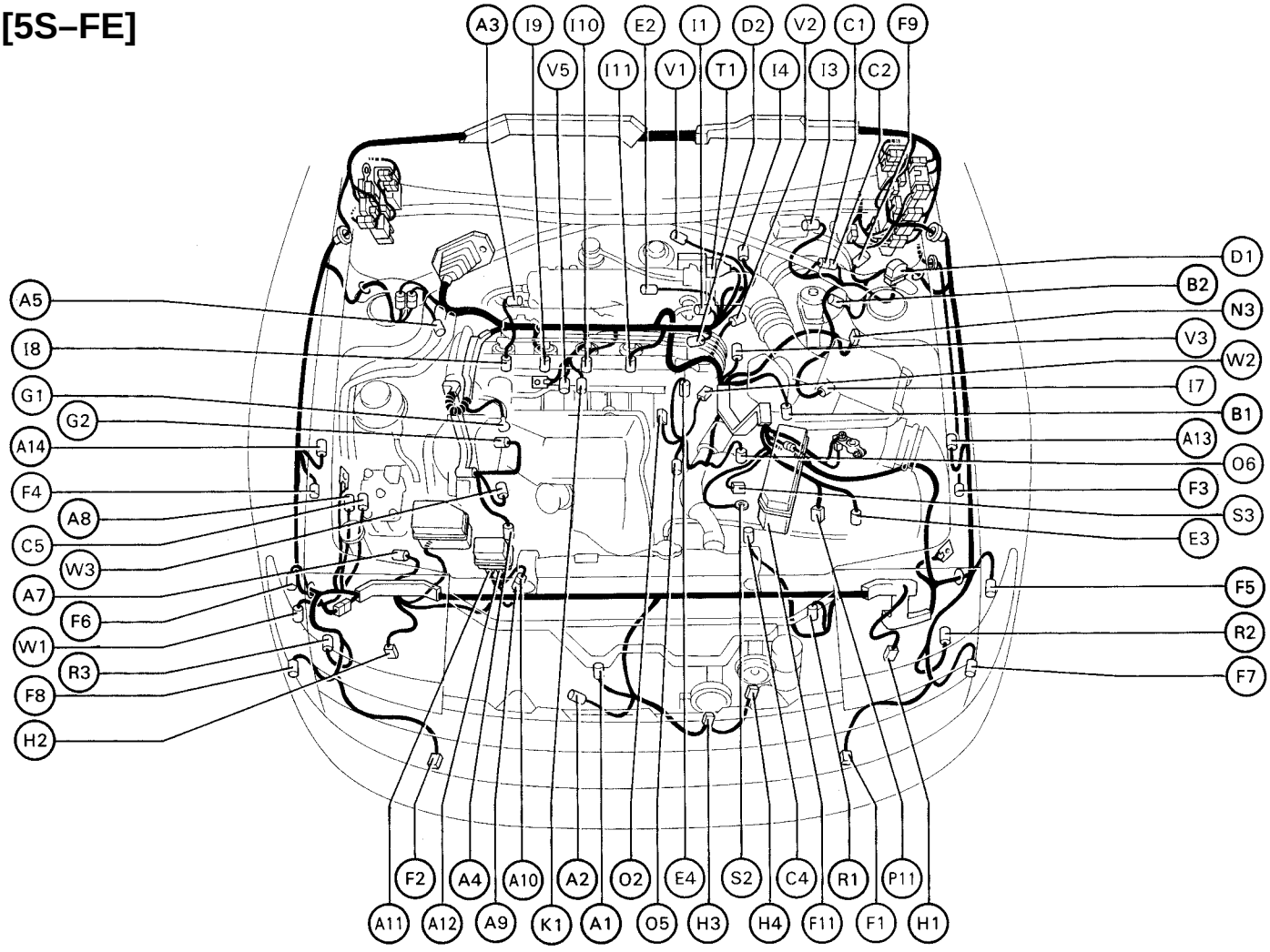
T 1 Throttle Position Sensor
T 2 Turbo Charging Pressure Sensor

V 2 Vehicle Speed Sensor ((Speed Sensor) (for Cruise Control System)
V 4 Volume Air Flow (Air Flow Meter)
V 5 VSV (for EGR System)
V 7 VSV (for T–VIS)
V 8 VSV (for Turbo Charging Pressure)

W 1 Washer Motor
W 2 Water Temp. Sender
W 3 Water Temp. SW (for Fans Control)

Position of Parts in Engine Compartment

[5S–FE]



A 1 A/C Ambient Temp. Sensor
A 2 A/C Condenser Fan Motor
A 3 A/C Idle–Up VSV
A 4 A/C Magnetic Clutch (4A–FE) or A/C Magnetic Clutch and Compressor Sensor (5S–FE)
A 5 A/C Pressure SW or Short Pin
A 7 ABS Actuator (5S–FE)
A 8 ABS Actuator (5S–FE)
A 9 ABS Check Connector (5S–FE)
A 10 ABS Check Connector (5S–FE)
A 11 ABS Relay (5S–FE)
A 12 ABS Relay (5S–FE)
A 13 ABS Speed Sensor Front LH (5S–FE)
A 14 ABS Speed Sensor Front RH (5S–FE)

B 1 Back–Up Light SW (M/T)
B 2 Brake Fluid Level SW

C 1 Check Connector (for Fan Check)
C 2 Check Connector (for Fan Check)
C 4 Cruise Control Actuator (w/ ABS of 5S–FE)
C 5 Cruise Control Actuator (w/o ABS)

D 1 Date Link Connector 1 (Check Connector)
D 2 Distributor (5S–FE)

E 2 EGR Gas Temp. Sensor (for California)
E 3 Electronic Controlled Transmission Solenoid (5S–FE)
E 4 Engine Coolant Temp. Sensor (EFI Water Temp. Sensor)

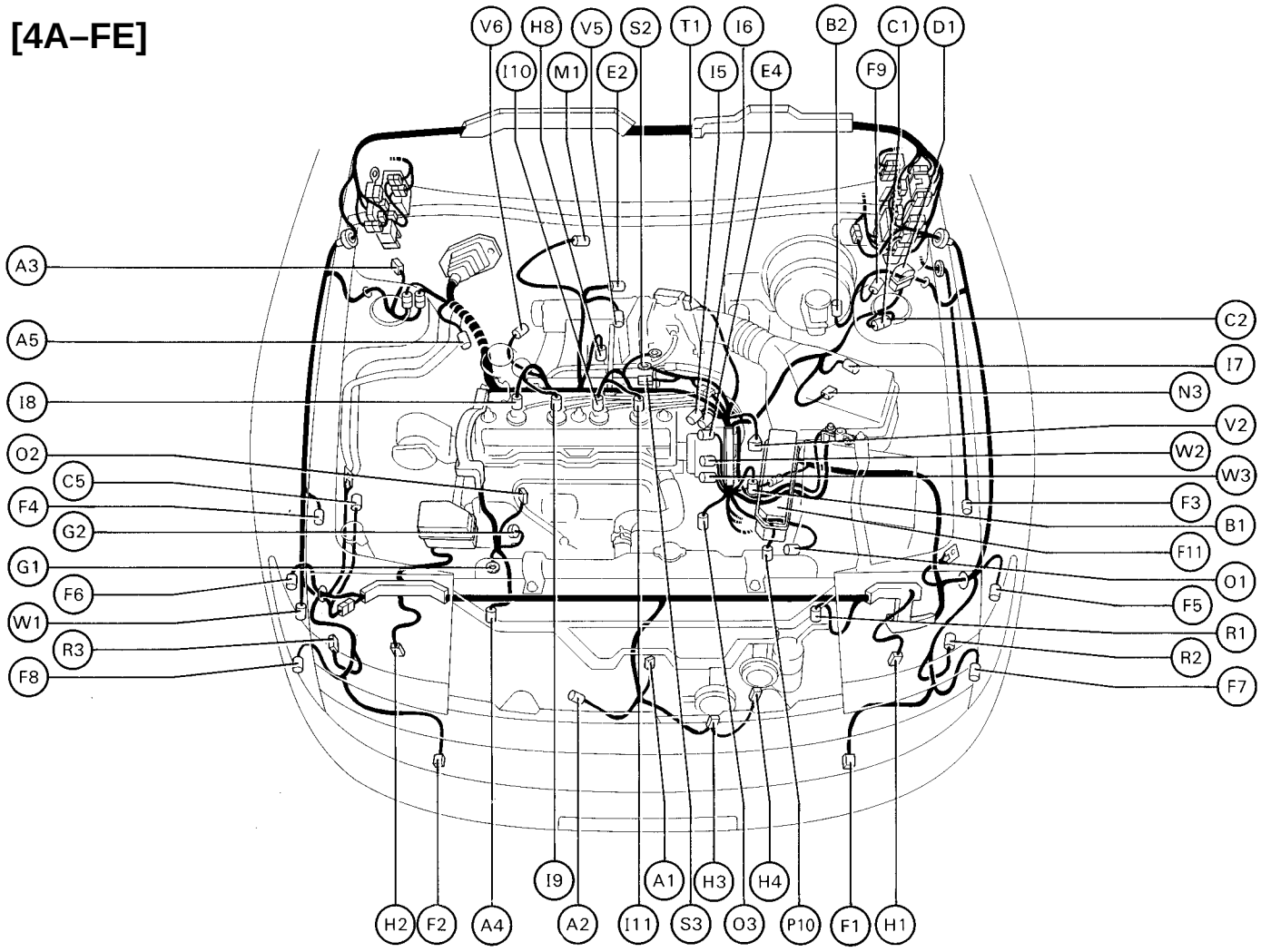
F 1 Fog Light LH
F 2 Fog Light RH
F 3 Front Airbag Sensor LH
F 4 Front Airbag Sensor RH
F 5 Front Side Marker Light LH
F 6 Front Side Marker Light RH
F 7 Front Turn Signal Light and Clearance Light LH
F 8 Front Turn Signal Light and Clearance Light RH
F 9 Front Wiper Motor
F 11 Fuse Box (2WD)

G 1 Generator (Alternator)
G 2 Generator (Alternator)

H 1 Headlight LH
H 2 Headlight RH
H 3 Horn LH
H 4 Horn RH
H 8 Heated Oxygen Sensor (Oxygen Sensor (for Ex. California of 4A–FE))

Position of Parts in Engine Compartment

[4A–FE]



I 1 Idle Air Control Valve (ISC Valve) (5S–FE)
I 3 Igniter (5S–FE)
I 4 Ignition Coil (5S–FE)
I 5 IIA (4A–FE)
I 6 IIA (4A–FE)
I 7 Intake Air Temp. Sensor (In–Air Temp. Sensor)
I 8 Injector No.1
I 9 Injector No.2
I 10 Injector No.3
I 11 Injector No.4

K 1 Knock Sensor

M 1 Manifold Absolute Pressure Sensor (Vacuum Sensor)

N 3 Noise Filter (for Ignition System)

O 1 O/D Solenoid
O 2 Oil Pressure SW
O 3 Oxygen Sensor (for California of 4A–FE)
O 5 Oxygen Sensor (Main, 5S–FE)
O 6 Oxygen Sensor (Sub, 5S–FE)

P 10 Park/Neutral Position SW (Neutral Start SW) and Back–Up Light SW (A/T w/o Electronic Controlled Transmission)
P 11 Park/Neutral Position SW (Neutral Start SW), Back–Up Light SW and A/T indicator (A/T w/ Electronic Controlled Transmission of 5S–FE)

R 1 Radiator Fan Motor
R 2 Retract Motor LH
R 3 Retract Motor RH

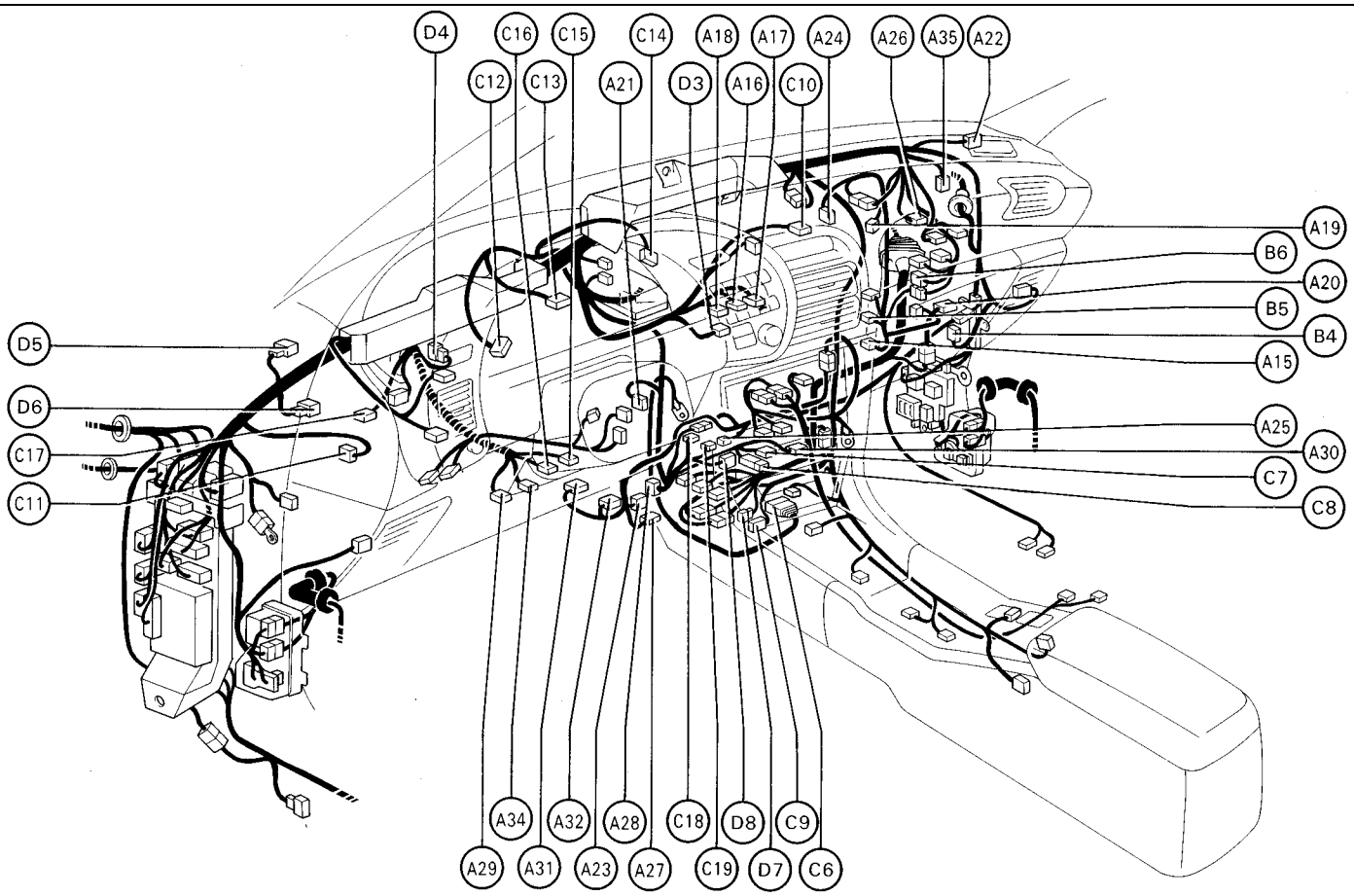
S 2 Starter
S 3 Starter

T 1 Throttle Position Sensor

V 2 Vehicle Speed Sensor (Speed Sensor) (for Cruise Control System)
V 3 Vehicle Speed Sensor (Speed Sensor) (for Electronic Controlled Transmission of 5S–FE)
V 5 VSV (for EGR System)
V 6 VSV (for Electrical Idle–Up System of 4A–FE)

W 1 Washer Motor
W 2 Water Temp. Sender
W 3 Water Temp. SW (for Fans Control)

Position of Parts in Instrument Panel



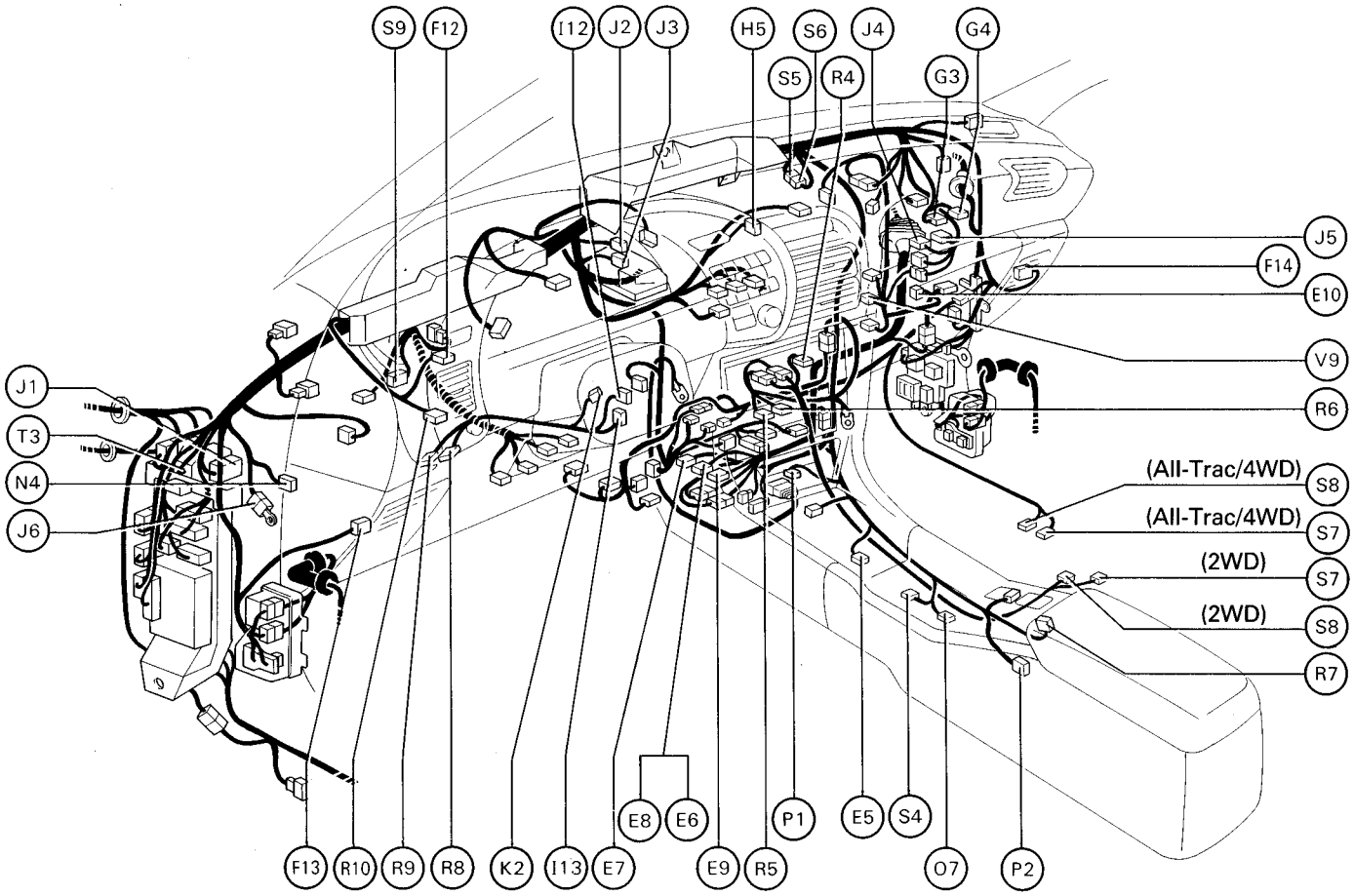
A 15 A/C Amplifier
A 16 A/C Control Assembly
A 17 A/C Control Assembly
A 18 A/C Control Assembly
A 19 A/C Evaporator Temp. Sensor
A 20 A/C Power Transistor
A 21 A/C Room Temp. Sensor
A 22 A/C Solar Sensor
A 23 A/C System Amplifier
A 24 A/C Thermistor
A 25 A/C Water Temp. Sensor
A 26 Air Inlet Control Servo Motor
A 27 Air Mix Control Servo Motor
A 28 Air Vent Mode Control Servo Motor
A 29 Airbag Squib
A 31 Ashtray Illumination
A 31 Auto A/C Amplifier
A 32 Auto A/C Amplifier
A 34 Auto Tilt Away Actuator
A 35 Auto Tilt Away ECU

B 4 Blower Motor
B 5 Blower Resistor
B 6 Blower Resistor

C 6 Center Airbag Sensor Assembly
C 7 Cigarette Lighter
C 8 Cigarette Lighter Illumination
C 9 Circuit Opening Relay
C 10 Clock
C 11 Clutch Start SW
C 12 Combination Meter
C 13 Combination Meter
C 14 Combination Meter
C 15 Combination SW
C 16 Combination SW
C 17 Cruise Control Clutch SW
C 18 Cruise Control ECU
C 19 Cruise Control ECU

D 3 Defogger SW
D 4 Diode (for Cruise Control System)
D 5 Diode (for Daytime Running Light System)
D 6 Diode (for Key Off)
D 7 Diode (for O/D System)
D 8 Door Lock ECU

Position of Parts in Instrument Panel



E 5 Electronic Controlled Transmission Pattern Select SW
E 6 Engine Control Module (Engine ECU) (4A–FE)
E 7 Engine Control Module (Engine and Electronic Controlled Transmission ECU)
E 8 Engine Control Module (Engine and Electronic Controlled Transmission ECU) (5S–FE, 3S–GTE)
E 9 Engine Control Module (Engine and Electronic Controlled Transmission ECU) (5S–FE, 3S–GTE)
E 10 Extra High Speed Relay

F 12 Fog Light SW
F 13 Front Speaker LH
F 14 Front Speaker RH

G 3 Glove Box Light
G 4 Glove Box Light SW

H 5 Hazard SW

I 12 Ignition Key Cylinder Light
I 13 Ignition SW and Unlock Warning SW

J 1 Junction Connector
J 2 Junction Connector
J 3 Junction Connector
J 4 Junction Connector
J 5 Junction Connector
J 6 Junction Connector (for Earth)

K 2 Key Interlock Solenoid

N 4 Noise Filter (for Defogger System)

O 7 O/D Main SW and A/T Indicator (Shift Lever)

P 1 Panel Relay (for Daytime Running Light System)
P 2 Parking Brake SW

R 4 Radio and Player (w/ CD Player)
R 5 Radio and Player (w/o CD Player)
R 6 Radio and Player (w/o CD Player)
R 7 Remote Control Mirror SW
R 8 Retract Control Relay
R 9 Retract Control Relay (for Canada)
R 10 Rheostat

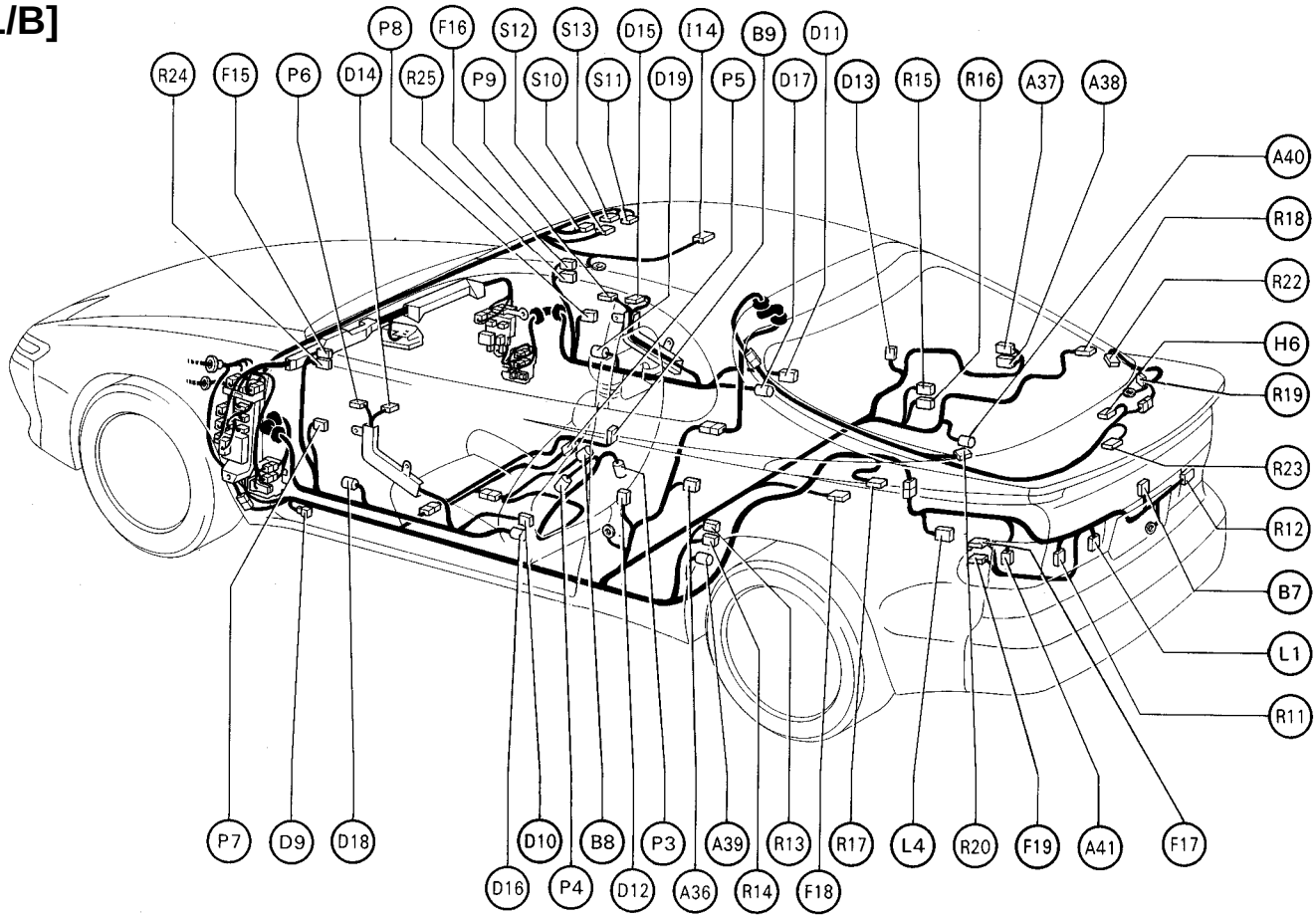
S 4 Shift Lock ECU
S 5 Short Pin (for Daytime Running Light System)
S 6 Short Pin (for Daytime Running Light System)
S 7 Stereo Component Amplifier (w/CD Player)
S 8 Stereo Component Amplifier (w/CD Player)
S 9 Stop Light SW (w/o Cruise Control System) or Stop Light and Cruise Control Stop SW

T 3 Turn Signal Flasher

V 9 VSV (for A/C Idle–Up)

Position of Parts in Body

[L/B]



A 36 ABS Deceleration Sensor (All–Trac/4WD)
A 37 ABS ECU (L/B)
A 38 ABS ECU (L/B)
A 39 ABS Speed Sensor Rear LH (L/B)
A 40 ABS Speed Sensor Rear RH (L/B)
A 41 Auto Antenna Control Relay and Motor

B 7 Back Door Control SW (L/B)
B 8 Buckle SW (w Power Seat)
B 9 Buckle SW (w/o Power Seat)

D 9 Diode
D 10 Door Courtesy Light LH
D 11 Door Courtesy Light RH
D 12 Door Courtesy SW LH
D 13 Door Courtesy SW RH
D 14 Door Lock Control SW LH
D 15 Door Lock Control SW RH
D 16 Door Lock Motor, Door Unlock Detection SW LH and Key Lock and Unlock SW LH
D 17 Door Lock Motor, Door Unlock Detection SW RH and Key Lock and Unlock SW RH
D 18 Door Speaker LH
D 19 Door Speaker RH

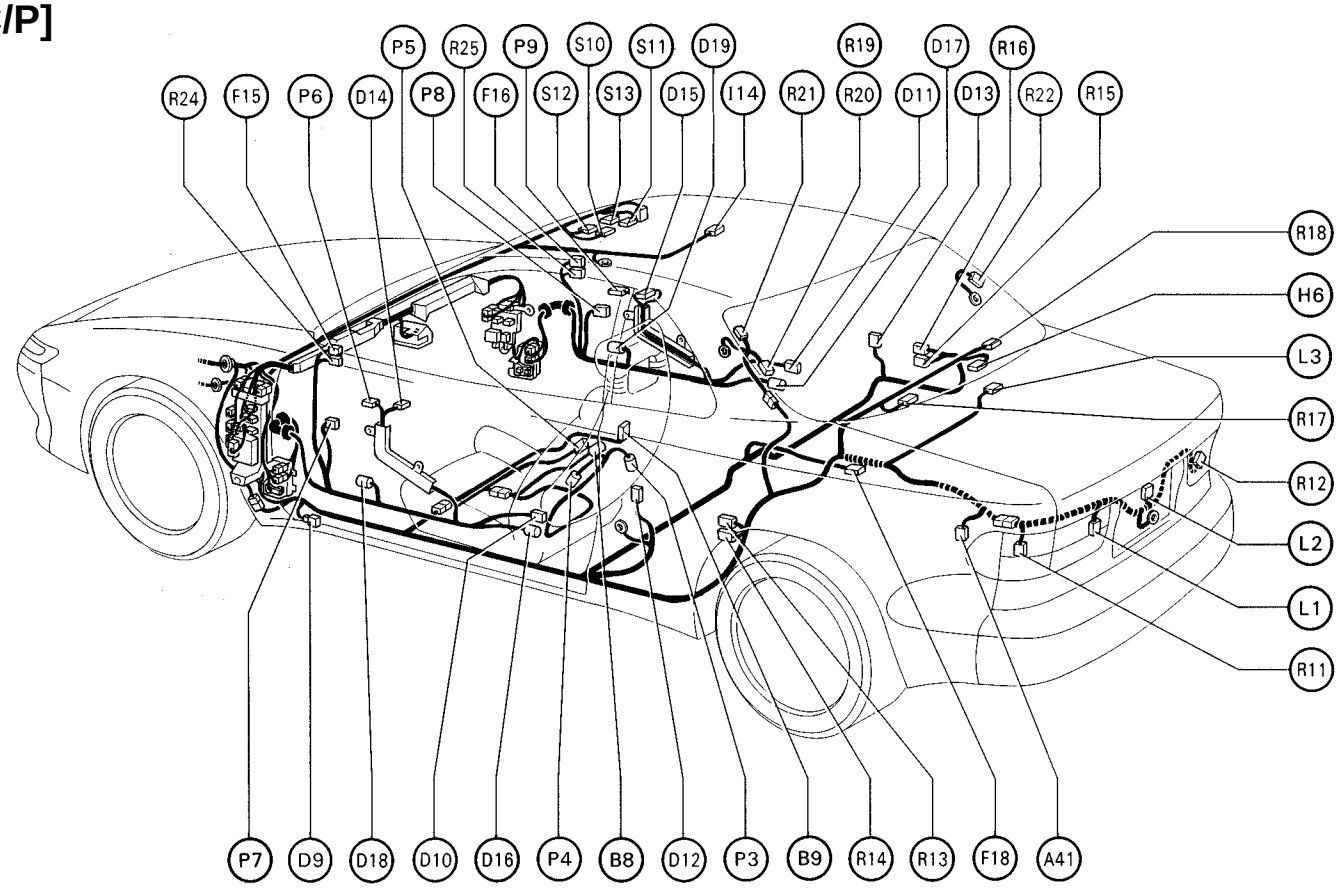
F 15 Front Tweeter (Speaker) LH
F 16 Front Tweeter (Speaker) RH
F 17 Fuel Pump (All–Trac/4WD)
F 18 Fuel Pump and Fuel Sender (2WD)
F 19 Fuel Sender (All–Trac/4WD)

H 6 High Mount Stop Light

I 14 Interior Light

Position of Parts in Body

[C/P]



L 1 License Plate Light
L 2 Luggage Compartment Door Courtesy SW (C/P)
L 3 Luggage Compartment Light (C/P)
L 4 Luggage Compartment Light (L/B)

P 3 Power Seat Motor (for Lumbar Support)
P 4 Power Seat Motor (for Side Support)
P 5 Power Seat SW
P 6 Power Window Master SW
P 7 Power Window Motor LH
P 8 Power Window Motor RH
P 9 Power Window SW RH

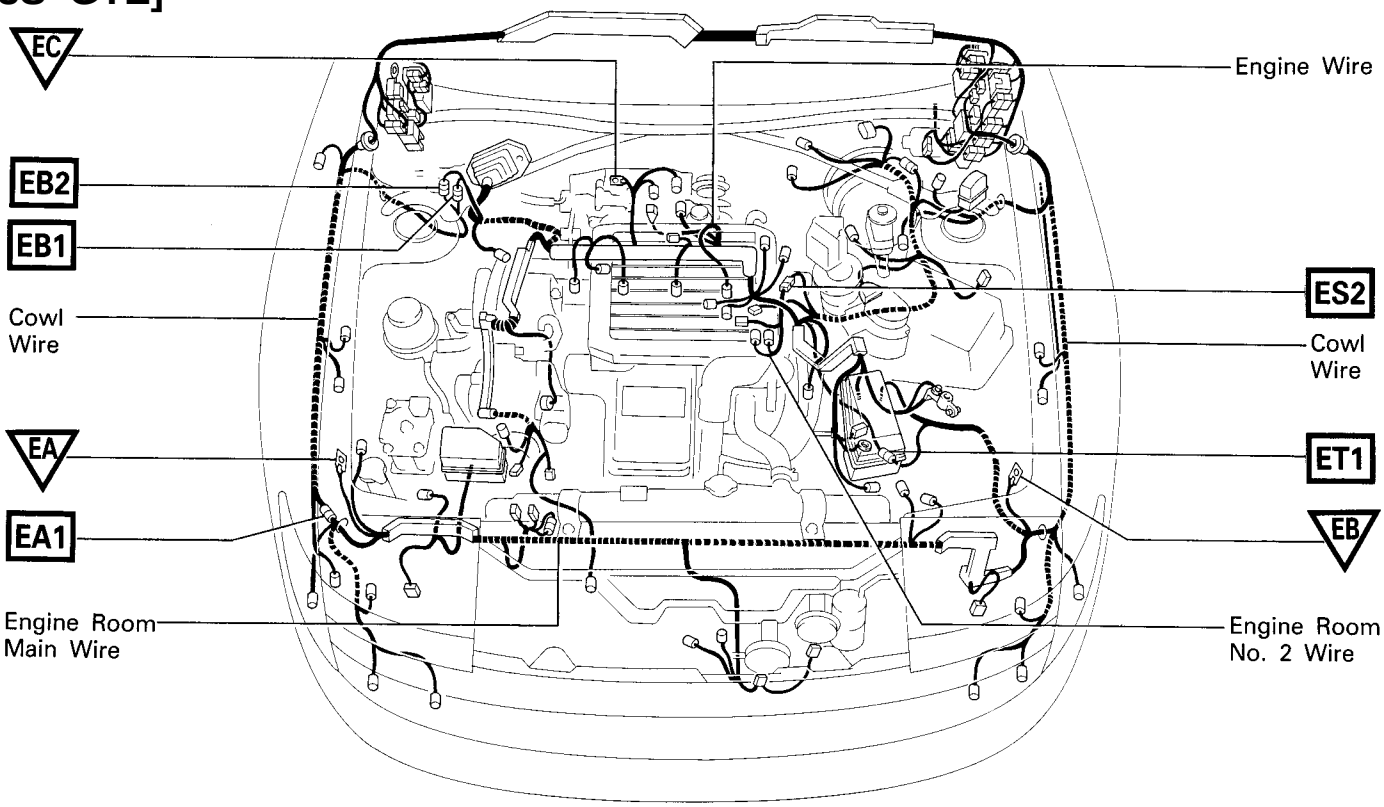
R 11 Rear Combination Light LH
R 12 Rear Combination Light RH
R 13 Rear Speaker LH
R 14 Rear Speaker LH
R 15 Rear Speaker RH
R 16 Rear Speaker RH
R 17 Rear Tweeter (Speaker) LH
R 18 Rear Tweeter (Speaker) RH
R 19 Rear Window Defogger (+, w/ Diversity Antenna)
R 20 Rear Window Defogger (+, w/o Diversity Antenna)
R 21 Rear Window Defogger (–, C/P, w/ Diversity Antenna)
R 22 Rear Window Defogger (–, w/o Diversity Antenna)
R 23 Rear Wiper Motor and Relay (L/B)
R 24 Remote Control Mirror LH
R 25 Remote Control Mirror RH

S 10 Sun Roof Control Relay
S 11 Sun Roof Control SW and Personal Light
S 12 Sun Roof Limit SW
S 13 Sun Roof Motor

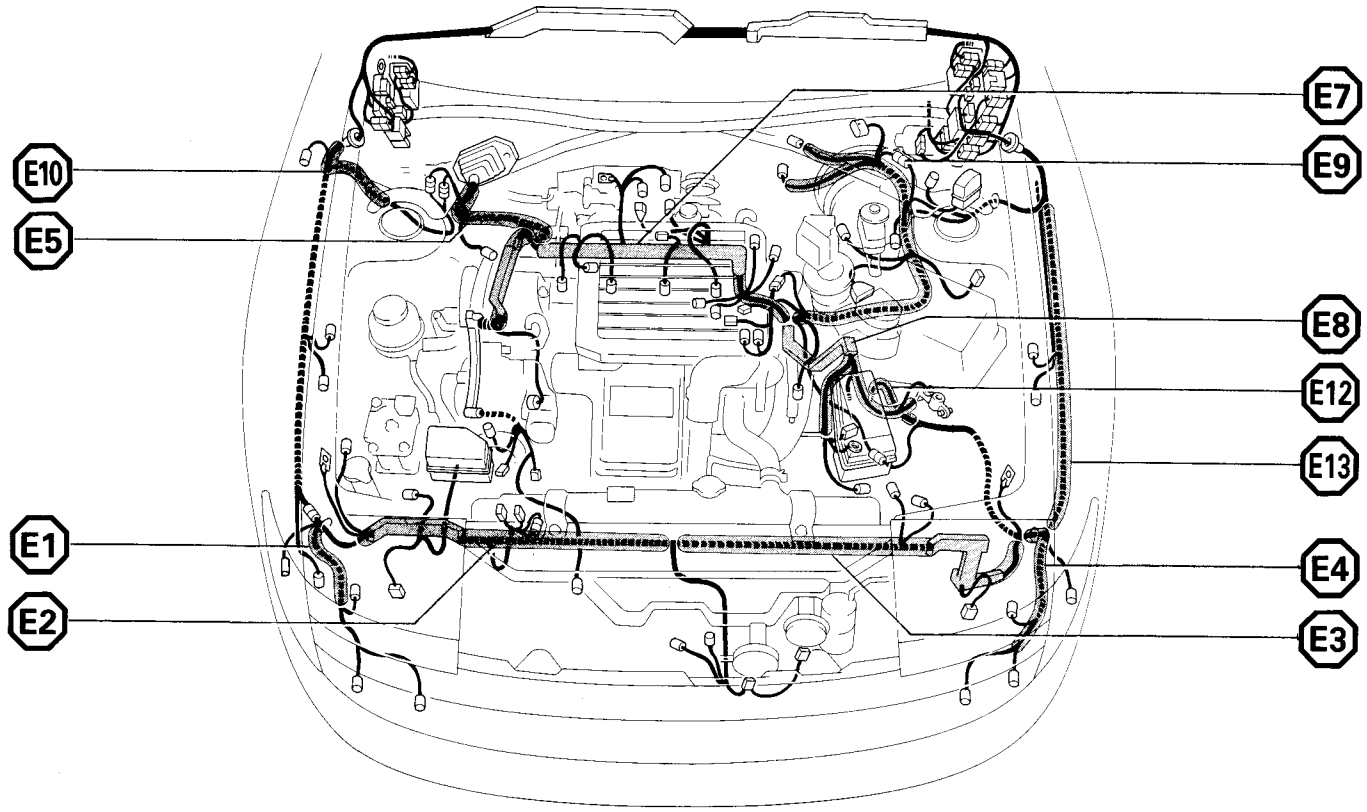
▭ : Location of Connector Joining Wire Harness and Wire Harness

▽ : Location of Ground Points

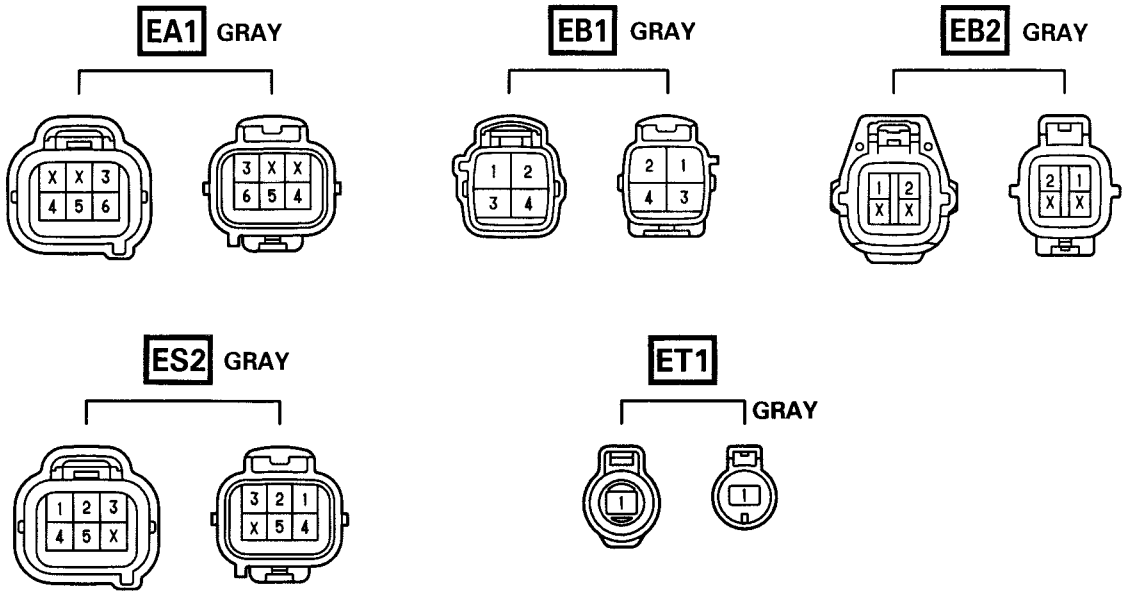
[3S–GTE]



⬡ : Location of Splice Points



Connector Joining Wire Harness and Wire Harness

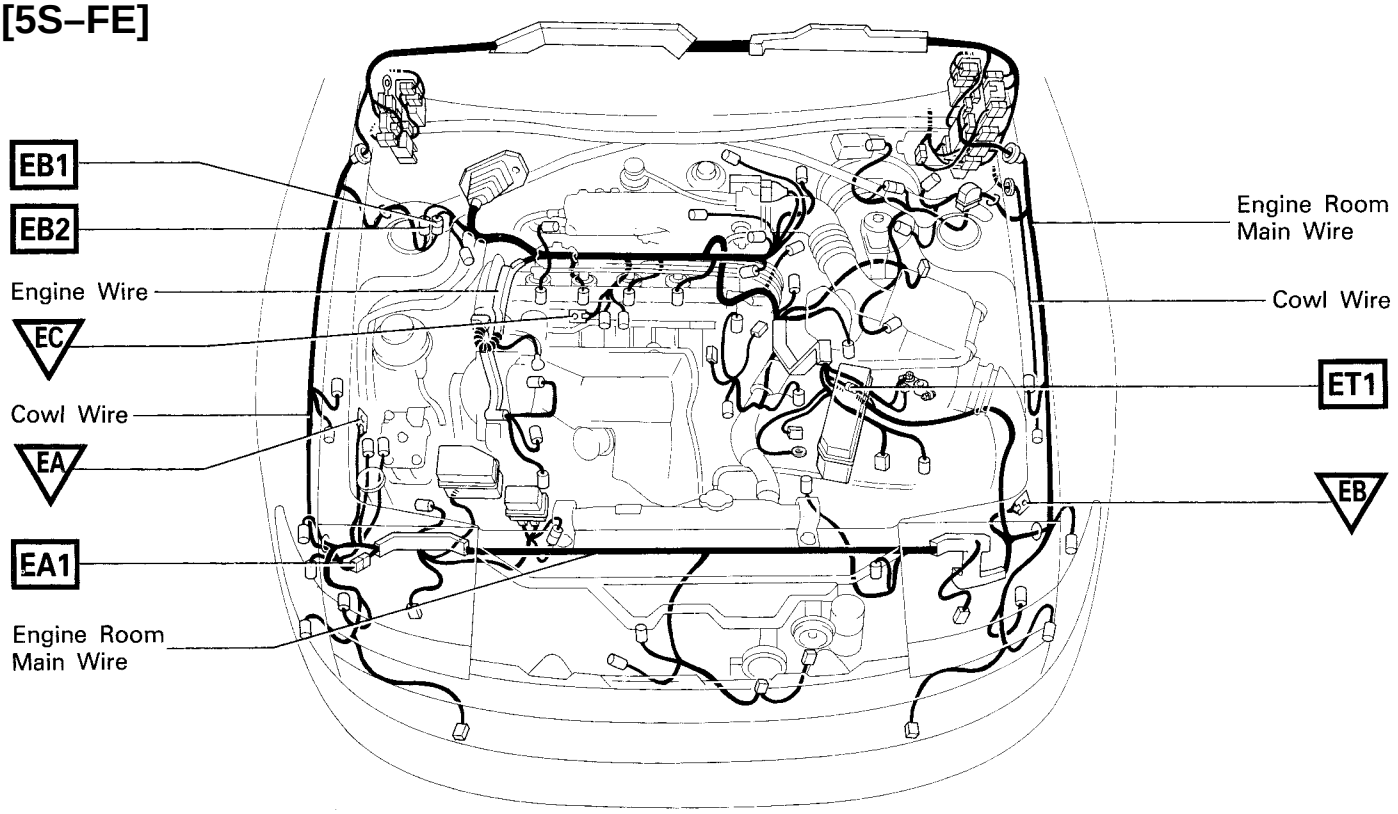


CODE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EA1	COWL WIRE AND ENGINE ROOM MAIN WIRE (FRONT SIDE OF RIGHT FRONT FENDER)
EB1	ENGINE WIRE AND COWL WIRE (REAR SIDE OF RIGHT FRONT FENDER)
EB2	
ES2	ENGINE WIRE AND ENGINE ROOM NO. 2 WIRE (NEAR THE DISTRIBUTOR)
ET1	ENGINE ROOM MAIN WIRE AND ENGINE WIRE (NEAR THE J/B NO. 2)

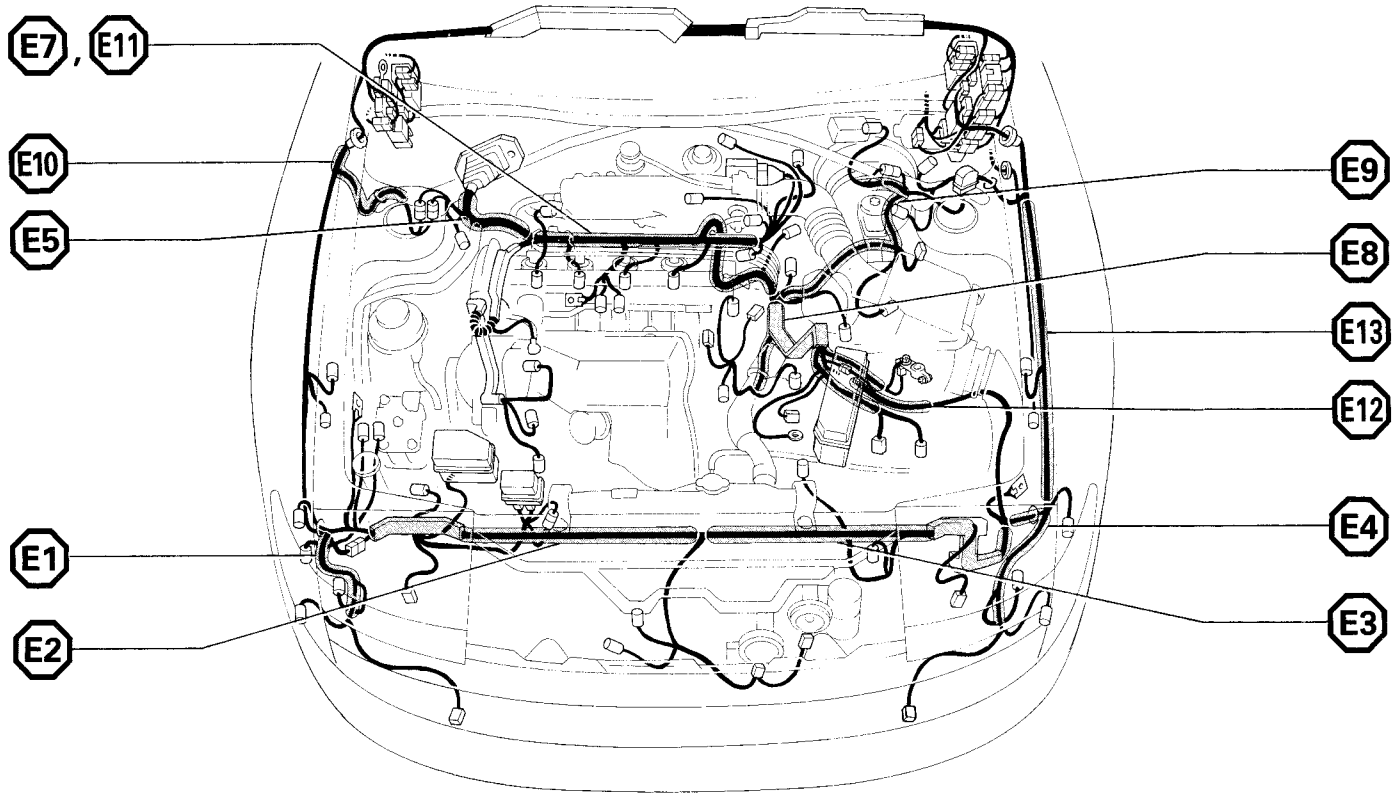
▭ : Location of Connector Joining Wire Harness and Wire Harness

▽ : Location of Ground Points

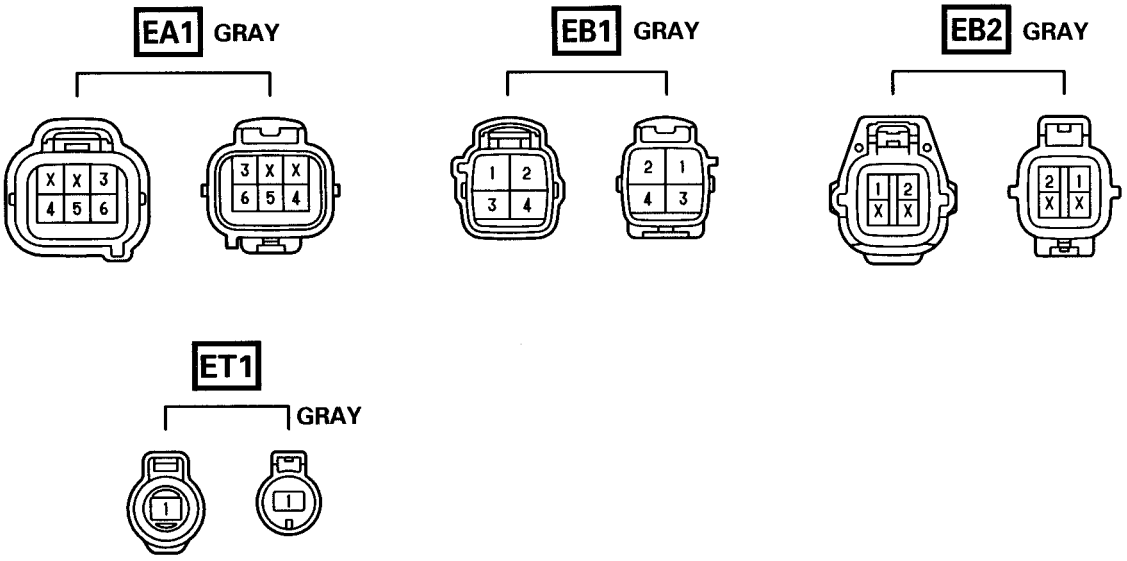
[5S–FE]



○ : Location of Splice Points



Connector Joining Wire Harness and Wire Harness

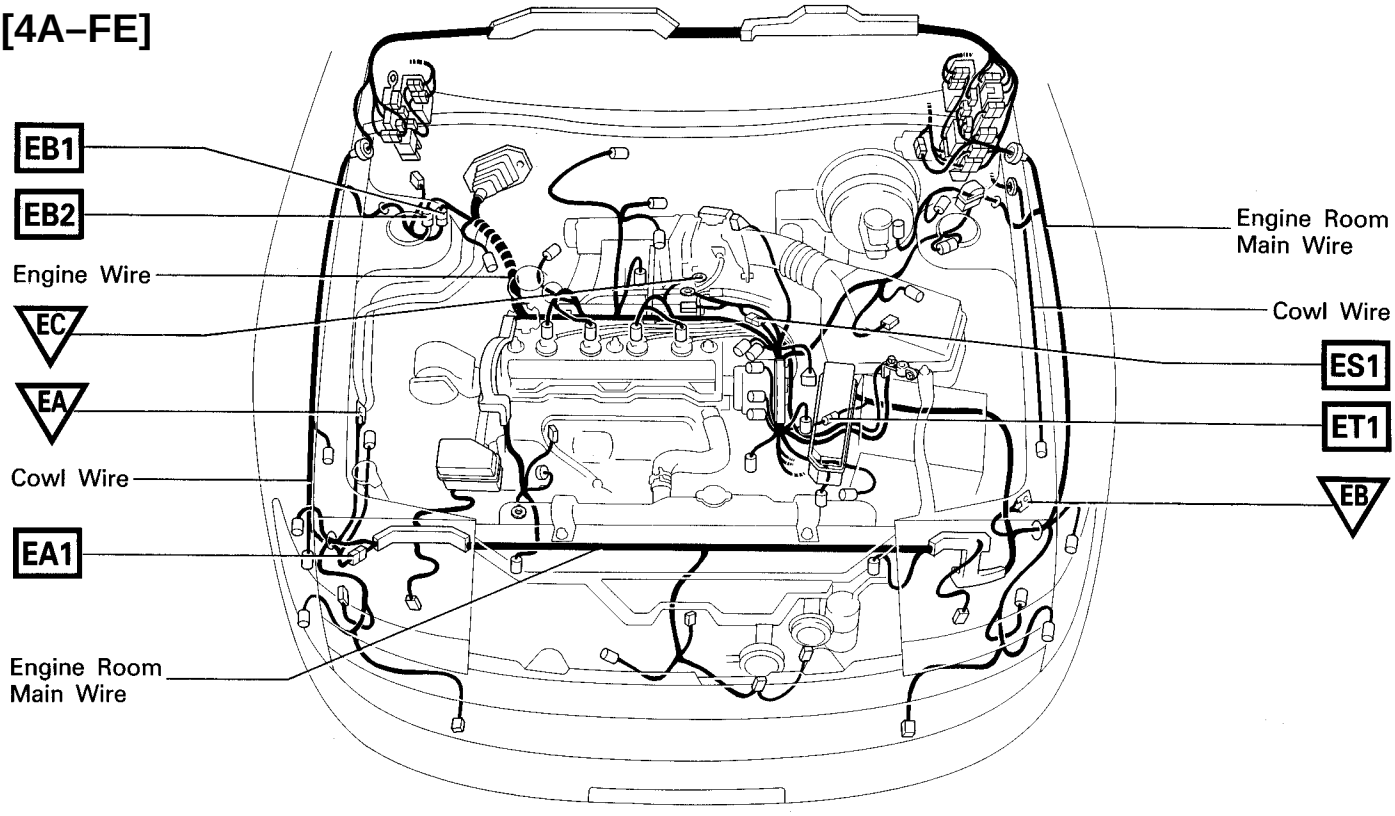


CODE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EA1	COWL WIRE AND ENGINE ROOM MAIN WIRE (FRONT SIDE OF RIGHT FRONT FENDER)
EB1	ENGINE WIRE AND COWL WIRE (REAR SIDE OF RIGHT FRONT FENDER)
EB2	
ET1	ENGINE ROOM MAIN WIRE AND ENGINE WIRE (NEAR THE J/B NO. 2)

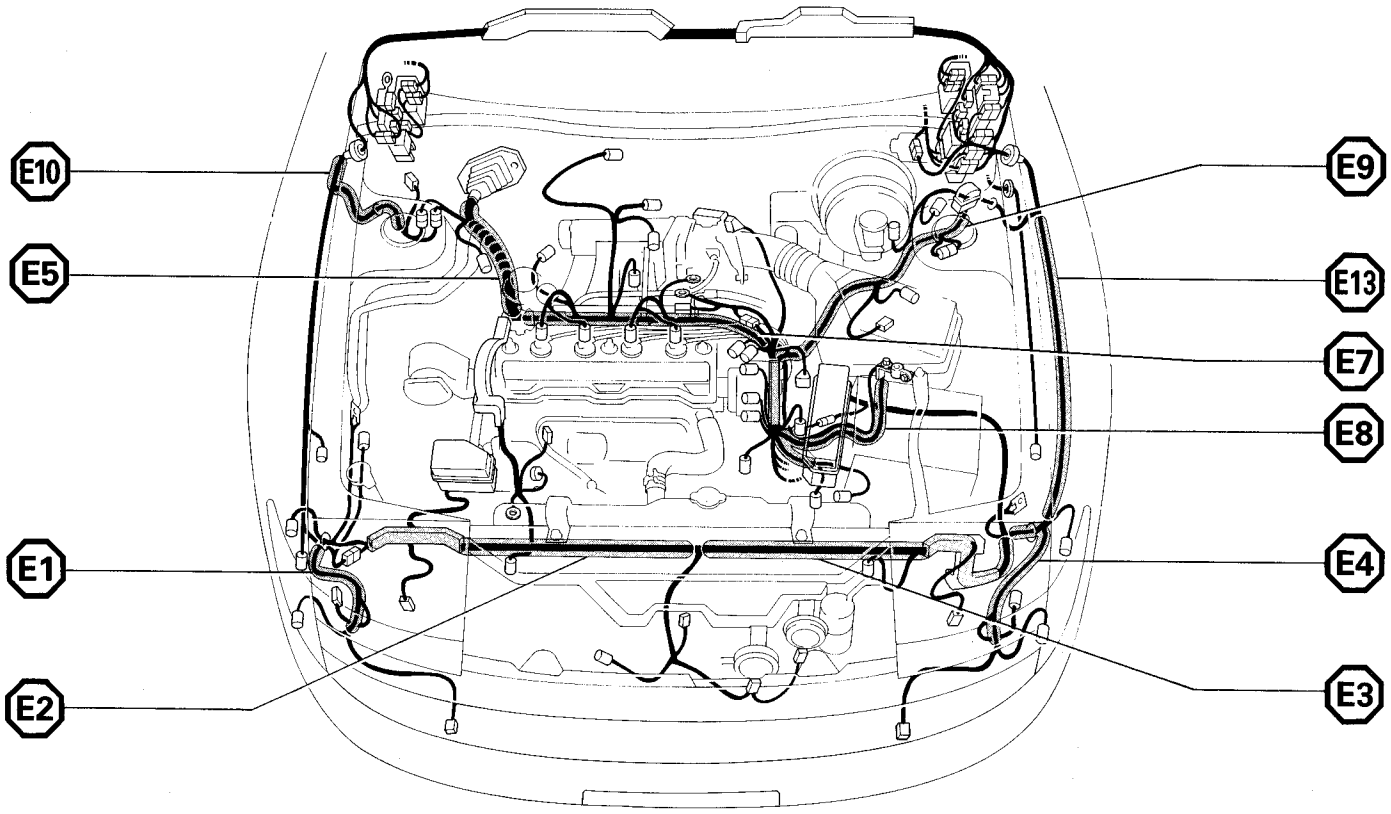
▭ : Location of Connector Joining Wire Harness and Wire Harness

▽ : Location of Ground Points

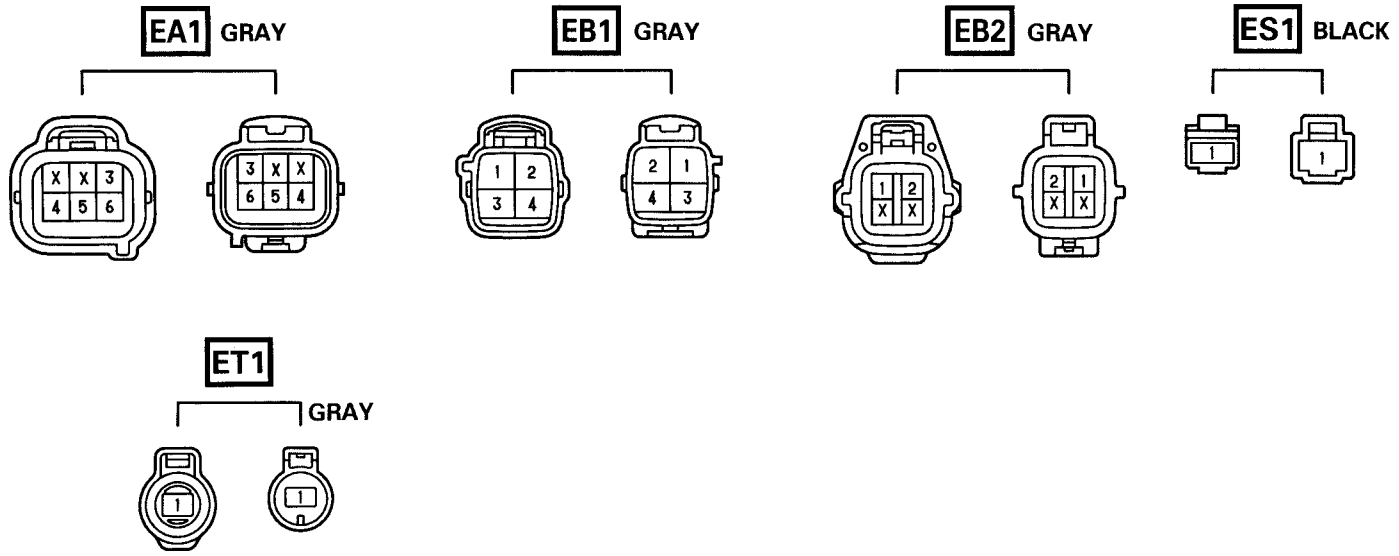
[4A–FE]



○ : Location of Splice Points

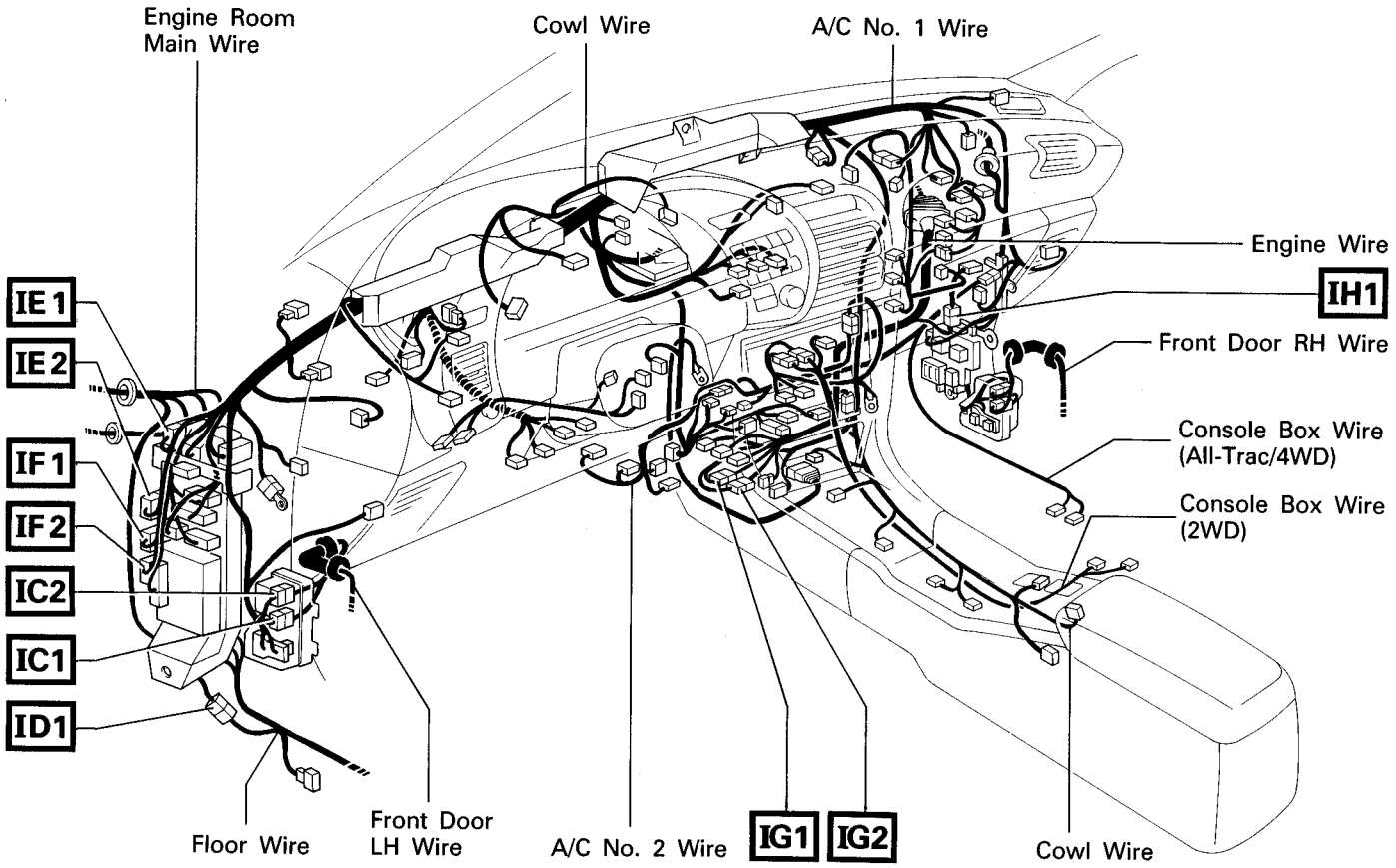


Connector Joining Wire Harness and Wire Harness

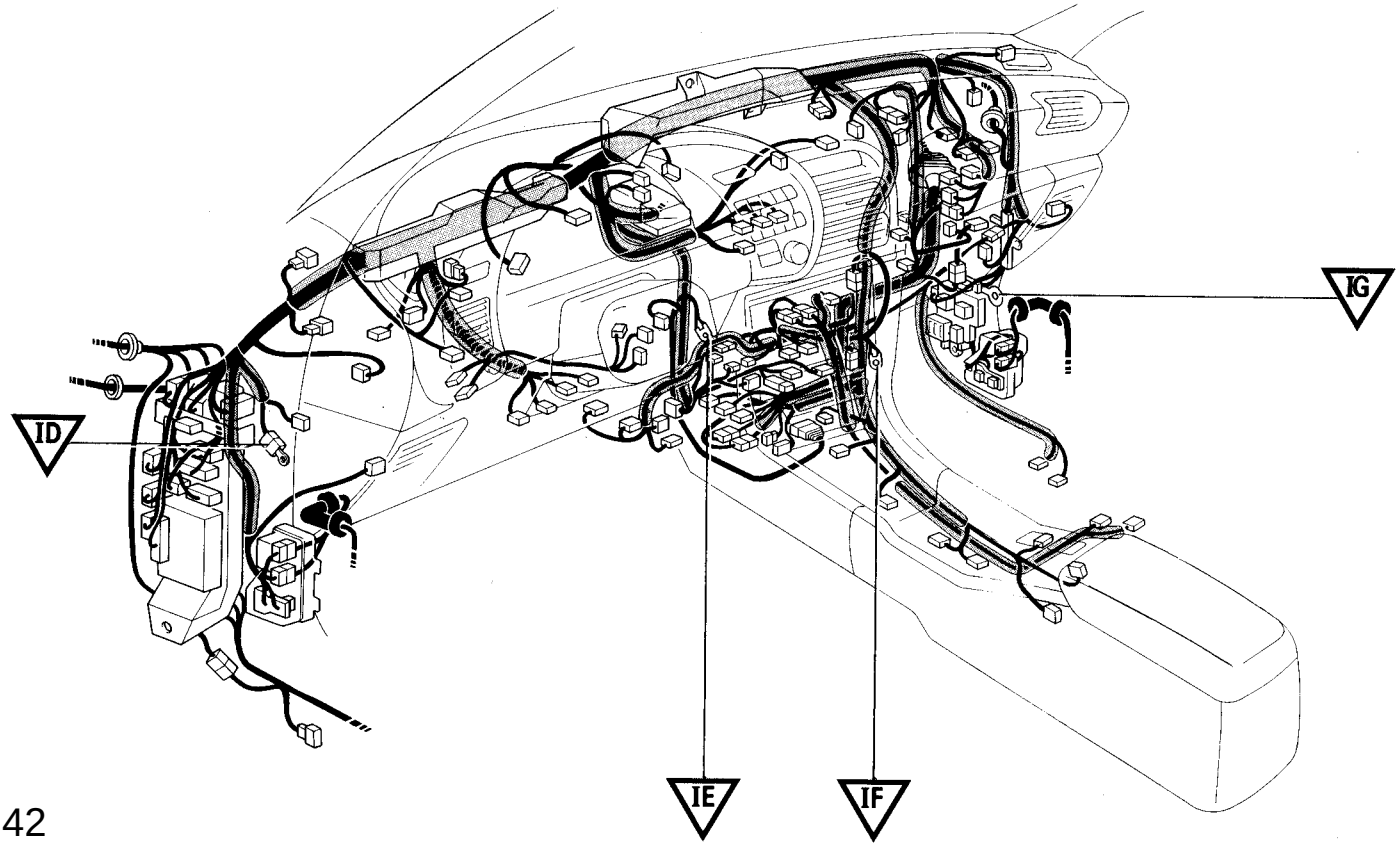


CODE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EA1	COWL WIRE AND ENGINE ROOM MAIN WIRE (FRONT SIDE OF RIGHT FRONT FENDER)
EB1	ENGINE WIRE AND COWL WIRE (REAR SIDE OF RIGHT FRONT FENDER)
EB2	
ES1	ENGINE WIRE AND ENGINE ROOM NO. 2 WIRE (NEAR THE STARTER)
ET1	ENGINE ROOM MAIN WIRE AND ENGINE WIRE (NEAR THE J/B NO. 2)

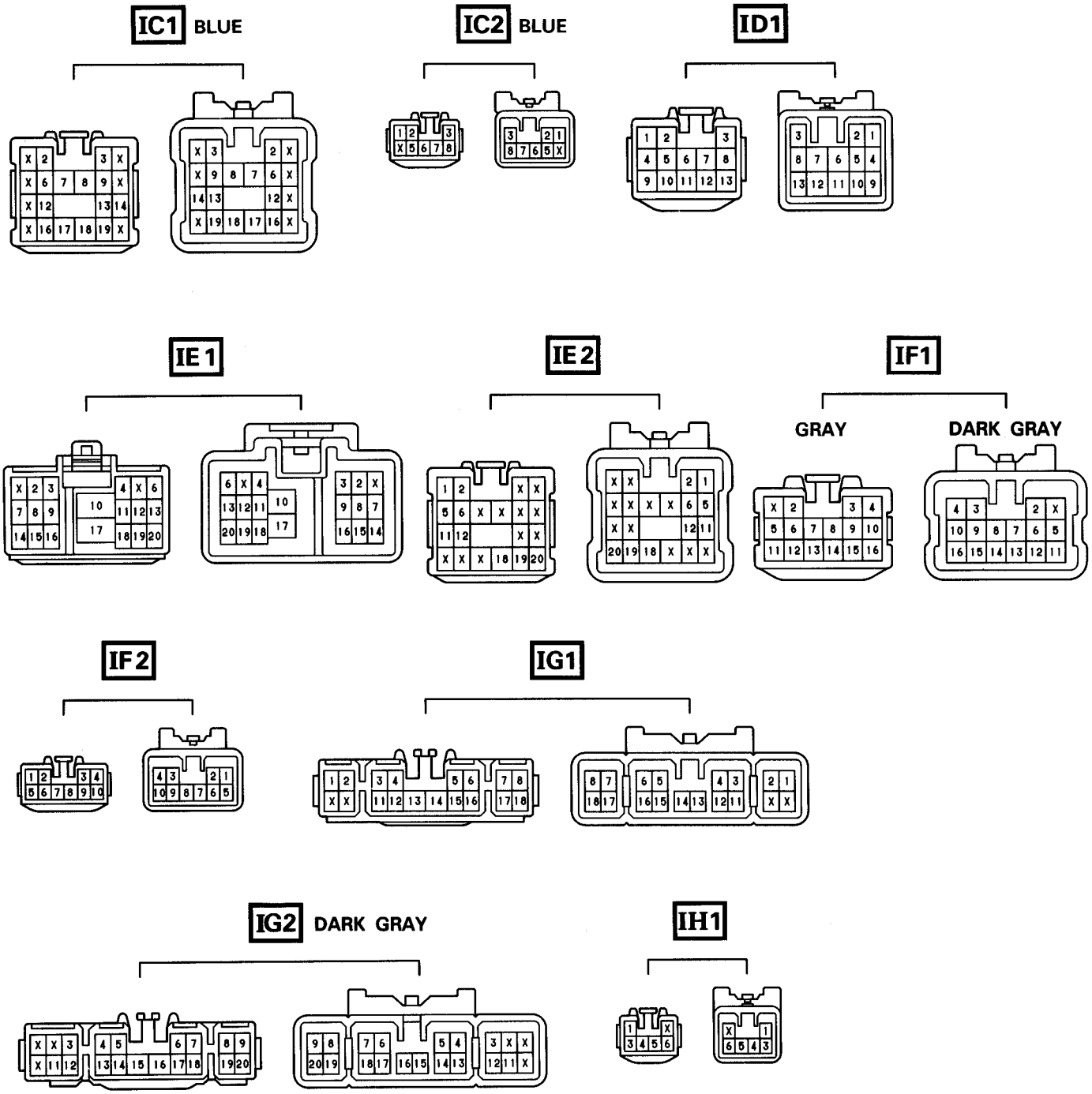
▭ : Location of Connector Joining Wire Harness and Wire Harness



▽ : Location of Ground Points

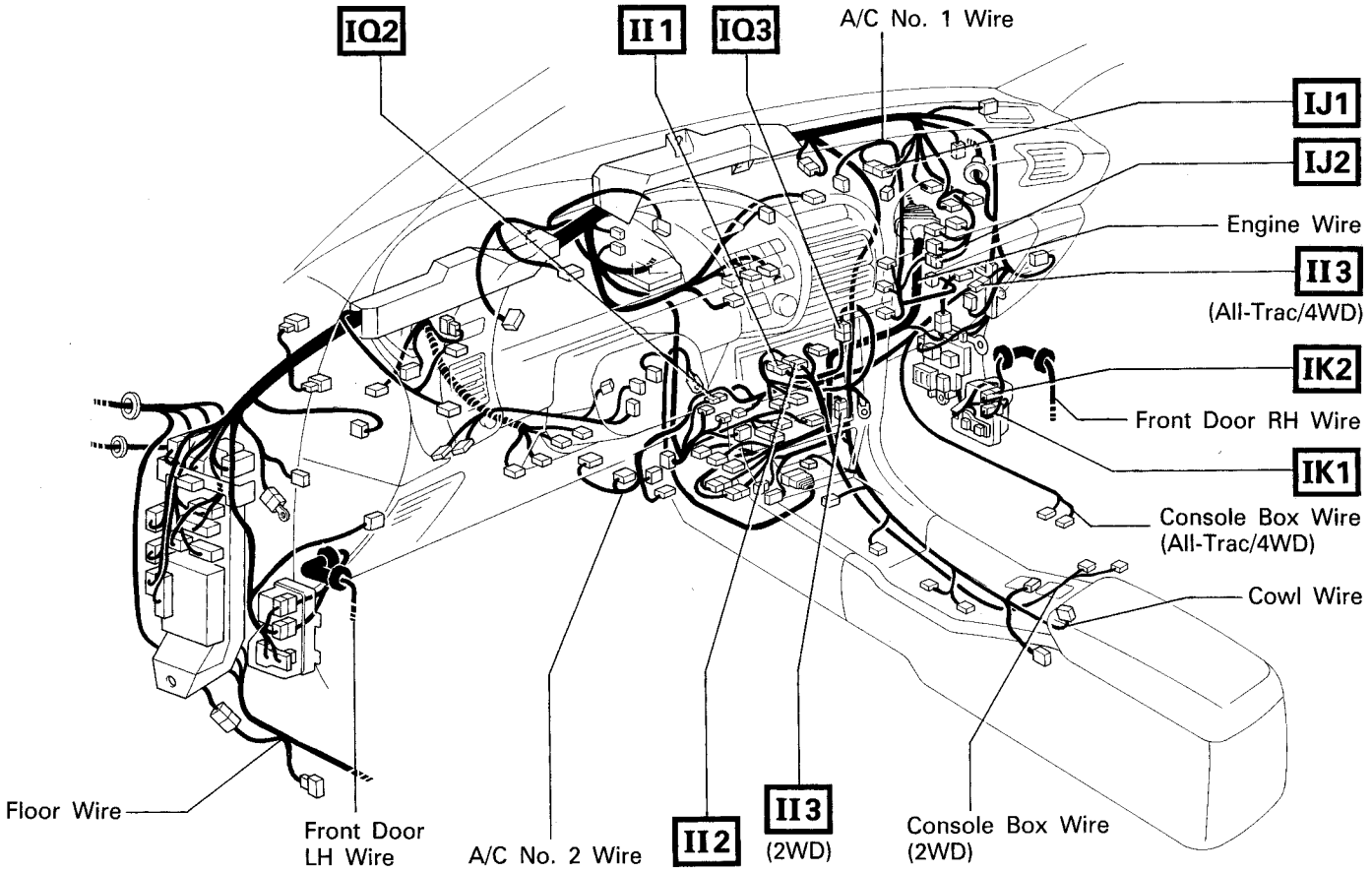


Connector Joining Wire Harness and Wire Harness

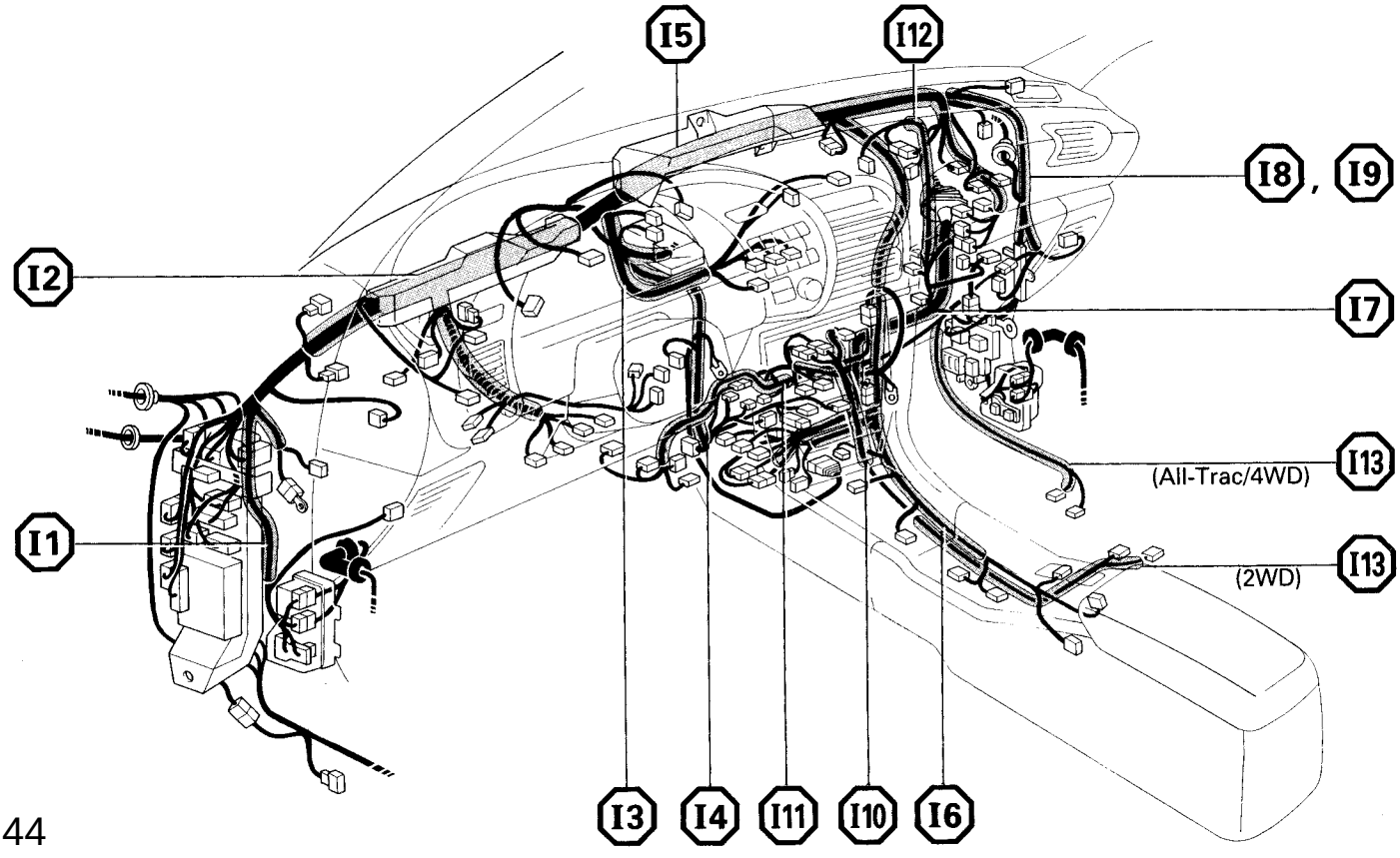


CODE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IC1	FRONT DOOR LH WIRE AND COWL WIRE (LEFT KICK PANEL)
IC2	
ID1	ENGINE ROOM MAIN WIRE AND FLOOR WIRE (LEFT KICK PANEL)
IE1	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)
IE2	
IF1	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
IF2	
IG1	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE ECU)
IG2	
IH1	ENGINE WIRE AND A/C NO. 1 WIRE (BEHIND THE GLOVE BOX)

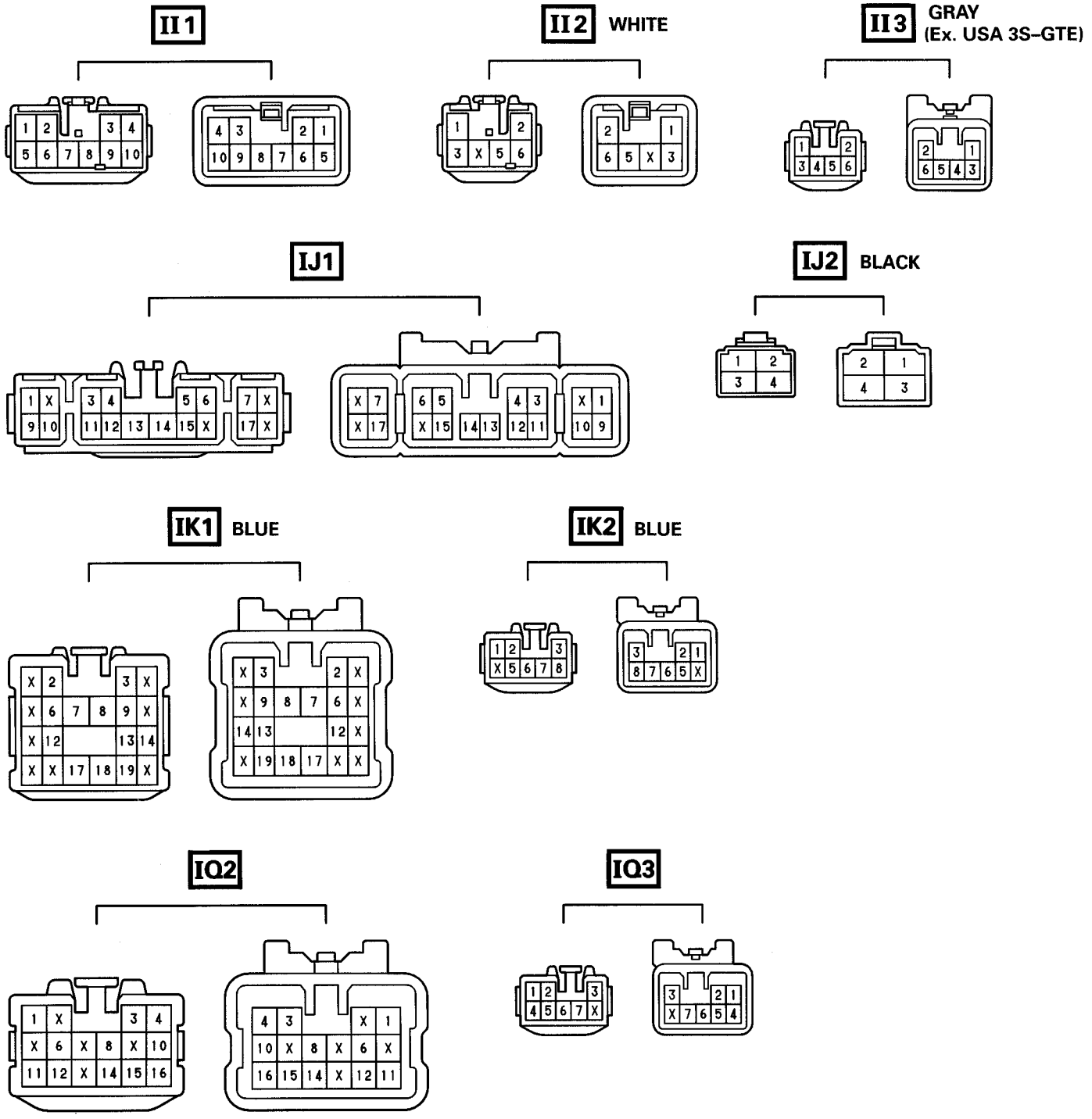
▭ : Location of Connector Joining Wire Harness and Wire Harness



⬡ : Location of Splice Points



Connector Joining Wire Harness and Wire Harness

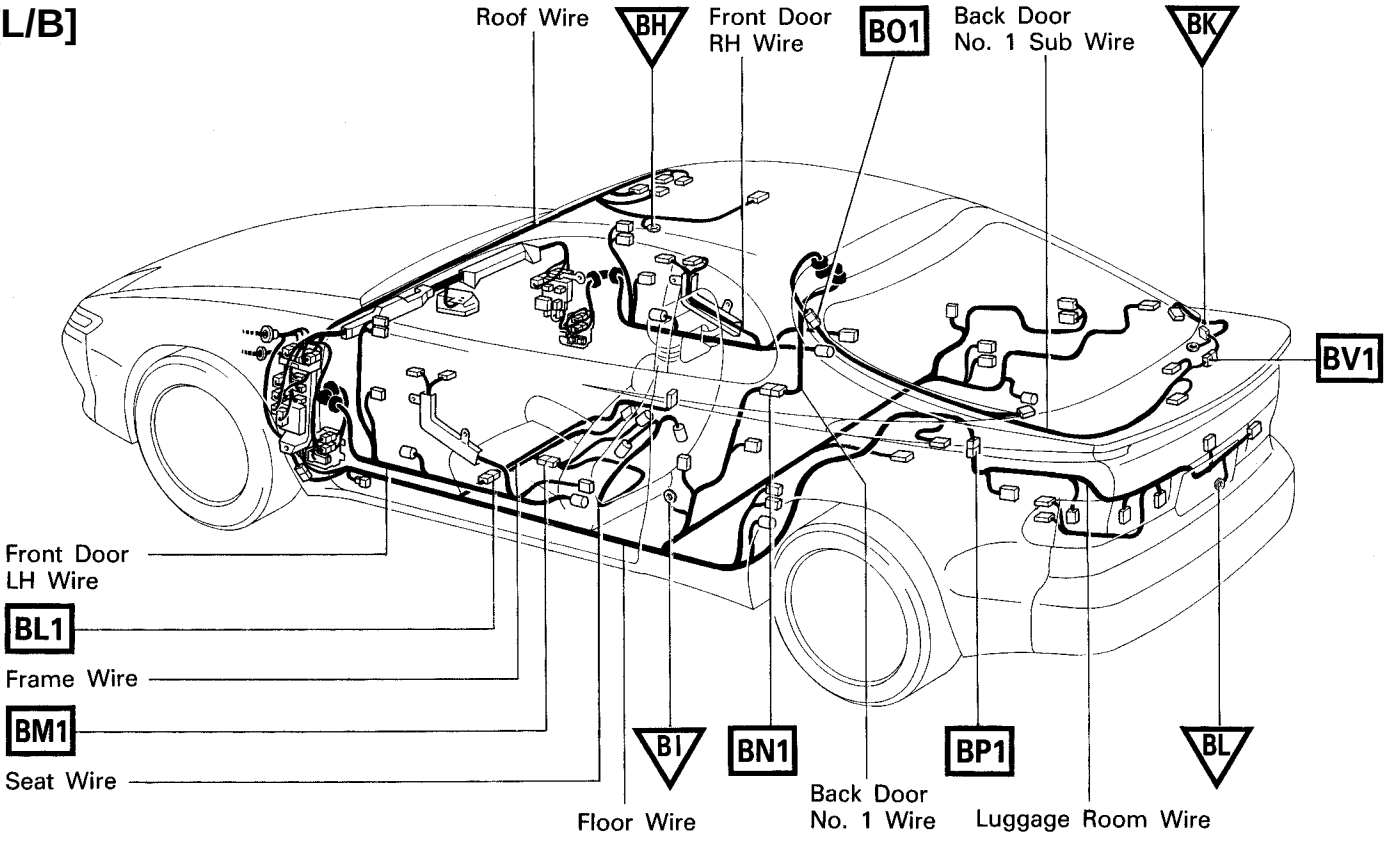


CODE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
II1	COWL WIRE AND CONSOLE BOX WIRE (INSTRUMENT PANEL CENTER)
II2	
II3	COWL WIRE AND CONSOLE BOX WIRE (RIGHT KICK PANEL OF ALL–TRACK/4WD)
IJ1	COWL WIRE AND CONSOLE BOX WIRE (RIGHT KICK PANEL OF 2WD)
IJ2	COWL WIRE AND A/C NO. 1 WIRE (BEHIND THE GLOVE BOX)
IK1	
IK2	FRONT DOOR RH WIRE AND COWL WIRE (RIGHT KICK PANEL)
IQ2	
IQ3	COWL WIRE AND A/C NO. 2 WIRE (BESIDE HEATER UNIT)

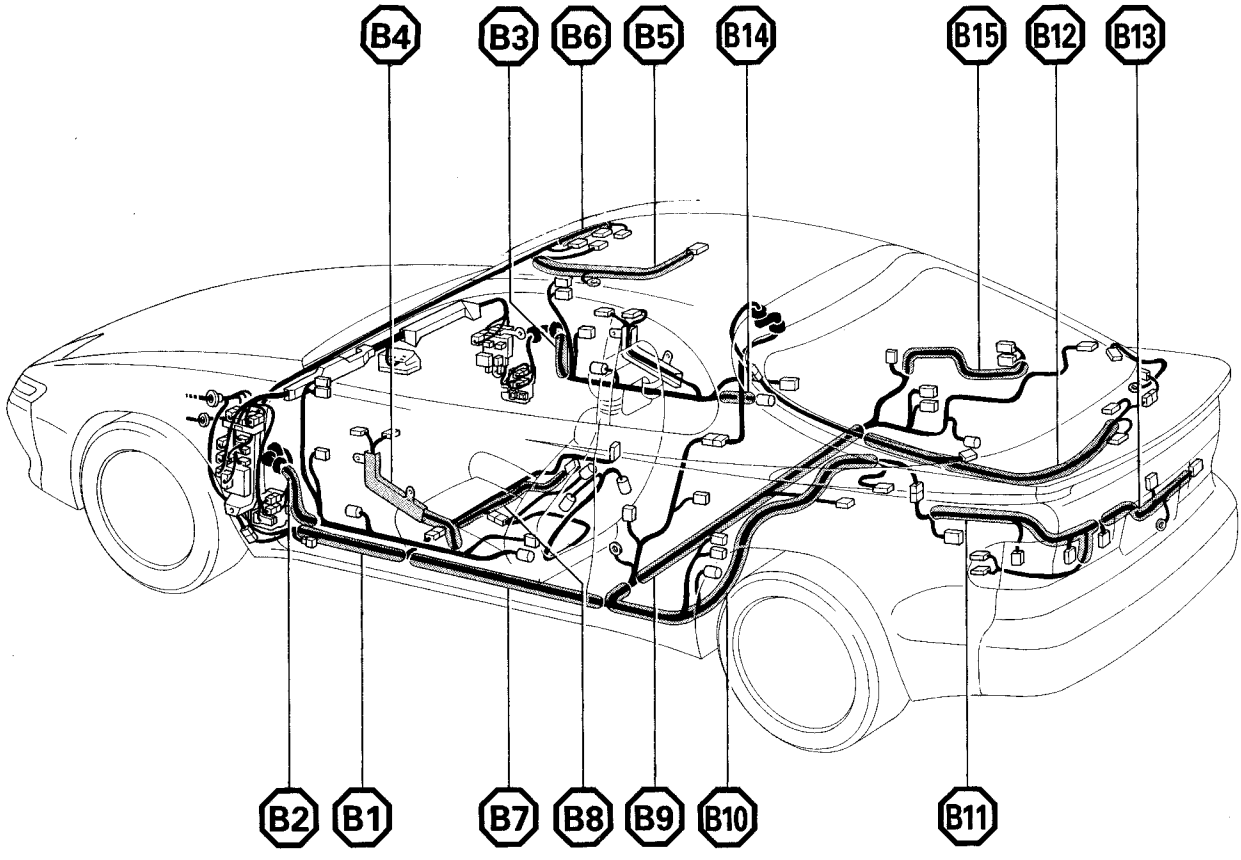
▭ : Location of Connector Joining Wire Harness and Wire Harness

▽ : Location of Ground Points

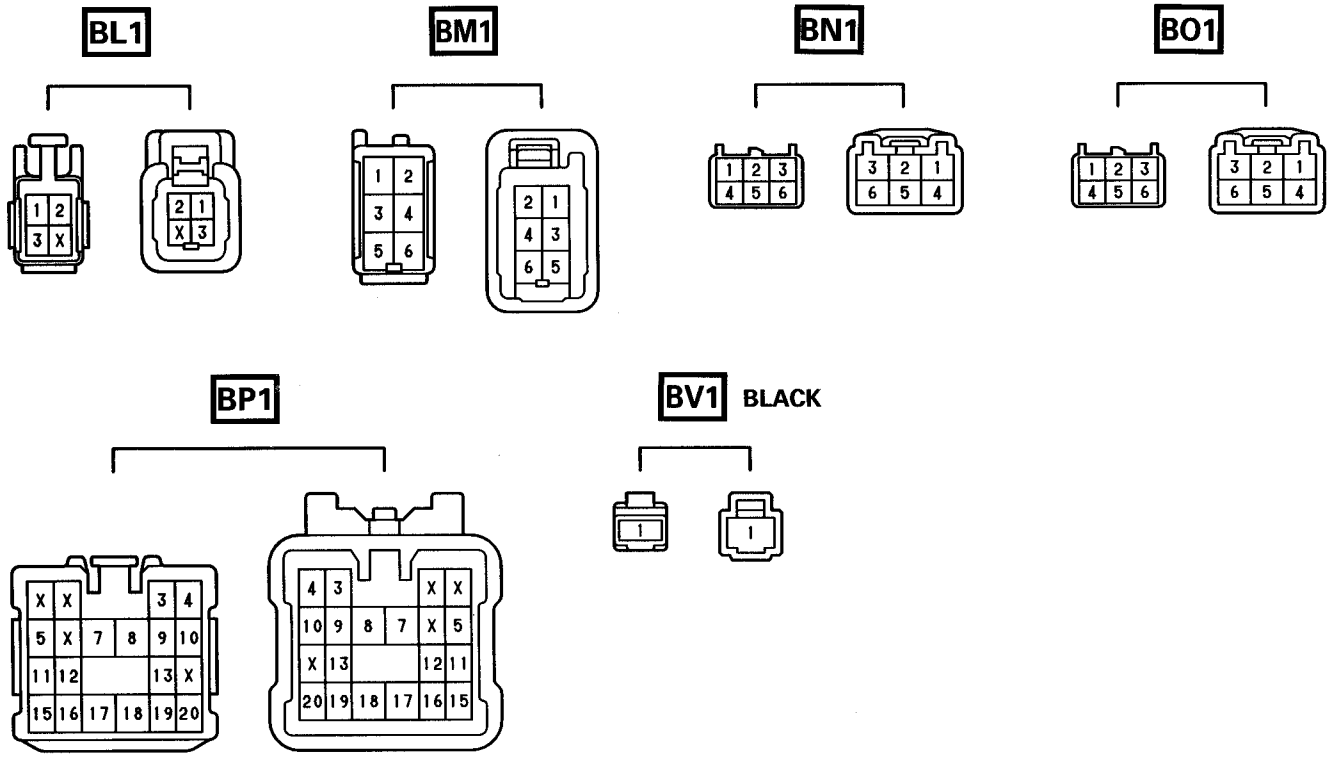
[L/B]



○ : Location of Splice Points



Connector Joining Wire Harness and Wire Harness

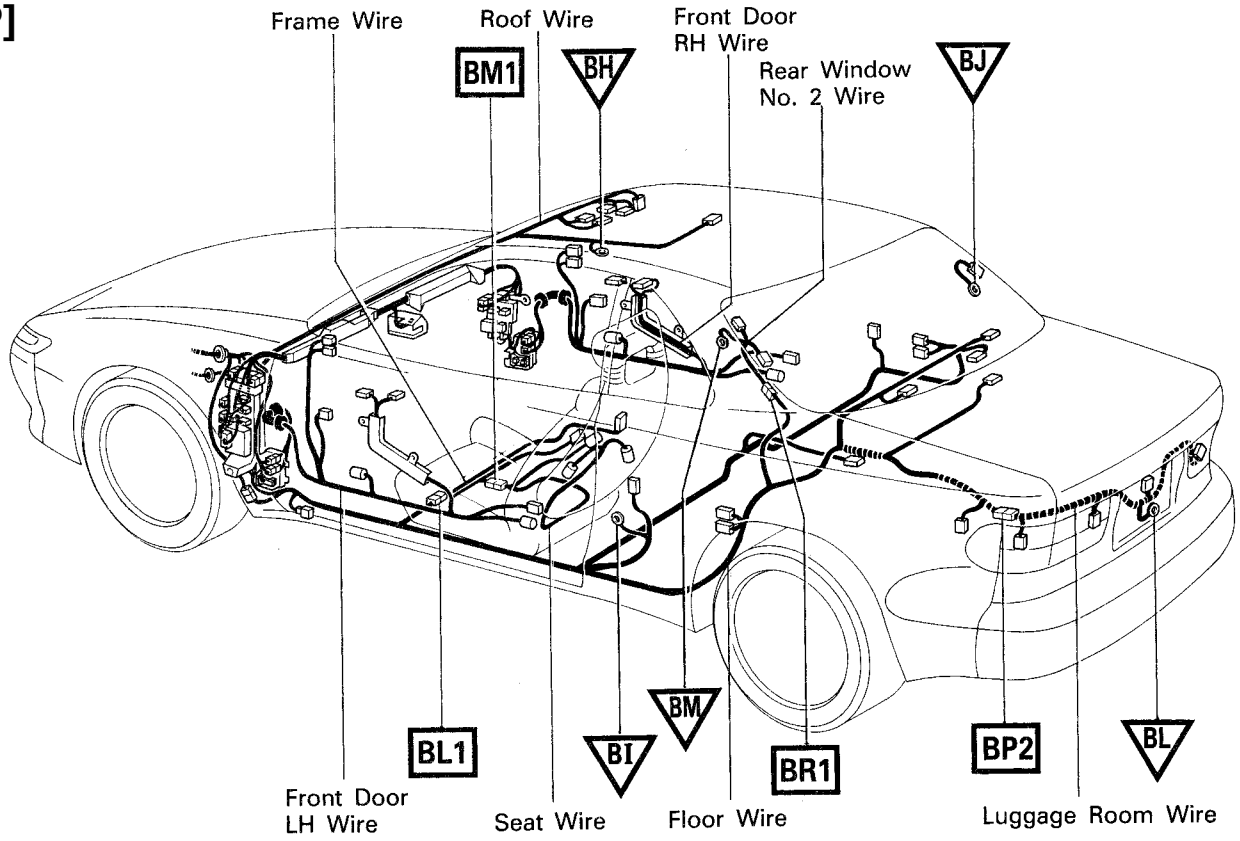


CODE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
BL1	FLOOR WIRE AND FRAME WIRE (LEFT SIDE OF FRONT FLOOR PANEL)
BM1	FRAME WIRE AND SEAT WIRE (UNDER THE DRIVER'S SEAT)
BN1	BACK DOOR NO. 1 WIRE AND FLOOR WIRE (LEFT SIDE OF PACKAGE TRAY TRIM)
BO1	BACK DOOR NO. 1 WIRE AND BACK DOOR NO. 1 SUB WIRE (BACK DOOR UPPER LEFT)
BP1	FLOOR WIRE AND LUGGAGE ROOM WIRE (LEFT QUARTER PANEL CENTER)
BV1	BACK DOOR NO. 1 SUB WIRE AND REAR WINDOW DEFOGGER WIRE (BACK DOOR RIGHT)

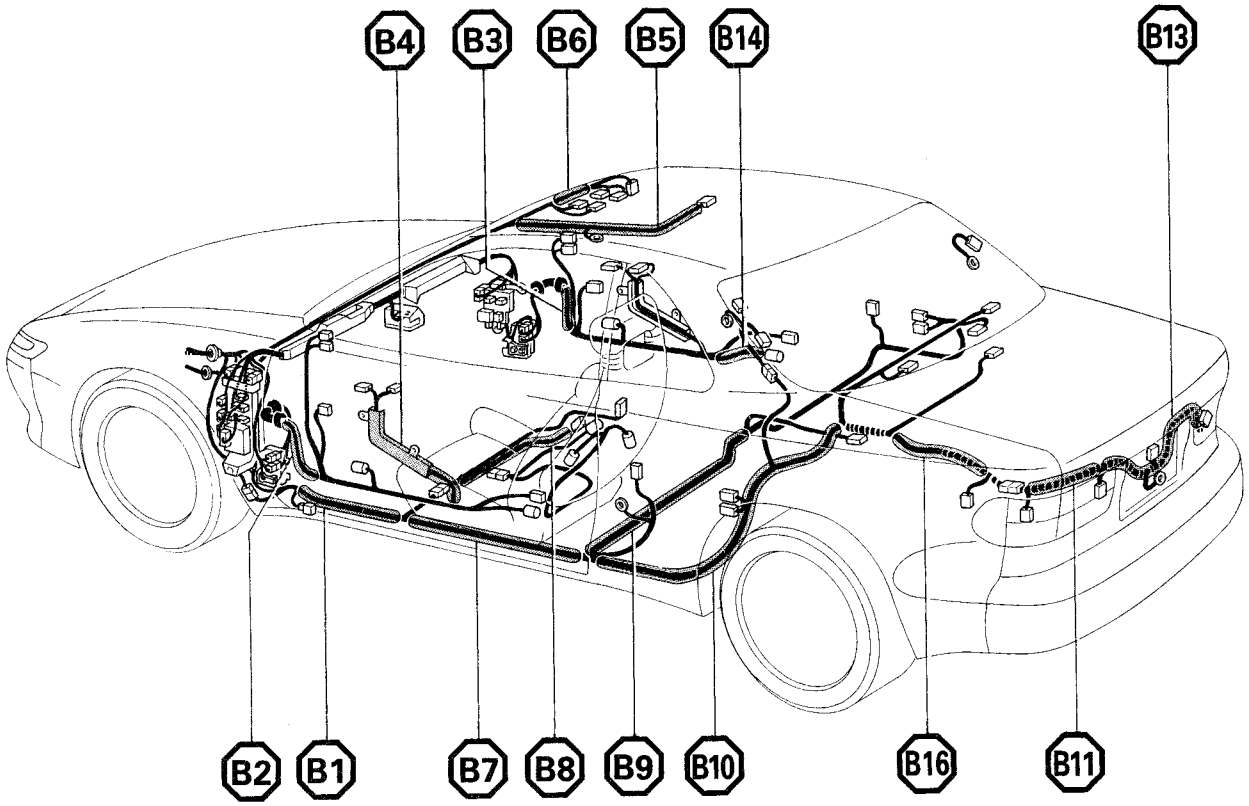
▭ : Location of Connector Joining Wire Harness and Wire Harness

▽ : Location of Ground Points

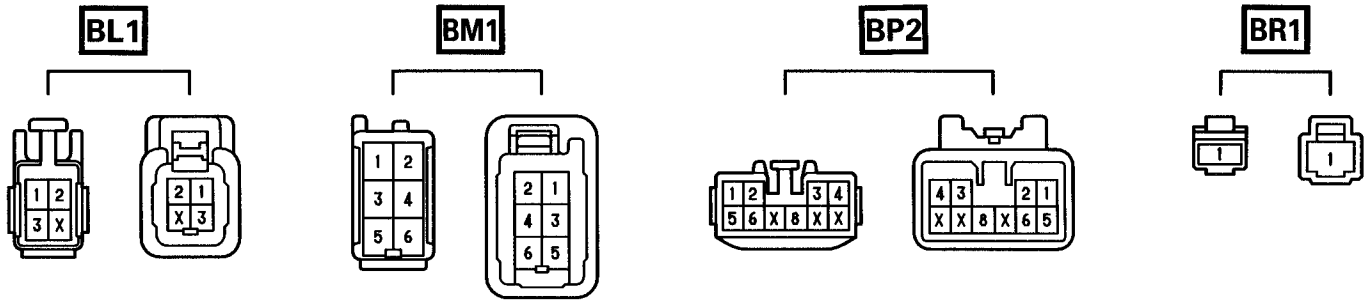
[C/P]



○ : Location of Splice Points

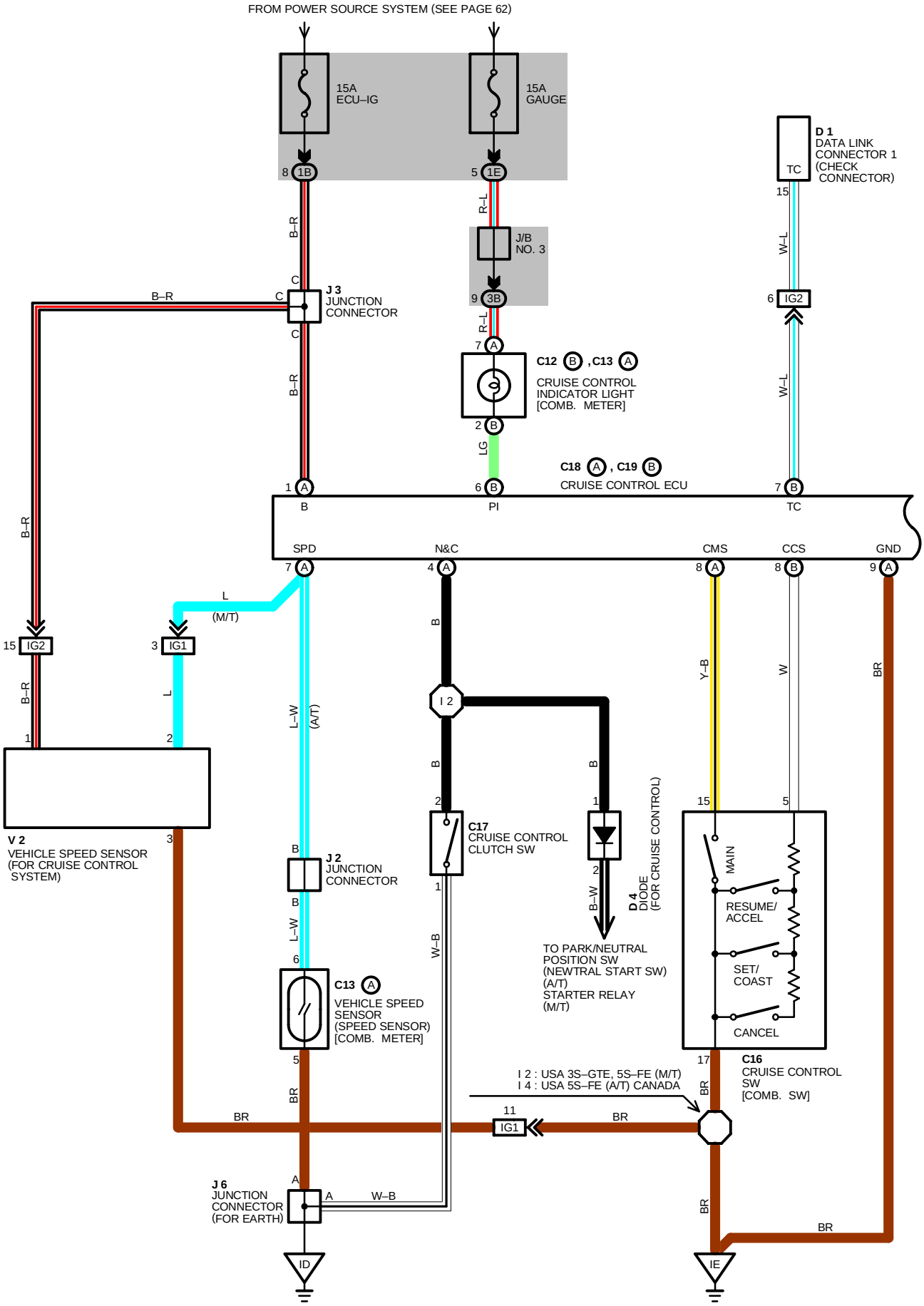


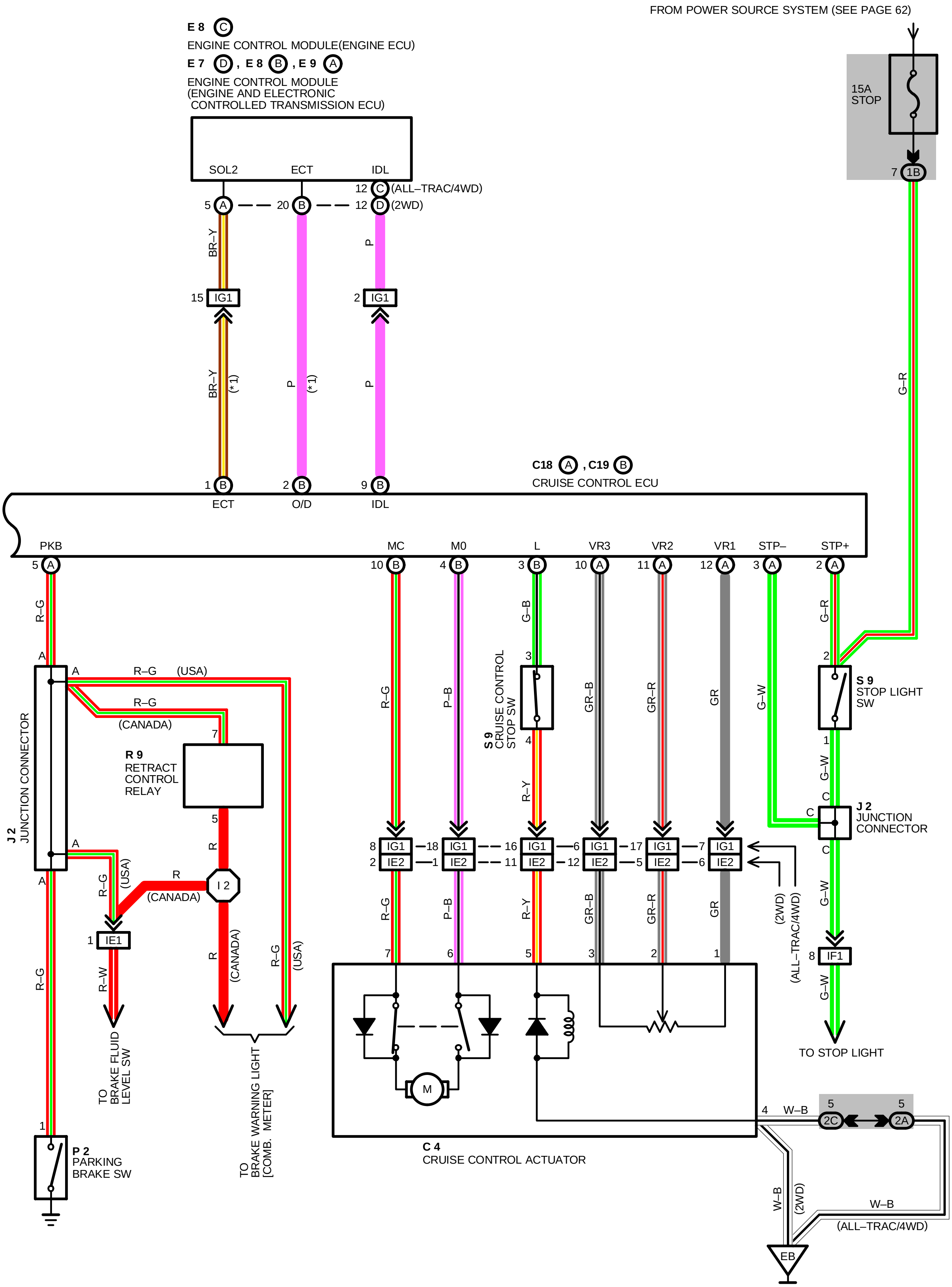
Connector Joining Wire Harness and Wire Harness



CODE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
BL1	FLOOR WIRE AND FRAME WIRE (LEFT SIDE OF FRONT FLOOR PANEL)
BM1	FRAME WIRE AND SEAT WIRE (UNDER THE DRIVER'S SEAT)
BP2	FLOOR WIRE AND LUGGAGE ROOM WIRE (LUGGAGE COMPARTMENT LEFT)
BR1	FLOOR WIRE AND REAR WINDOW NO. 2 WIRE (LEFT REAR PILLAR)

CRUISE CONTROL (MOTOR TYPE)




FROM POWER SOURCE SYSTEM (SEE PAGE 62)
15A STOP
7 1B
G–R
E 8 C
ENGINE CONTROL MODULE(ENGINE ECU)
E 7 D , E 8 B , E 9 A
ENGINE CONTROL MODULE
(ENGINE AND ELECTRONIC
CONTROLLED TRANSMISSION ECU)
SOL2
ECT
IDL
12 C (ALL–TRAC/4WD)
12 D (2WD)
5 A
20 B
BR–Y
P
15 IG1
2 IG1
(*1)
C18 A , C19 B
CRUISE CONTROL ECU
1 B
2 B
9 B
ECT
O/D
IDL
PKB
MC
M0
L
VR3
VR2
VR1
STP–
STP+
5 A
10 B
4 B
3 B
10 A
11 A
12 A
3 A
2 A
R–G
P–B
G–B
GR–B
GR–R
GR
G–W
S 9
CRUISE CONTROL
STOP SW
S 9
STOP LIGHT
SW
J 2
JUNCTION CONNECTOR
J 2
JUNCTION
CONNECTOR
R–G (USA)
R–G
(CANADA)
R 9
RETRACT
CONTROL
RELAY
R
I 2
R–Y
IG1
IE2
IE1
IF1
R–W
(2WD)
(ALL–TRAC/4WD)
TO
BRAKE FLUID
LEVEL SW
TO
BRAKE WARNING LIGHT
[COMB. METER]
TO STOP LIGHT
M
W–B
2C
2A
C 4
CRUISE CONTROL ACTUATOR
P 2
PARKING
BRAKE SW
EB

CRUISE CONTROL (MOTOR TYPE)

SYSTEM OUTLINE

CURRENT IS APPLIED AT ALL TIMES THROUGH STOP FUSE TO **TERMINAL (A) 2** OF THE CONTROL ECU AND **TERMINAL 2** OF STOP LIGHT SWITCH.

WITH THE IGNITION SWITCH TURNED TO ON, THE CURRENT FLOWS THROUGH GAUGE FUSE TO **TERMINL (A) 7** OF CRUISE CONTROL INDICATOR LIGHT. THE CURRENT THROUGH ECU–IG FUSE FLOWS TO **TERMINAL (A) 1** OF CRUISE CONTROL ECU AND **TERMINAL 1** OF CRUISE CONTROL VEHICLE SPEED SENSOR (SPEED SENSOR).

WHEN THE IGNITION SWITCH IS ON AND THE CRUISE CONTROL MAIN SWITCH IS TURNED ON, A SIGNAL IS INPUT FROM **TERMINAL 15** OF CRUISE CONTROL MAIN SWITCH TO **TERMINAL (A) 8** OF CRUISE CONTROL ECU. AS A RESULT, THE CRUISE CONTROL ECU FUNCTIONS AND THE CURRENT TO **TERMINAL (A) 1** OF CRUISE CONTROL ECU TO **TERMINAL (A) 9** OF CRUISE CONTROL ECU → **GROUND**, AND THE CRUISE CONTROL SYSTEM IS IN A CONDITION READY FOR OPERATION.

AT THE SAME TIME, THE CURRENT THROUGH THE GAUGE FUSE FLOWS FROM **TERMINAL (A) 7** OF CRUISE CONTROL INDICATOR LIGHT → **TERMINAL (B) 2** → **TERMINAL (B) 6** OF CRUISE CONTROL ECU → **TERMINAL (A) 9** → TO **GROUND**, CAUSING THE CRUISE CONTROL INDICATOR LIGHT TO LIGHT UP, INDICATING THAT THE CRUISE CONTROL IS READY FOR OPERATION.

1. SET OPERATION

WHEN THE CRUISE CONTROL MAIN SWITCH IS TURNED ON AND THE SET SWITCH IS PUSHED WITH THE VEHICLE SPEED WITHIN THE SET LIMIT (APPROX. **40**KM/H, **25**MPH TO **200**KM/H, **124**MPH), A SIGNAL IS INPUT TO **TERMINAL (B) 8** OF THE CRUISE CONTROL ECU AND THE VEHICLE SPEED AT THE TIME THE SET SWITCH IS RELEASED IS MEMORIZED IN THE ECU AS THE SET SPEED.

2. SET SPEED CONTROL

DURING CRUISE CONTROL DRIVING, THE ECU COMPARES THE SET SPEED MEMORIZED IN THE ECU WITH THE ACTUAL VEHICLE SPEED INPUT INTO **TERMINAL (A) 7** OF THE CRUISE CONTROL ECU FROM THE VEHICLE SPEED SENSOR (SPEED SENSOR), AND CONTROLS THE CRUISE CONTROL ACTUATOR TO MAINTAIN THE SET SPEED.

WHEN THE ACTUAL SPEED IS LOWER THAN THE SET SPEED, THE ECU CAUSES THE CURRENT TO THE CRUISE CONTROL ACTUATOR TO FLOW FROM **TERMINAL (B) 4** → **TERMINAL 6** OF CRUISE CONTROL ACTUATOR → **TERMINAL 7** → **TERMINAL (B) 10** OF CRUISE CONTROL ECU. AS A RESULT, THE MOTOR IN THE CRUISE CONTROL ACTUATOR IS ROTATED TO OPEN THE THROTTLE VALVE AND THE THROTTLE CABLE IS PULLED TO INCREASE THE VEHICLE SPEED. WHEN THE ACTUAL DRIVING SPEED IS HIGHER THAN THE SET SPEED, THE CURRENT TO CRUISE CONTROL ACTUATOR FLOWS FROM **TERMINAL (B) 10** OF ECU → **TERMINAL 7** OF CRUISE CONTROL ACTUATOR → **TERMINAL 6** → **TERMINAL (B) 4** OF CRUISE CONTROL ECU.

THIS CAUSES THE MOTOR IN THE CRUISE CONTROL ACTUATOR TO ROTATE TO CLOSE THE THROTTLE VALVE AND RETURN THE THROTTLE CABLE TO DECREASE THE VEHICLE SPEED.

3. COAST CONTROL

DURING THE CRUISE CONTROL DRIVING, WHILE THE COAST SWITCH IS ON, THE CRUISE CONTROL ACTUATOR RETURNS THE THROTTLE CABLE TO CLOSE THE THROTTLE VALVE AND DECREASE THE DRIVING SPEED. THE VEHICLE SPEED WHEN THE COAST SWITCH IS TURNED OFF AND IS MEMORIZED AND THE VEHICLE CONTINUES AT THE NEW SET SPEED.

4. ACCEL CONTROL

DURING CRUISE CONTROL DRIVING, WHILE THE ACCEL SWITCH IS TURNED ON, THE CRUISE CONTROL ACTUATOR PULLS THE THROTTLE CABLE TO OPEN THE THROTTLE VALVE AND INCREASE THE DRIVING SPEED. THE VEHICLE SPEED WHEN THE ACCEL SWITCH IS TURNED OFF IS MEMORIZED AND THE VEHICLE CONTINUES AT THE NEW SET SPEED.

5. RESUME CONTROL

UNLESS THE VEHICLE SPEED FALLS BELOW THE MINIMUM SPEED LIMIT (APPROX. **40**KM/H, **25**MPH) AFTER CANCELING THE SET SPEED BY THE CANCEL SWITCH, PUSHING THE RESUME SWITCH WILL CAUSE THE VEHICLE TO RESUME THE SPEED SET BEFORE CANCELLATION.

6. MANUAL CANCEL MECHANISM

IF ANY OF THE FOLLOWING OPERATIONS OCCURS DURING CRUISE CONTROL OPERATION, THE SAFETY MAGNET CLUTCH OF THE ACTUATOR MOTOR TURNS OFF AND THE MOTOR ROTATES TO CLOSE THE THROTTLE VALVE AND THE CRUISE CONTROL IS RELEASED.

- PLACING THE SHIFT LEVER IN “N” POSITION (PARK/NEUTRAL POSITION SW (NEUTRAL START SW) ON). “SIGNAL INPUT TO **TERMINAL (A) 4** OF ECU”
- DEPRESSING THE BRAKE PEDAL (STOP LIGHT SWITCH ON). “SIGNAL INPUT TO **TERMINAL (A) 2** OF ECU”
- PULL UP THE PARKING BRAKE LEVER (PARKING BRAKE SWITCH ON). “SIGNAL INPUT TO **TERMINAL (A) 5** OF ECU”
- PUSH THE CANCEL SWITCH (CANCEL SWITCH ON). “SIGNAL INPUT TO **TERMINAL (B) 8**”

7. AUTO CANCEL FUNCTION

A) IF ANY OF THE FOLLOWING OPERATE CONDITIONS OCCURS DURING CRUISE CONTROL OPERATION. THE SET SPEED IS ERASED, CURRENT FLOW TO SAFETY MAGNETIC CLUTCH IS STOPPED AND THE CRUISE CONTROL IS RELEASED. (MAIN SWITCH TURNS OFF).

WHEN THIS OCCURS, THE IGNITION SWITCH MUST BE TURNED OFF ONCE BEFORE THE MAIN SWITCH WILL TURN ON.

- OVER CURRENT TO TRANSISTOR DRIVING MOTOR AND/OR SAFETY MAGNETIC CLUTCH.
- CURRENT TO CONTROL THE THROTTLE VALVE IN MOTOR BECOMES ALWAYS “ON”.
- OPEN CIRCUIT IN SAFETY MAGNETIC CLUTCH.
- MOMENTARY INTERRUPTION OF VEHICLE SPEED SIGNAL.
- THE RESUME SWITCH IS ALREADY ON WHEN THE MAIN SWITCH IS TURNED ON.
- SHORT CIRCUIT IN CRUISE CONTROL SWITCH.
- MOTOR DOES NOT OPERATE DESPITE THE MOTOR DRIVE SIGNAL BEING OUTPUT.

B) IF ANY OF THE FOLLOWING CONDITIONS OCCUR DURING CRUISE CONTROL OPERATION, THE SET SPEED IS ERASED AND THE CRUISE CONTROL IS RELEASED. (THE POWER OF SAFETY MAGNETIC CLUTCH IS CUT OFF UNTIL THE SET SWITCH IS “ON” AGAIN.)

- WHEN THE VEHICLE SPEED FALLS BELOW THE MINIMUM SPEED LIMIT, APPROX. **40** KM/H (**25** MPH).
- WHEN THE VEHICLE SPEED FALLS MORE THAN **16** KM/H (**10** MPH) BELOW THE SET SPEED, E.G. ON AN UPWARD SLOPE.
- WHEN POWER TO THE CRUISE CONTROL SYSTEM IS MOMENTARILY CUT OFF.

C) IF ANY OF THE FOLLOWING CONDITIONS OCCURS DURING CRUISE CONTROL OPERATION, THE CRUISE CONTROL IS RELEASED. BUT IN THIS CASE, THE SET SPEED IS NOT ERASED. IF THE VEHICLE SPEED IS MORE THAN THE MINIMUM SPEED LIMIT (APPROX. **40** KM/H **25** MPH), CRUISE CONTROL OPERATION IS POSSIBLE USING “SET” OR “RESUME” ON THE CONTROL SWITCH.

- OPEN CIRCUIT FOR **TERMINAL (A) 3** OF CRUISE CONTROL ECU AND **TERMINAL 3** OF STOP LIGHT SWITCH.

8. AUTOMATIC TRANSMISSION CONTROL FUNCTION

- IN OVERDRIVE. IF THE VEHICLE SPEED BECOMES LOWER THAN THE OVERDRIVE CUT SPEED (SET SPEED MINIMUM **4** KM/H, **2.5** MPH) DURING CRUISE CONTROL OPERATION, SUCH AS DRIVING UP A HILL, THE OVERDRIVE IS RELEASED AND THE POWER INCREASED TO PREVENT A REDUCTION IN VEHICLE SPEED.
- AFTER RELEASING THE OVERDRIVE, THE VEHICLE SPEED BECOMES HIGHER THAN THE OVERDRIVE RETURN SPEED (SET SPEED MINIMUM **2** KM/H **1.2** MPH) AND THE ECU JUDGES BY THE SIGNALS FROM POTENTIOMETER OF THE ACTUATOR THAT THE UPWARD SLOPE HAS FINISHED, OVERDRIVE IS RESUMED AFTER APPROXIMATELY **6** SECONDS.
- DURNING CRUISE CONTROL DRIVING, THE CRUISE CONTROL OPERATION SIGNAL IS OUTPUT FROM THE CRUISE CONTROL ECU TO THE ENGINE CONTROL MODULE (ENGINE AND ELECTRONIC CONTROLLED TRANSMISSION ECU). UPON RECEIVING THIS SIGNAL, THE ENGINE CONTROL MODULE (ENGINE AND ELECTRONIC CONTROLLED TRANSMISSION ECU) CHANGES THE SHIFT PATTERN TO NORMAL. TO MAINTAIN SMOOTH CRUISE CONTROL OPERATION (ON A DOWNWARD SLOPE ELECTRONIC CONTROLLED TRANSMISSION.), LOCK–UP RELEASE OF THE TRANSMISSION WHEN THE IDLING POINT OF THE THROTTLE POSITION IS “ON” IS FORBIDDEN.

SERVICE HINTS

C 4 CRUISE CONTROL ACTUATOR

1–3 : APPROX. **2** KΩ
5–4 : APPROX. **38.5** Ω

C16 CRUISE CONTROL SW [COMB. SW]

15–17 : CONTINUITY WITH MAIN SW ON
5–17 : APPROX. **413** Ω WITH CANCEL SW ON
APPROX. **68** Ω WITH RESUME/ACCEL SW ON
APPROX. **198** Ω WITH SET/COAST SW ON

C18(A), C19(B) CRUISE CONTROL ECU

(A) 1–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
(A)2, 6–GROUND : ALWAYS APPROX. **12** VOLTS
(A) 5–GROUND : CONTINUITY WITH PARKING BRAKE LEVER PULLED UP (ONE OF THE CANCEL SW) OR BRAKE LEVEL WARNING SW ON
(A) 7–GROUND : **4** PULSE WITH **1** ROTATION OF ROTOR SHAFT
(B) 8–GROUND : APPROX. **419** Ω WITH CANCEL SW ON IN CONTROL SW
APPROX. **68** Ω WITH RESUME/ACCEL SW ON IN CONTROL SW
APPROX. **198** Ω WITH SET/COAST SW ON IN CONTROL SW
(A) 9–GROUND : ALWAYS CONTINUITY

CRUISE CONTROL (MOTOR TYPE)

: PARTS LOCATION

CODE		SEE PAGE	CODE		SEE PAGE	CODE	SEE PAGE
C 4		28 (3S–GTE), 30 (5S–FE)	D 1		28 (3S–GTE), 30 (5S–FE)	J 3	33
C12	B	32	D 4		32	J 6	33
C13	A	32	E 7	D	33	P 2	33
C16		32	E 8	B	33	R 9	33
C17		32		C	33	S 9	33
C18	A	32	E 9	A	33	V 2	29 (3S–GTE), 30 (5S–FE)
C19	B	32	J 2		33		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1B	20	COWL WIRE AND J/B NO.1 (LEFT KICK PANEL)
1E		
2A	23 (ALL–TRAC/4WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2C	23 (ALL–TRAC/4WD)	ENGINE WIRE AND J/B NO. 2 (NEAR THE BATTERY)
3B	25	COWL WIRE AND J/B NO.3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

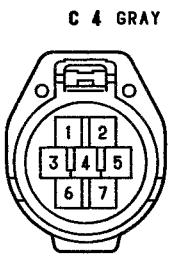
CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)
IE2		
IF1	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
IG1	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE CONTROL MODULE (ECU))
IG2		

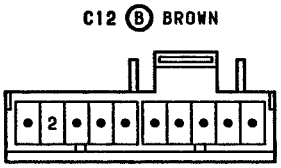
: GROUND POINTS

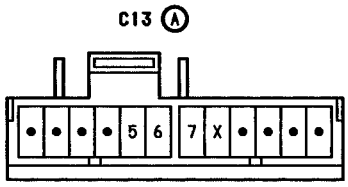
CODE	SEE PAGE	GROUND POINTS LOCATION
EB	36 (3S–GTE)	FRONT LEFT FENDER
	38 (5S–FE)	
ID	42	LEFT KICK PANEL
IE	42	INSTRUMENT PANEL BRACE LH

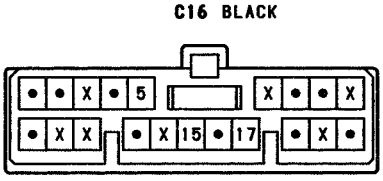
: SPLICE POINTS

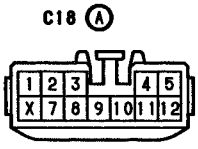
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 2	44	COWL WIRE	I 4	44	COWL WIRE

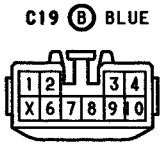




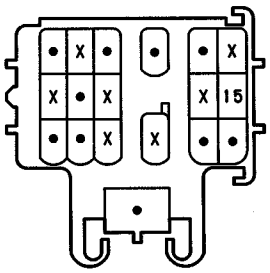






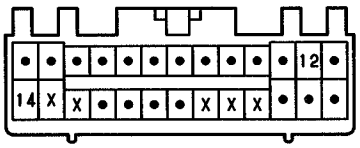


D 1 DARK GRAY

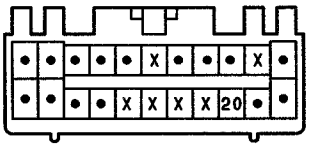


D 4

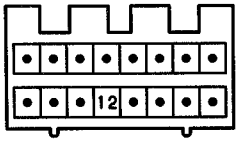
E 7 (D) DARK GRAY



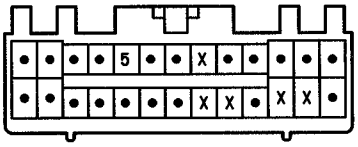
E 8 (B) DARK GRAY



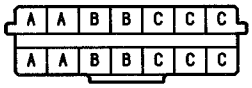
E 8 (C) DARK GRAY



E 9 (A) DARK GRAY

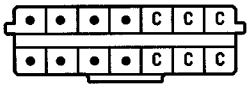


J 2



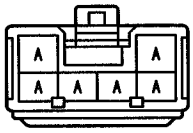
(HINT:SEE PAGE 7)

J 3



(HINT:SEE PAGE 7)

J 6

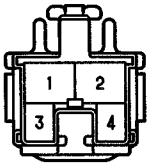


(HINT:SEE PAGE 7)

P 2 BLACK

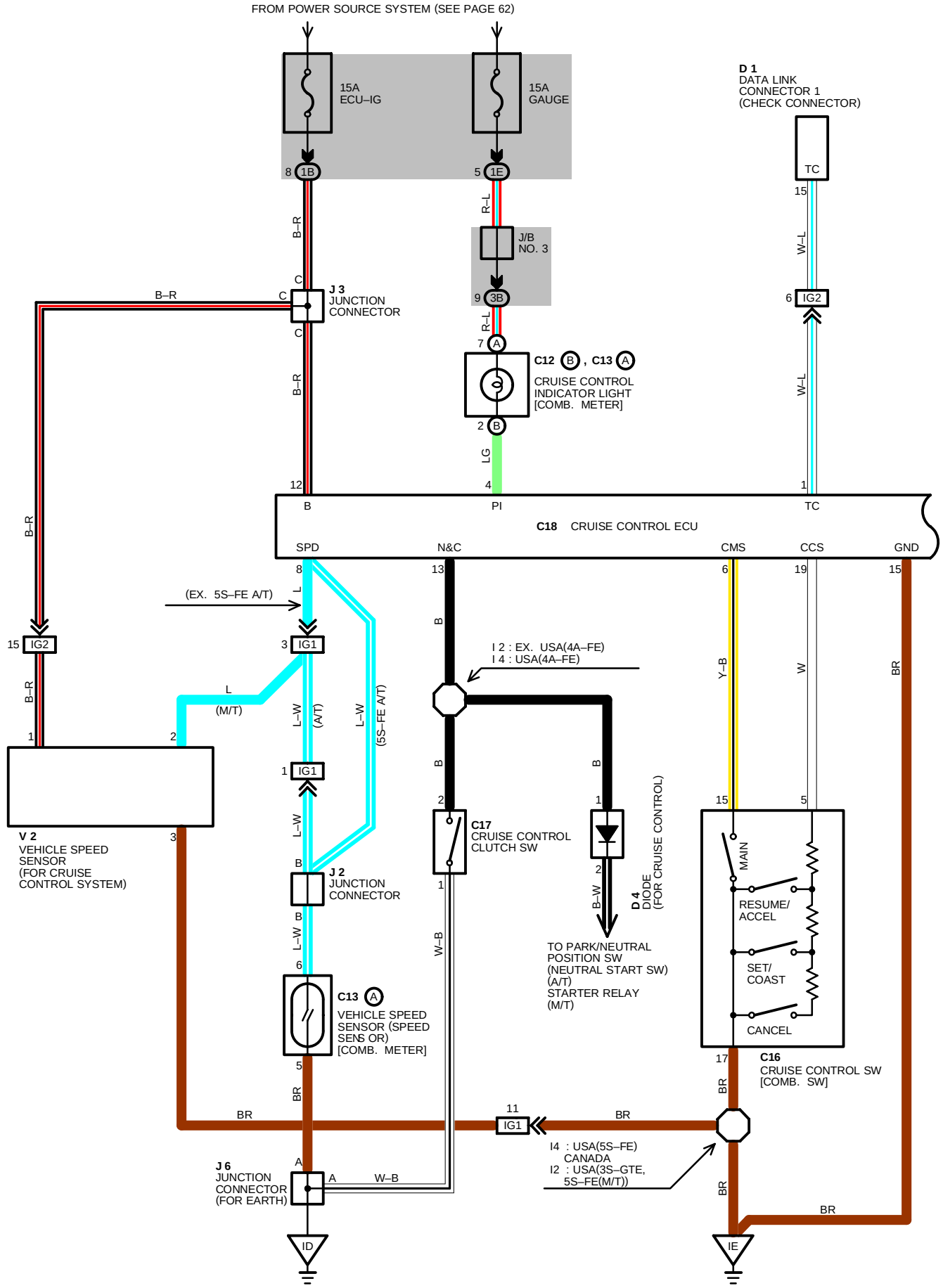
R 9

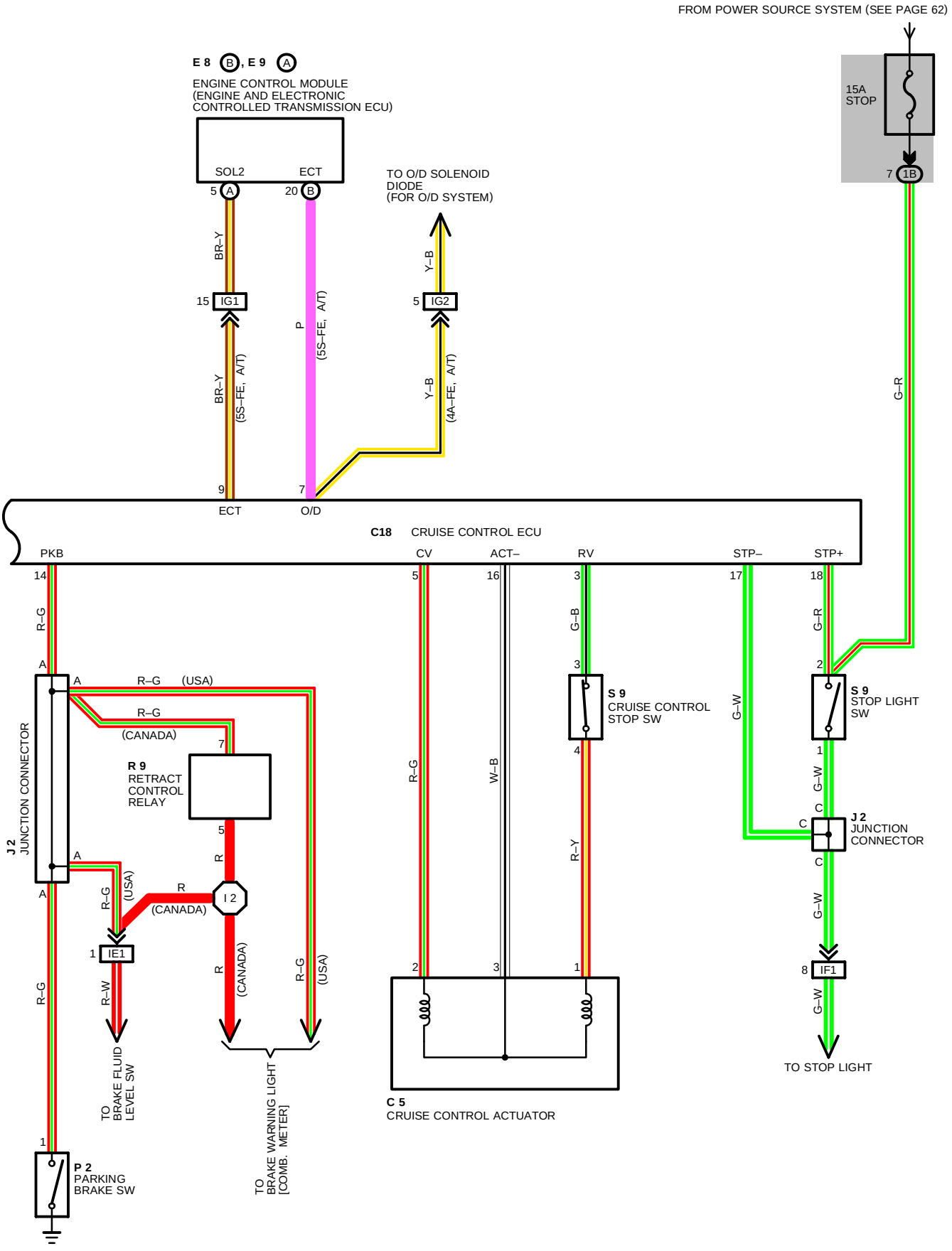
S 9



V 2 GRAY

CRUISE CONTROL (VACUUM TYPE)




FROM POWER SOURCE SYSTEM (SEE PAGE 62)
15A
STOP
7
1B
E 8 B, E 9 A
ENGINE CONTROL MODULE
(ENGINE AND ELECTRONIC
CONTROLLED TRANSMISSION ECU)
SOL2
ECT
5 A
20 B
BR–Y
15 IG1
BR–Y
(5S–FE, A/T)
9
ECT
P
(5S–FE, A/T)
7
O/D
TO O/D SOLENOID
DIODE
(FOR O/D SYSTEM)
Y–B
5 IG2
Y–B
(4A–FE, A/T)
G–R
C18 CRUISE CONTROL ECU
PKB
CV
ACT–
RV
STP–
STP+
14
5
16
3
17
18
R–G
G–B
G–R
A
A
R–G (USA)
R–G
(CANADA)
7
R 9
RETRACT
CONTROL
RELAY
5
R
J 2
JUNCTION CONNECTOR
A
A
R–G
(USA)
R
(CANADA)
I 2
1
IE1
R–W
R–G
R
(CANADA)
R–G
(USA)
TO
BRAKE FLUID
LEVEL SW
TO
BRAKE WARNING LIGHT
[COMB. METER]
1
P 2
PARKING
BRAKE SW
R–G
W–B
R–Y
3
S 9
CRUISE CONTROL
STOP SW
4
2
3
1
C 5
CRUISE CONTROL ACTUATOR
G–W
2
S 9
STOP LIGHT
SW
1
G–W
C
C
J 2
JUNCTION
CONNECTOR
C
G–W
8
IF1
G–W
TO STOP LIGHT

CRUISE CONTROL (VACUUM TYPE)

SYSTEM OUTLINE

CURRENT IS APPLIED AT ALL TIMES THROUGH STOP FUSE TO **TERMINAL 18** OF THE CRUISE CONTROL ECU AND **TERMINAL 2** OF THE STOP LIGHT SW.

WITH THE IGNITION SW TURNED TO ON, THE CURRENT FLOWS THROUGH GAUGE FUSE TO **TERMINAL (A) 7** OF THE COMBINATION METER AND THE CURRENT THROUGH ECU–IG FUSE FLOWS TO **TERMINAL 12** OF THE CRUISE CONTROL ECU.

WHEN THE IGNITION SW IS ON AND THE CRUISE CONTROL MAIN SW IS TURNED ON, A SIGNAL IS INPUT FROM **TERMINAL 15** OF THE CRUISE CONTROL MAIN SW TO **TERMINAL 6** OF THE CRUISE CONTROL ECU. AS A RESULT, THE CRUISE CONTROL ECU FUNCTIONS AND THE CURRENT TO **TERMINAL 12** OF THE CRUISE CONTROL ECU FLOWS TO **TERMINAL 15** OF THE CRUISE CONTROL ECU → **GROUND**, AND THE CRUISE CONTROL SYSTEM IS IN A CONDITION READY FOR OPERATION.

AT THE SAME TIME, THE CURRENT THROUGH GAUGE FUSE FLOWS FROM **TERMINAL (A) 7** → **TERMINAL (B) 2** → **TERMINAL 4** OF CRUISE CONTROL ECU → **TERMINAL 15** → TO **GROUND** AND CAUSING THE CRUISE CONTROL INDICATOR LIGHT TO LIMIT UP IN ORDER TO NOTE THE CRUISE CONTROL CAN START UP.

1. CRUISE CONTROL DRIVING

WHEN THE MAIN SW IS TURNED TO ON AND THE SET SW IS PUSHED IN WITH THE VEHICLE SPEED WITHIN THE SET LIMIT (APPROX. **40**KM/H, **25**MPH TO **200**KM/H, **124**MPH), A SIGNAL IS INPUT TO **TERMINAL 19** OF THE ECU AND THE VEHICLE SPEED AT THAT TIME IS RECORDED IN THE ECU MEMORY AS THE SET SPEED.

THE ECU COMPARES THE RECORDED SET SPEED WITH THE ACTUAL VEHICLE SPEED INPUT INTO **TERMINAL 8** FROM THE VEHICLE SPEED SENSOR (SPEED SENSOR) AND CONTROLS THE CRUISE CONTROL ACTUATOR IN ORDER TO MAINTAIN THE SET VEHICLE SPEED.

WHEN THE ACTUAL VEHICLE SPEED IS LOWER THAN THE SET SPEED, ECU OPERATION LENGTHENS THE PERIOD OF CURRENT FLOW FROM **TERMINAL 5** OF THE ECU → **TERMINAL 2** OF THE ACTUATOR → THE CONTROL VALVE → **TERMINAL 3** → **TERMINAL 16** OF THE ECU, THE CABLE IS PULLED IN THE DIRECTION FOR OPENING THROTTLE VALVE AND THE VEHICLE SPEED INCREASES.

WHEN THE ACTUAL VEHICLE SPEED IS HIGHER THAN THE SET SPEED, A SHORTER PERIOD OF CURRENT FLOW TO THE CONTROL VALVE RETURNS THE CABLE IN THE DIRECTION FOR CLOSING THE THROTTLE VALVE AND THE VEHICLE SPEED DECREASES.

(ACTUATOR OPERATION)

WHEN THE CRUISE CONTROL SYSTEM OPERATES (THE SET SIGNAL IS INPUT), CURRENT FLOWS FROM THE ECU TO THE RELEASE VALVE, CLOSING THE ATMOSPHERIC INTAKE PORT.

WHEN THERE IS CONTINUITY TO THE CONTROL VALVE, VACUUM IS INTRODUCED INSIDE THE ACTUATOR, AND WHEN THERE IS NO CONTINUITY, VACUUM INTAKE STOPS AND ATMOSPHERE IS INTRODUCED. IN OTHER WORDS, THE ACTUATOR (THROTTLE VALVE) IS CONTROLLED BY CHANGING THE RATIO OF CONTINUITY AND NON–CONTINUITY TO THE CONTROL VALVE WITHIN A SPECIFIED PERIOD OF TIME.

2. CANCEL MECHANISM

IF ANY OF THE FOLLOWING OPERATIONS IS PERFORMED DURING CRUISE CONTROL, THEN CONTINUITY TO THE CONTROL VALVE AND THE RELEASE VALVE IS CUT OFF AND CRUISE CONTROL IS RELEASED.

- DEPRESSING THE CLUTCH PEDAL (CLUTCH SW ON), SIGNAL INPUT TO **TERMINAL 13** OF THE ECU. (M/T)
- PLACING THE PARK/NEUTRAL POSITION SW (NEUTRAL START SW) IN "**N**" POSITION (PARK/NEUTRAL POSITION SW (NEUTRAL START SW) ON), SIGNAL INPUT TO **TERMINAL 13** OF THE ECU. (A/T)
- DEPRESSING THE BRAKES PEDAL (STOP LIGHT SW ON), SIGNAL INPUT TO **TERMINAL 17** OF THE ECU.
- PULLING THE PARKING BRAKE LEVER (PARKING BRAKE SW ON), SIGNAL INPUT TO **TERMINAL 14** OF THE ECU.

3. COAST CONTROL

WHILE THE COAST SW IS ON DURING CRUISE CONTROL, CURRENT FLOW TO THE CONTROL VALVE AND RELEASE VALVE IS STOPPED AND THE VEHICLE DECELERATES UNTIL THE SW IS RELEASED. THE VEHICLE SPEED WHEN THE SW IS RELEASED IS THEN RECORDED IN MEMORY.

4. RESUME CONTROL

BY TURNING THE RESUME SW TO ON AFTER CANCELLATION OF THE CRUISE CONTROL SYSTEMS, THE VEHICLE SPEED WILL RETURN TO THE SPEED SET BEFORE CANCELLATION. PROVIDED THAT THE VEHICLE SPEED IS WITHIN THE SET LIMITS.

5. ACCEL CONTROL

WHEN THE ACCEL SW IS TURNED TO ON DURING CRUISE CONTROL DRIVING, CURRENT CONTINUES TO FLOW TO THE CONTROL VALVE AND THE VEHICLE ACCELERATES. THE VEHICLE SPEED WHEN THE SW IS TURNED OFF IS RECORED IN MEMORY.

SERVICE HINTS

C18 CRUISE CONTROL ECU

(DISCONNECT THE ECU CONNECTOR)

15–GROUND	:	ALWAYS CONTINUITY
4–GROUND	:	APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
8–GROUND	:	**4** PULSE WITH **1** ROTATION OF ROTOR SHAFT
6–GROUND	:	CONTINUITY WITH MAIN SW ON
18–GROUND	:	ALWAYS APPROX. **12** VOLTS
17–GROUND	:	APPROX. **12** VOLTS WITH BRAKE PEDAL DEPRESSED (ONE OF THE CANCEL SW)
13–GROUND	:	CONTINUITY WITH CLUTCH PEDAL DEPRESSED (M/T) APPROX. **12** VOLTS WITH IGNITION SW AT **ST** POSITION AND SHIFT LEVER IN **N** OR **P** POSITION (A/T) (ONE OF THE CANCEL SW)
14–GROUND	:	CONTINUITY WITH PARKING BRAKE LEVER PULL UP, (ONE OF THE CANCEL SW) OR BRAKE LEVEL WARNING SW ON

○ : PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
C 5	30 (5S–FE)	**D 1**	30 (5S–FE)	**J 6**	33
C12 B	32	**D 4**	32	**P 2**	33
C13 A	32	**E 8** B	33	**R 9**	33
C16	32	**E 9** A	33	**S 9**	33
C17	32	**J 2**	33	**V 2**	30 (5S–FE)
C18	32	**J 3**	33		

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1B	20	COWL WIRE AND J/B NO.1 (LEFT KICK PANEL)
1E		
3B	25	COWL WIRE AND J/B NO.3 (BEHIND COMBINATION METER)

▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)
IF1	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
IG1	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE ECU)
IG2		

▽ : GROUND POINTS

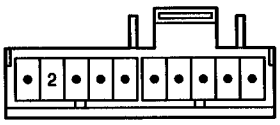
CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL
IE	42	INSTRUMENT PANEL BRACE LH

⯃ : SPLICE POINTS

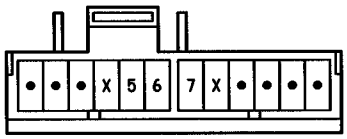
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 2	44	COWL WIRE	**I 4**	44	COWL WIRE

C 5 GRAY

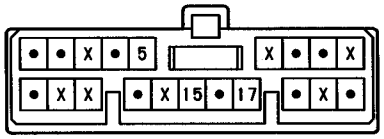
C12 (B) BROWN



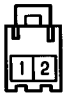
C13 (A)



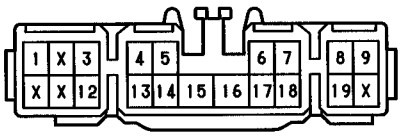
C16 BLACK



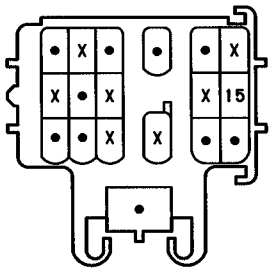
C17



C18

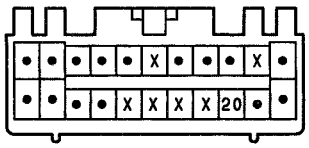


D 1 DARK GRAY

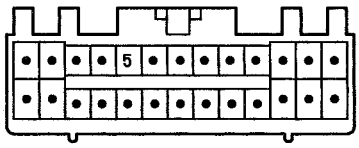


D 4

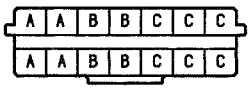
E 8 (B) DARK GRAY



E 9 (A) DARK GRAY

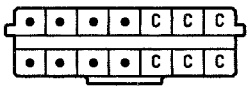


J 2



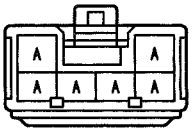
(HINT:SEE PAGE 7)

J 3



(HINT:SEE PAGE 7)

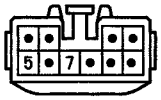
J 6



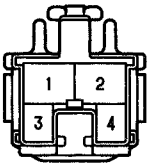
(HINT:SEE PAGE 7)

P 2 BLACK

R 9



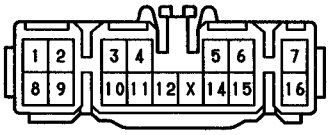
S 9



V 2 GRAY

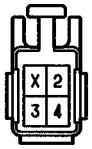
D 6

D 8

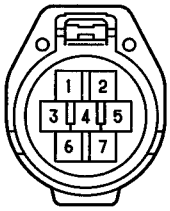


D12, D13

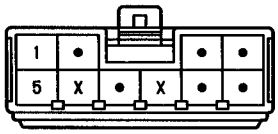
D14, D15



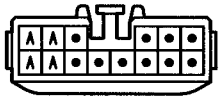
D16, D17 GRAY



I13 BLACK



J 1

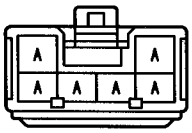


(HINT:SEE PAGE 7)

J 4

(HINT:SEE PAGE 7)

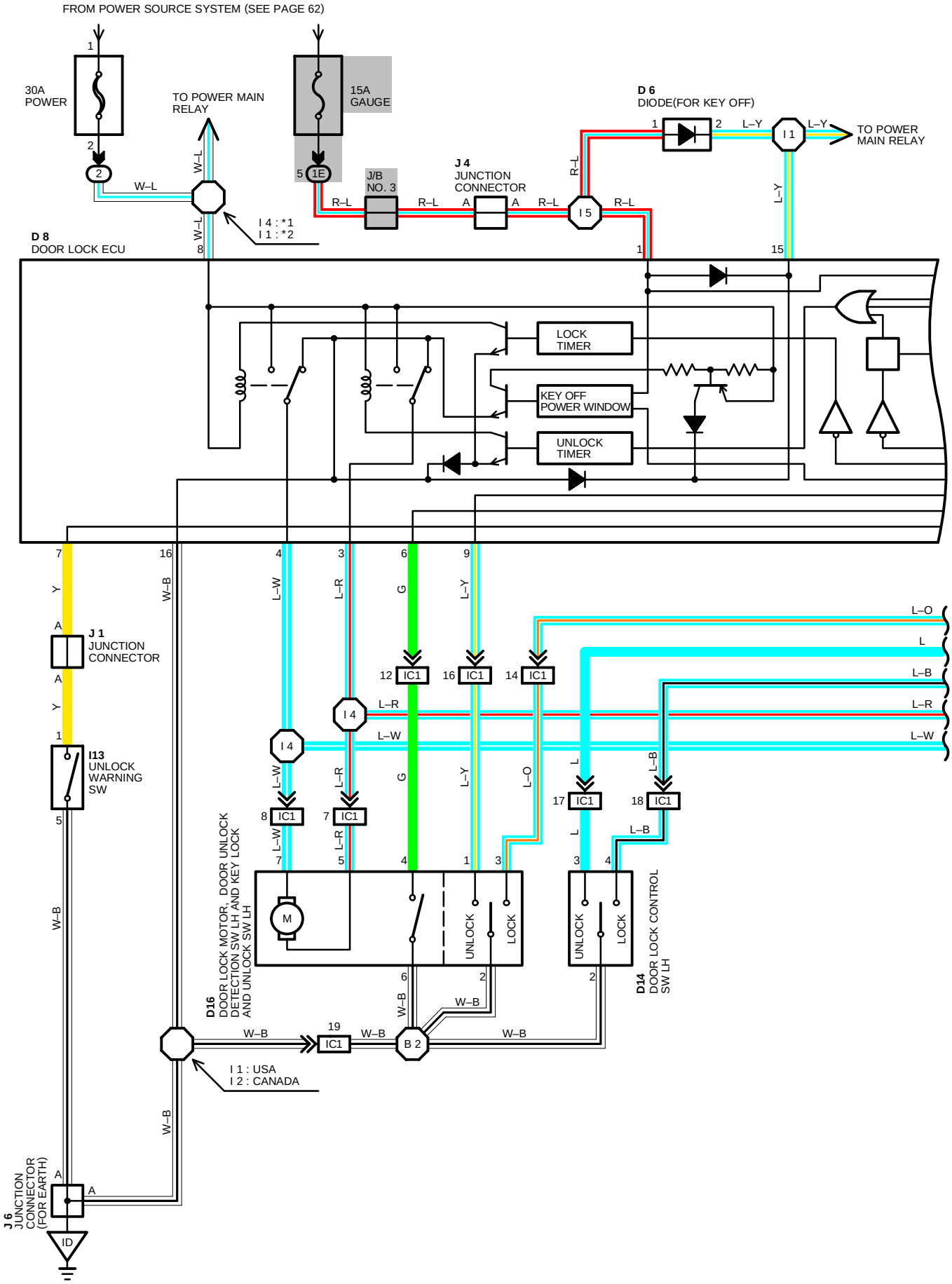
J 6

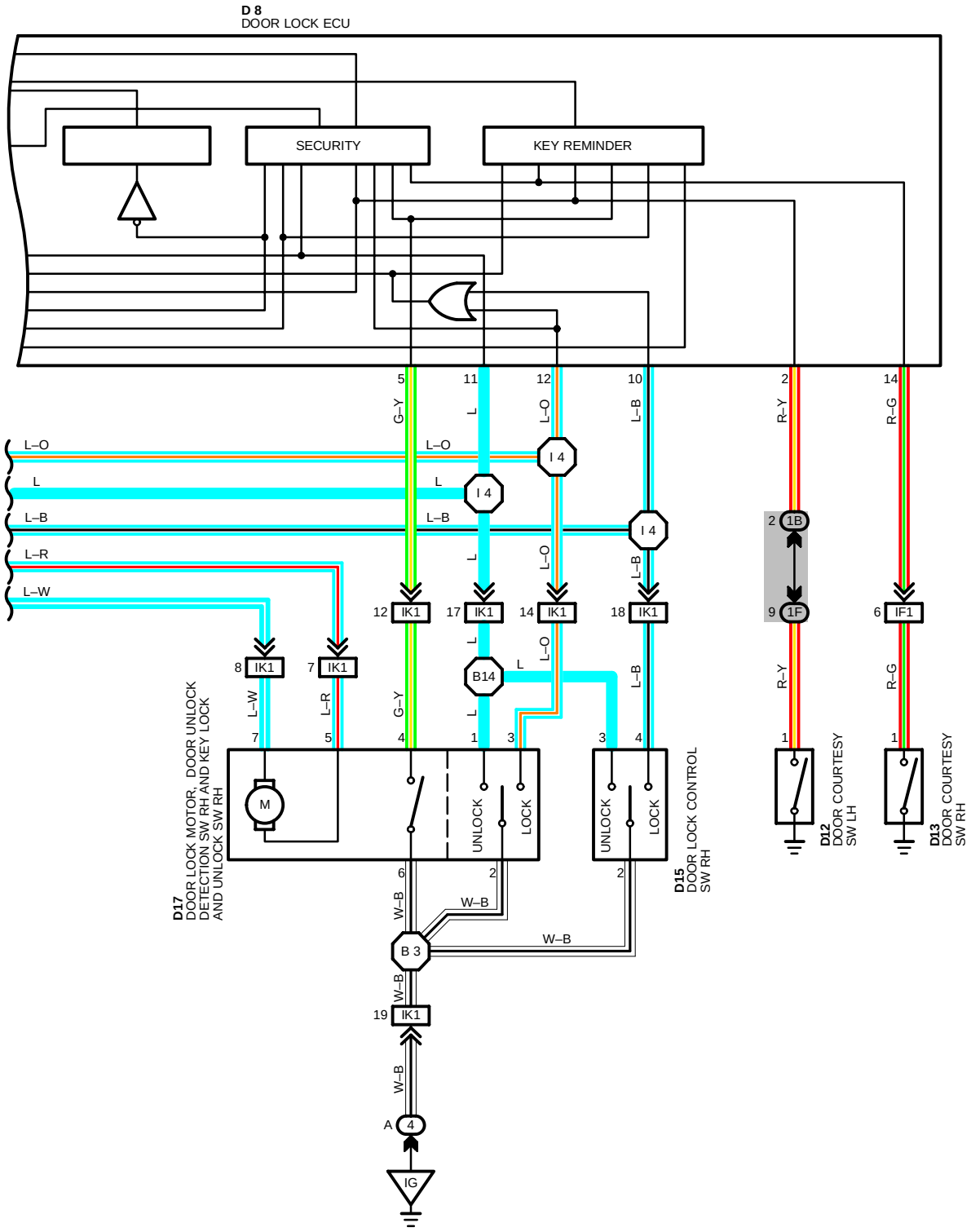


(HINT:SEE PAGE 7)

DOOR LOCK

*1 : W/ ABS CANADA M/T (3S–GTE, 5S–FE, 4A–FE)
*2 : W/O ABS CANADA M/T (3S–GTE, 5S–FE, 4A–FE)




D 8
DOOR LOCK ECU
SECURITY
KEY REMINDER
L–O
L
L–B
L–R
L–W
G–Y
R–Y
R–G
W–B
I 4
B14
B 3
IK1
IF1
1B
1F
M
UNLOCK
LOCK
D17
DOOR LOCK MOTOR, DOOR UNLOCK DETECTION SW RH AND KEY LOCK AND UNLOCK SW RH
D15
DOOR LOCK CONTROL SW RH
D12
DOOR COURTESY SW LH
D13
DOOR COURTESY SW RH
IG

DOOR LOCK

SYSTEM OUTLINE

CURRENT ALWAYS FLOWS TO **TERMINAL 8** OF THE DOOR LOCK ECU.

1. MANUAL LOCK OPERATION

TO CHANGE DOOR LOCK SW AND KEY SW TO **LOCK** POSITION, A LOCK SIGNAL IS INPUT TO **TERMINAL 10**, **12** OF THE DOOR LOCK ECU AND CAUSES THE ECU TO FUNCTION. CURRENT FLOWS FROM **TERMINAL 8** OF THE ECU → **TERMINAL 4** → **TERMINAL 7** OF THE DOOR LOCK MOTOR → **TERMINAL 5** → **TERMINAL 3** OF THE ECU → **TERMINAL 16** → TO **GROUND** AND DOOR LOCK MOTOR CAUSES THE DOOR TO LOCK.

2. MANUAL UNLOCK OPERATION

TO CAHNGE DOOR LOCK CONTROL SW AND KEY SW TO **UNLOCK** POSITION, AN UNLOCK SIGNAL IS INPUT TO **TERMINAL 9**, **11** OF THE DOOR LOCK ECU AND CAUSES THE ECU TO FUNCTION. CURRENT FLOWS FROM **TERMINAL 8** OF THE ECU → **TERMINAL 3** → **TERMINAL 5** OF THE DOOR LOCK MOTOR → **TERMINAL 7** → **TERMINAL 4** OF THE ECU → **TERMINAL 16** → TO **GROUND** AND DOOR LOCK MOTOR CAUSES DOOR TO UNLOCK.

3. DOUBLE OPERATION UNLOCK OPERATION

WHEN THE DOOR LOCK KEY SW (DRIVER'S) IS TURNED TO THE UNLOCK SIDE, ONLY THE DRIVER'S DOOR IS MECHANICALLY UNLOCKED. TURNING THE DOOR LOCK KEY SW (DRIVER'S) TO THE UNLOCK SIDE CAUSES A SIGNAL TO BE INPUT TO **TERMINAL 9** OF THE ECU, AND IF THE SIGNAL IS INPUT AGAIN WITHIN **3** SECONDS BY TURNING THE SWITCH TO THE UNLOCK SIDE AGAIN, CURRENT FLOWS **TERMINAL 3** → **TERMINAL 5** OF DOOR LOCK MOTOR → **TERMINAL 7** → **TERMINAL 4** OF THE ECU → **TERMINAL 16** → **GROUND**, CAUSING THE DOOR LOCK MOTOR TO OPERATE AND UNLOCK THE PASSENGER'S DOOR.

4. IGNITION KEY REMINDER OPERATION

***** OPERATING DOOR LOCK KNOB (IN DOOR LOCK SOLENOIDS OPERATION)

WITH IGNITION KEY IN CYLINDER (UNLOCK WANING SW ON), WHEN THE DOOR IS OPENED AND LOCKED USING DOOR LOCK KNOB (DOOR LOCK MOTOR), THE DOOR IS LOCKED ONCE BUT EACH DOOR IS UNLOCKED SOON BY THE FUNCTION OF ECU. AS A RESULT, THE CURRENT FLOWS FROM **TERMINAL 8** OF THE ECU → **TERMINAL 3** → **TERMINAL 5** OF THE DOOR LOCK MOTOR → **TERMINAL 7** → **TERMINAL 4** OF THE ECU → **TERMINAL 16** → TO **GROUND** AND CAUSES ALL THE DOORS TO UNLOCK.

***** OPERATING DOOR LOCK CONTROL SW OR DOOR LOCK KEY SW

WITH IGNITION KEY IN CYLINDER (UNLOCK WARNING SW ON), WHEN THE DOOR IS OPENED AND LOCKED USING DOOR LOCK CONTROL SW OR KEY SW, THE DOOR IS LOCKED ONCE BUT EACH DOOR IS UNLOCK BY THE FUNCTION OF SW CONTAINED IN SOLENOIDS, WHICH THE SIGNAL IS INPUT TO **TERMINAL 6** (DRIVER'S) OR **5** (PASSENGER'S) OF THE ECU. ACCORDING TO THIS INPUT SIGNAL, THE CURRENT IN ECU FLOWS FROM **TERMINAL 8** OF THE ECU → **TERMINAL 3** → **TERMINAL 5** OF THE DOOR LOCK MOTOR → **TERMINAL 7** → **TERMINAL 4** OF THE ECU → **TERMINAL 16** → TO **GROUND** AND CAUSES ALL THE DOOR TO UNLOCK.

***** IN CASE OF KEY LESS LOCK

WITH IGNITION KEY IN CYLINDER (UNLOCK WARNING SW ON), WHEN THE UNLOCK FUNCTION IS DISTURBED MORE THAN **0.2** SECONDS, FOR EXAMPLE PUSHING THE DOOR LOCK KNOB ETC., THE DOOR HOLDS ON LOCK CONDITION. CLOSING THE DOOR AFTER, DOOR COURTESY SW INPUTS THE SIGNAL INTO **TERMINAL 2** OR **14** OF THE ECU. BY THIS INPUT SIGNAL, THE ECU WORKS AND CURRENT FLOWS FROM **TERMINAL 8** OF THE ECU → **TERMINAL 3** → **TERMINAL 5** OF THE DOOR LOCK MOTOR → **TERMINAL 7** → **TERMINAL 4** OF THE ECU → **TERMINAL 16** → TO **GROUND** AND CAUSES ALL THE DOORS TO UNLOCK.

SERVICE HINTS

I 13 UNLOCK WARNING SW
1–5 : CLOSED WITH IGNITION KEY IN CYLINDER

D16, D17 DOOR LOCK MOTOR, DOOR UNLOCK DETECTION SW AND KEY LOCK AND UNLOCK SW
1–2 : CLOSED WITH DOOR LOCK CYLINDER UNLOCKED WITH KEY
2–3 : CLOSED WITH DOOR LOCK CYLINDER LOCKED WITH KEY

D12, D13 DOOR COURTESY SW
1–GROUND : CLOSED WITH DOOR OPEN

1–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
9–GROUND : **0** VOLTS WITH DRIVER'S DOOR LOCK CYLINDER UNLOCKED WITH KEY
15–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
12–GROUND : **0** VOLTS WITH DRIVER'S, PASSENGER'S DOOR LOCK CYLINDER LOCKED WITH KEY

D 8 DOOR LOCK ECU

16–GROUND : ALWAYS CONTINUOUS
2–GROUND : CONTINUITY WITH DRIVER'S DOOR OPEN
8–GROUND : ALWAYS APPROX. **12** VOLTS
3–GROUND : APPROX. **12** VOLTS **0.2** SECONDS WITH FOLLOWING OPERATION
* DOOR LOCK CONTROL SW UNLOCKED
* DOOR LOCK CONTROL SW LOCKED WITH IGNITION KEY IN CYLINDER AND DRIVER'S DOOR OPEN (IGNITION KEY REMINDER FUNCTION)
* DOOR LOCK KNOB LOCKED WITH IGNITION KEY IN CYLINDER AND DRIVER'S DOOR OPEN (IGNITION KEY REMINDER FUNCTION)
* UNLOCKING THE DRIVER'S, PASSENGER'S DOOR CYLINDER WITH KEY

4–GROUND : APPROX. **12** VOLTS **0.2** SECONDS WITH FOLLOWING OPERATION
* DOOR LOCK CONTROL SW LOCKED
* LOCKING THE DRIVER'S, PASSENGER'S DOOR CYLINDER WITH KEY

10–GROUND : **0** VOLTS WITH DOOR LOCK CONTROL SW LOCKED
14–GROUND : CONTINUITY WITH PASSENGER'S DOOR OPEN
6–GROUND : CONTINUITY WITH DRIVER'S DOOR LOCK KNOB UNLOCKED
5–GROUND : CONTINUITY WITH PASSENGER'S DOOR LOCK KNOB UNLOCKED
11–GROUND : **0** VOLTS WITH DOOR LOCK CONTROL SW UNLOCKED, PASSENGER'S DOOR LOCK CYLINDER UNLOCKED WITH KEY

○ : PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
D 6	32	**D14**	34 (L/B), 35 (C/P)	**I13**	33
D 8	32	**D15**	34 (L/B), 35 (C/P)	**J 1**	33
D12	34 (L/B), 35 (C/P)	**D16**	34 (L/B), 35 (C/P)	**J 4**	33
D13	34 (L/B), 35 (C/P)	**D17**	34 (L/B), 35 (C/P)	**J 6**	33

⬭ : RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
2	26	R/B NO. 2 (LEFT KICK PANEL)
4	27	R/B NO. 4 (RIGHT KICK PANEL)

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1B	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
1F	20	FLOOR WIRE AND J/B NO. 1 (LEFT KICK PANEL)

▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IC1	42	FRONT DOOR LH WIRE AND COWL WIRE (LEFT KICK PANEL)
IF1	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
IK1	44	FRONT DOOR RH WIRE AND COWL WIRE (RIGHT KICK PANEL)

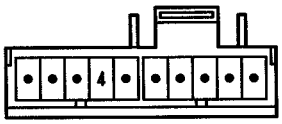
▽ : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL
IG	42	R/B NO. 4 SET BOLT

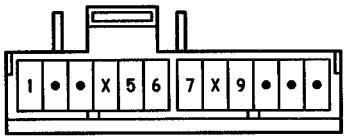
⯃ : SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 1	44	COWL WIRE	**B 2**	48 (C/P)	FRONT DOOR LH WIRE
I 2			**B 3**	46 (L/B)	FRONT DOOR RH WIRE
I 4				48 (C/P)	
I 5			**B14**	46 (L/B)	
B 2	46 (L/B)	FRONT DOOR LH WIRE		48 (C/P)	

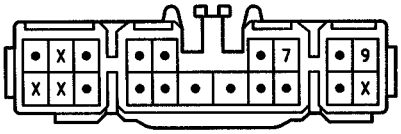
C12 (B) BROWN



C13 (A)

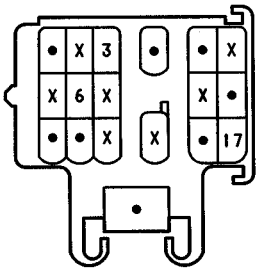


C18 (B) BLUE



C19 (A) BLUE

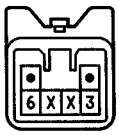
D 1 DARK GRAY



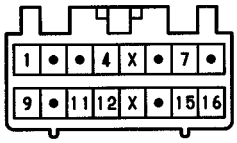
E 3 BLACK

E 4 DARK GREEN

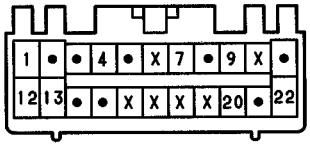
E 5



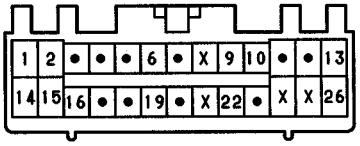
E 7 (C) GRAY



E 8 (A) DARK GRAY

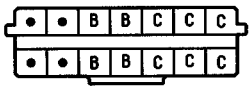


E 9 (B) DARK GRAY



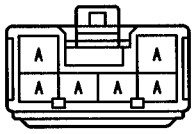
I 1 GRAY

J 2



(HINT:SEE PAGE 7)

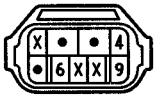
J 6



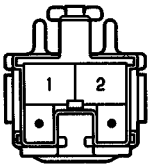
(HINT:SEE PAGE 7)

O 7

P11 GRAY



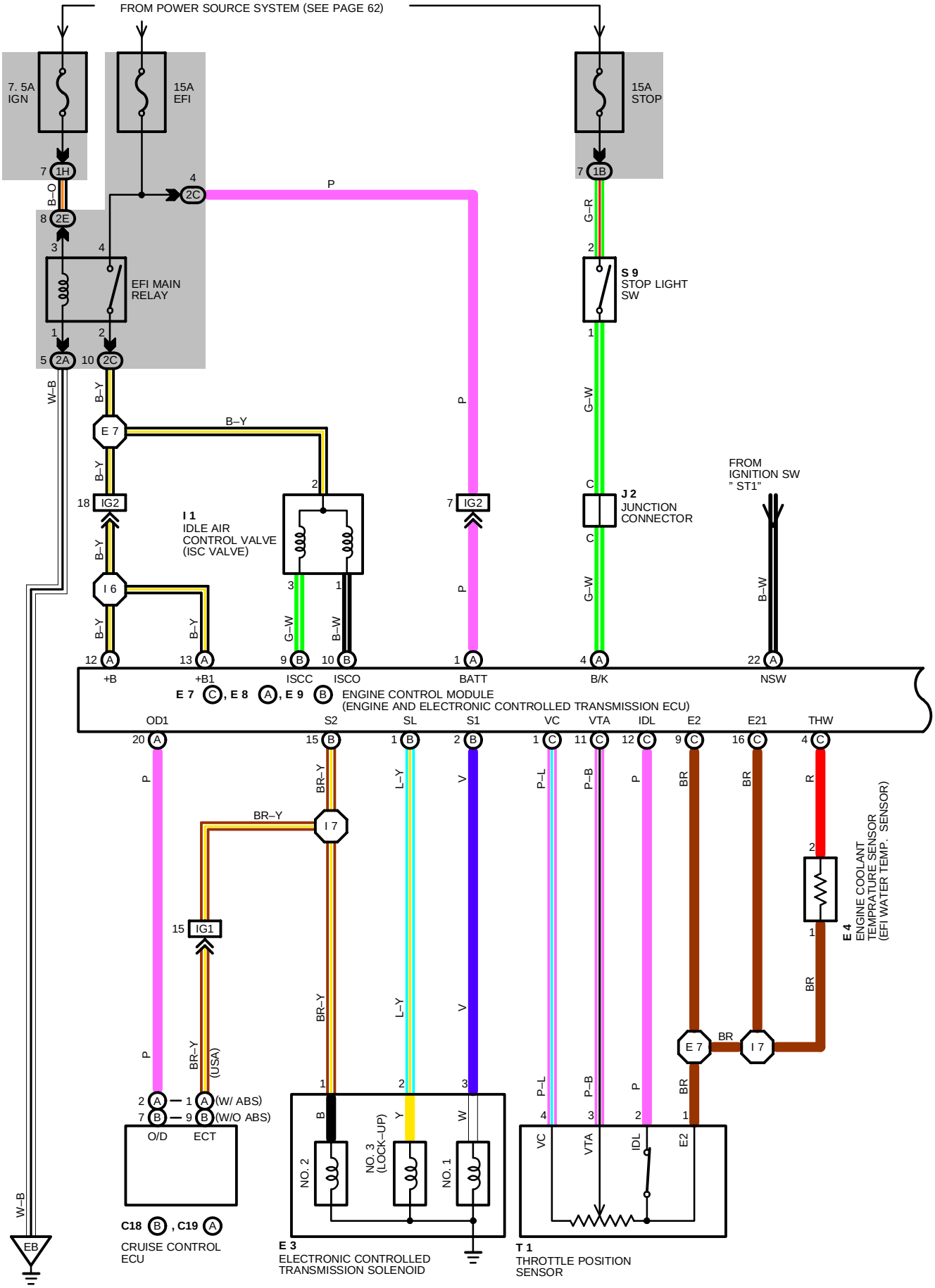
S 9

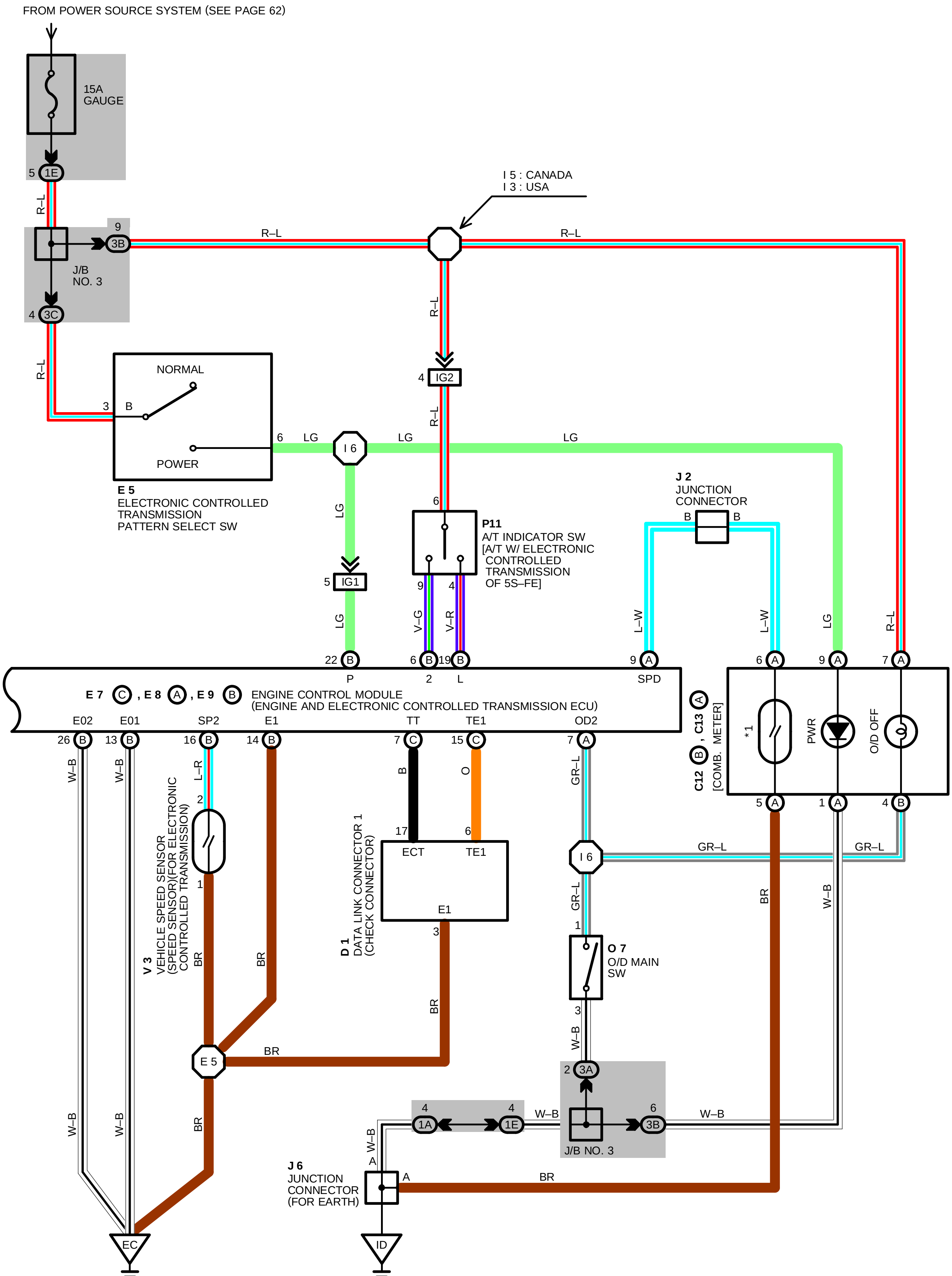


T 1 BLACK

V 3 GRAY

ELECTRONIC CONTROLLED TRANSMISSION




FROM POWER SOURCE SYSTEM (SEE PAGE 62)
15A GAUGE
5 1E
R–L
9 3B
J/B NO. 3
4 3C
R–L
I 5 : CANADA
I 3 : USA
R–L
R–L
R–L
4 IG2
R–L
NORMAL
3 B
POWER
6 LG
I 6
LG
LG
E 5
ELECTRONIC CONTROLLED TRANSMISSION PATTERN SELECT SW
LG
5 IG1
LG
6
P11
A/T INDICATOR SW
[A/T W/ ELECTRONIC CONTROLLED TRANSMISSION OF 5S–FE]
9 4
V–G V–R
J 2
JUNCTION CONNECTOR
B B
L–W L–W LG R–L
22 B 6 B 19 B 9 A
P 2 L SPD
6 A 9 A 7 A
E 7 C , E 8 A , E 9 B
ENGINE CONTROL MODULE
(ENGINE AND ELECTRONIC CONTROLLED TRANSMISSION ECU)
E02 E01 SP2 E1 TT TE1 OD2
26 B 13 B 16 B 14 B 7 C 15 C 7 A
C12 B , C13 A
[COMB. METER]
*1
PWR
O/D OFF
5 A 1 A 4 B
W–B W–B L–R
2
1
V 3
VEHICLE SPEED SENSOR (SPEED SENSOR)(FOR ELECTRONIC CONTROLLED TRANSMISSION)
BR BR
B O
17 6
ECT TE1
E1
3
D 1
DATA LINK CONNECTOR 1 (CHECK CONNECTOR)
GR–L
I 6
GR–L GR–L
GR–L
1
O 7
O/D MAIN SW
3
W–B
BR
W–B
BR
E 5
BR
BR
2 3A
4 1A 4 1E W–B
6 3B W–B
J/B NO. 3
W–B
A
J 6
JUNCTION CONNECTOR (FOR EARTH)
A BR
W–B W–B BR
EC
ID

ELECTRONIC CONTROLLED TRANSMISSION

SYSTEM OUTLINE

PREVIOUS AUTOMATIC TRANSMISSIONS HAVE SELECTED EACH GEAR SHIFT USING MECHANICALLY CONTROLLED THROTTLE HYDRAULIC PRESSURE, GOVERNOR HYDRAULIC PRESSURE AND LOCK–UP HYDRAULIC PRESSURE. THE ELECTRONIC CONTROLLED TRANSMISSION, HOWEVER, ELECTRICALLY CONTROLS THE LINE PRESSURE AND LOCK–UP PRESSURE ETC., THROUGH THE SOLENOID VALVE. ENGINE CONTROL MODULE (ECU) CONTROL OF THE SOLENOID VALVE BASED ON THE INPUT SIGNALS FROM EACH SENSOR MAKES SMOOTH DRIVING POSSIBLE BY SHIFT SELECTION FOR EACH GEAR WHICH IS MOST APPROPRIATE TO THE DRIVING CONDITIONS AT THAT TIME.

1. GEAR SHIFT OPERATION

DURING DRIVING, THE ENGINE CONTROL MODULE (ECU) SELECTS THE SHIFT FOR EACH GEAR WHICH IS MOST APPROPRIATE TO THE DRIVING CONDITIONS, BASED ON INPUT SIGNALS FROM THE ENGINE COOLANT TEMPERATURE SENSOR (EFI WATER TEMP. SENSOR) TO **TERMINAL THW** OF THE ENGINE CONTROL MODULE (ECU), AND ALSO THE INPUT SIGNALS TO **TERMINAL SPD2** OF THE ENGINE CONTROL MODULE (ECU) FROM THE SPEED SENSOR DEVOTED TO THE ELECTRONIC CONTROLLED TRANSMISSION. CURRENT IS THEN OUTPUT TO THE ELECTRONIC CONTROLLED TRANSMISSION SOLENOIDS. WHEN SHIFTING TO 1ST SPEED, CURRENT FLOWS FROM **TERMINAL S1** OF THE ENGINE CONTROL MODULE (ECU) → **TERMINAL 3** OF THE ELECTRONIC CONTROLLED TRANSMISSION SOLENOIDS → **GROUND**, AND CONTINUITY TO THE NO. 1 SOLENOID CAUSES THE SHIFT.

FOR 2ND SPEED, CURRENT FLOWS FROM **TERMINAL S1** OF THE ENGINE CONTROL MODULE (ECU) → **TERMINAL 3** OF THE ELECTRONIC CONTROLLED TRANSMISSION SOLENOIDS → **GROUND**, AND FROM **TERMINAL S2** OF THE ENGINE CONTROL MODULE (ECU) → **TERMINAL 1** OF THE ELECTRONIC CONTROLLED TRANSMISSION SOLENOIDS → **GROUND**, AND CONTINUITY TO SOLENOIDS NO. 1 AND NO. 2 CAUSES THE SHIFT.

FOR 3RD SPEED, THERE IS NO CONTINUITY TO NO. 1 SOLENOID, ONLY TO NO. 2, CAUSING THE SHIFT.

SHIFTING INTO 4TH SPEED (OVERDRIVE) TAKES PLACE WHEN THERE IS NO CONTINUITY TO EITHER NO. 1 OR NO. 2 SOLENOID.

2. LOCK–UP OPERATION

WHEN THE ELECTRONIC CONTROLLED TRANSMISSION ENGINE CONTROL MODULE (ECU) JUDGES FROM EACH SIGNAL THAT LOCK–UP OPERATION CONDITIONS HAVE BEEN MET, CURRENT FLOWS FROM **TERMINAL SL** OF THE ELECTRONIC CONTROLLED TRANSMISSION ENGINE CONTROL MODULE (ECU) → **TERMINAL 2** OF THE ELECTRONIC CONTROLLED TRANSMISSION SOLENOID → **GROUND**, CAUSING CONTINUITY TO THE LOCK–UP SOLENOID AND CAUSING LOCK–UP OPERATION.

3. STOP LIGHT SW CIRCUIT

IF THE BRAKE PEDAL IS DEPRESSED (STOP LIGHT SW ON) WHEN DRIVING IN LOCK–UP CONDITION, A SIGNAL IS INPUT TO **TERMINAL STP** OF THE ENGINE CONTROL MODULE (ECU), THE ENGINE CONTROL MODULE (ECU) OPERATES AND CONTINUITY TO THE LOCK–UP SOLENOID IS CUT.

4. OVERDRIVE CIRCUIT

***** O/D MAIN SW ON

WHEN THE O/D MAIN SW IS TURNED ON (O/D OFF INDICATOR LIGHT TURNS OFF), A SIGNAL IS INPUT TO **TERMINAL OD2** OF THE ENGINE CONTROL MODULE (ECU) AND ENGINE CONTROL MODULE (ECU) OPERATION CAUSES GEAR SHIFT WHEN THE CONDITIONS FOR OVERDRIVE ARE MET.

***** O/D MAIN SW OFF

WHEN THE O/D MAIN SW IS TURNED TO OFF, THE CURRENT FLOWING THROUGH THE O/D OFF INDICATOR LIGHT FLOWS THROUGH THE O/D MAIN SW TO **GROUND**. CAUSING THE INDICATOR LIGHT TO LIGHT UP. AT THE SAME TIME, A SIGNAL IS INPUT TO **TERMINAL OD2** OF THE ENGINE CONTROL MODULE (ECU) AND ENGINE CONTROL MODULE (ECU) OPERATION PREVENTS SHIFT INTO OVERDIRVE.

5. ELECTRONIC CONTROLLED TRANSMISSION PATTERN SELECT SW CIRCUIT

IF THE ELECTRONIC CONTROLLED TRANSMISSION PATTERN SELECT SW IS CHANGED FROM NORMAL TO POWER, THE CURRENT FLOWING THROUGH THE POWER INDICATOR FLOWS TO **GROUND**, CURRENT FLOWS TO **TERMINAL P** OF THE ELECTRONIC CONTROLLED TRANSMISSION ENGINE CONTROL MODULE (ECU), THE ENGINE CONTROL MODULE (ECU) OPERATES, AND SHIFT UP AND SHIFT DOWN OCCUR AT HIGHER VEHICLE SPEEDS THAN WHEN THE SW IS IN **NORMAL** POSITION.

SERVICE HINTS

E 7(C), E 8 (A), E 9(B) ENGINE CONTROL MODULE (ENGINE AND ELECTRONIC CONTROLLED TRANSMISSION ECU) (5S–FE)

(B) 6–**(B)**14	:	**9–14** VOLTS (IGNITION SW ON)
(B)22–**(B)**14	:	**9–14** VOLTS (IGNITION SW AND ELECTRONIC CONTROLLED TRANSMISSION PATTERN SELECT SW POWER) UNDER **1** VOLTS (IGNITION SW ON AND ELECTRONIC CONTROLLED TRANSMISSION PATTERN SELECT SW NORMAL)
(A) 4–**(B)**14	:	**9–14** VOLTS (BRAKE PEDAL IS DEPRESSED) UNDER **1** VOLTS (BRAKE PEDAL IS NOT DEPRESSED)
(C) 4–**(C)** 9	:	**0.2–1.0** VOLTS (IGNITION SW ON AND COOLANT TEMP. **80**˚C (**176**˚F))
(C)12–**(C)** 9	:	UNDER **0.5** VOLTS (IGNITION SW ON AND THROTTLE VALVE FULLY CLOSED) **4.5–5.5** VOLTS (IGNITION SW ON AND THROTTLE VALVE FULLY OPEND)

(C)11–**(C)** 9 : **0.3–0.8** VOLTS (IGNITION SW ON AND THROTTLE VALVE FULLY CLOSED)
3.2–4.9 VOLTS (IGNITION SW ON AND THROTTLE VALVE FULLY OPEN)
(C) 1–**(C)** 9 : **4.5–5.5** VOLTS (IGNITION SW ON)
(A)20–**(B)**14 : **9–14** VOLTS (IGNITION SW ON)
(A) 7–**(B)**14 : **9–14** VOLTS (IGNITION SW ON AND O/D MAIN SW TURNED ON)
UNDER **1** VOLTS (IGNITION SW ON AND O/D MAIN SW TURNED OFF)
(A) 9–**(B)**14 : UNDER **1** VOLTS (IGNITION SW ON, CRUISE CONTROL SW OFF AND STARTING STILL)
0↔**4–10** VOLTS REPEAT (IGNITION SW ON, CRUISE CONTROL SW OFF AND VEHICLE MOVING)
(B)17–**(B)**14 : UNDER **1** VOLTS (IGNITION SW ON AND STARTING STILL)
0↔**4.5–5.5** VOLTS REPEAT (IGNITION SW ON AND VEHICLE MOVING)
(B)22–**(B)**14 : **9–14** VOLTS (IGNITION SW ON AND PARK/NEUTRAL POSITION SW (NEUTRAL START SW) **P** OR **N** POSITION)
UNDER **1** VOLTS (IGNITION SW ON AND EX. PARK/NEUTRAL POSITION SW (NEUTRAL START SW) **P** OR **N** POSITION)
(B)19–**(B)**14 : **9–14** VOLTS (IGNITION SW ON AND PARK/NEUTRAL POSITION SW (NEUTRAL START SW) **L** POSITION)
UNDER **1** VOLTS (IGNITION SW ON AND EX. PARK/NEUTRAL POSITION SW (NEUTRAL START SW) **L** POSITION)
(A)12, **(B)**13–**(B)**14 : **9–14** VOLTS (IGNITION SW ON)
(A) 1–**(B)**14 : **9–14** VOLTS (ALL CONDITIONS)

RESISTANCE AT ENGINE CONTROL MODULE (ECU) WIRING CONNECTORS

(DISCONNECT WIRING CONNECTOR)
(C)12–**(C)** 9 : INFINITY (THROTTLE VALVE OPEN)
2.3KΩ OR LESS (THROTTLE VALVE FULLY CLOSED)
(C)11–**(C)** 9 : **3.3–10.0**KΩ (THROTTLE VALVE FULLY OPEN)
0.2–0.8KΩ (THROTTLE VALVE FULLY CLOSED)
(C) 1–**(C)** 9 : **3.0–7.0**KΩ
(C) 4–**(C)** 9 : **0.2–0.4**KΩ (COOLANT TEMP. **80**˚C, **176**˚F)
(B) 4, **(B)** 5, **(B)** 6–GROUND **: 11–15**Ω (ALL CONDITIONS)

: PARTS LOCATION

CODE		SEE PAGE	CODE		SEE PAGE	CODE	SEE PAGE
C12	B	32	**E 5**		33	**O 7**	33
C13	A	32	**E 7**	C	33	**P 1**	30 (5S–FE)
C18	B	32	**E 8**	A	33	**S 9**	33
C19	A	32	**E 9**	B	33	**T 1**	30 (5S–FE)
D 1		30 (5S–FE)	**I 1**		30 (5S–FE)	**V 3**	30 (5S–FE)
E 3		30 (5S–FE)	**J 2**		33		
E 4		30 (5S–FE)	**J 6**		33		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1B		
1E		
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2A	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2C	22 (2WD)	ENGINE WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2E	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
3A	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)
3B		
3C		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IG1	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE CONTROL MODULE (ECU))
IG2		

: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
EB	38 (5S–FE)	FRONT LEFT FENDER
EC	38 (5S–FE)	INTAKE MANIFOLD
ID	42	LEFT KICK PANEL

: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 5	38 (5S–FE)	ENGINE WIRE	**I 5**	44	COWL WIRE
E 7			**I 6**		
I 3	44	COWL WIRE	**I 7**	44	ENGINE WIRE

SYSTEM OUTLINE

THE ENGINE CONTROL SYSTEM UTILIZES A MICROCOMPUTER AND MAINTAINS OVERALL CONTROL OF THE ENGINE AN OUTLINE OF ENGINE CONTROL IS GIVEN HERE.

1. INPUT SIGNALS

(1) ENGINE COOLANT TEMP. (WATER TEMP.) SIGNAL SYSTEM

THE ENGINE COOLANT TEMPERATURE SENSOR (EFI WATER TEMP. SENSOR) DETECTS THE ENGINE COOLANT TEMP. AND HAS A BUILT–IN THERMISTOR WITH A RESISTANCE WHICH VARIES ACCORDING TO THE ENGINE COOLANT TEMP. (WATER TEMP.). THUS THE ENGINE COOLANT TEMP (WATER TEMP.). IS INPUT IN THE FORM OF A CONTROL SIGNAL TO **TERMINAL THW** OF THE ENGINE CONTROL MODULE (ECU).

(2) INTAKE AIR TEMP. SIGNAL SYSTEM

THE INTAKE AIR TEMP. SENSOR IS INSTALLED INSIDE THE VOLUME AIR FLOW (AIR FLOW METER) AND DETECTS THE INTAKE AIR TEMP. WHICH IS INPUT AS A CONTROL SIGNAL TO **TERMINAL THA** OF THE ENGINE CONTROL MODULE (ECU).

(3) HEATED OXYGEN SENSOR (OXYGEN SENSOR) SIGNAL SYSTEM

THE HEATED OXYGEN DENSITY IN THE EXHAUST EMISSIONS IS DETECTED AND INPUT AS A CONTROL SIGNAL TO **TERMINAL OX1** OF THE ENGINE CONTROL MODULE (ECU). TO MAINTAIN STABLE DETECTION PERFORMANCE BY THE HEATED OXYGEN SENSOR (OXYGEN SENSOR), A HEATER IS USED FOR WARNING THE SENSOR. THE HEATER IS ALSO CONTROLLED BY THE ENGINE CONTROL MODULE (ECU) (HT).

(4) RPM SIGNAL SYSTEM

CRANKSHAFT POSITION IS DETECTED BY THE PICK–UP COIL INSTALLED INSIDE THE DISTRIBUTOR. CRANKSHAFT POSITION IS INPUT AS A CONTROL SIGNAL TO **TERMINALS G1** AND **G2** OF THE ENGINE CONTROL MODULE (ECU), AND RPM IS INPUT TO **TERMINAL NE**.

(5) THROTTLE SIGNAL SYSTEM

THE THROTTLE POSITION SENSOR DETECTS THE THROTTLE VALVE OPENING ANGLE WHICH IS INPUT AS A CONTROL SIGNAL TO **TERMINAL VTA** OF THE ENGINE CONTROL MODULE (ECU), OR WHEN THE VALVE IS FULLY CLOSED, TO **TERMINAL IDL**.

(6) VEHICLE SPEED SIGNAL SYSTEM

THE SPEED SENSOR, INSTALLED INSIDE THE COMBINATION METER, DETECTS THE VEHICLE SPEED AND INPUTS A CONTROL SIGNAL TO **TERMINAL SPD** OF THE ENGINE CONTROL MODULE (ECU).

(7) A/C SW SIGNAL SYSTEM

THE OPERATING VOLTAGE OF THE A/C MAGNETIC CLUTCH IS DETECTED AND INPUT IN THE FORM OF A CONTROL SIGNAL TO **TERMINAL AC1** OF THE ENGINE CONTROL MODULE (ECU).

(8) BATTERY SIGNAL SYSTEM

VOLTAGE IS CONSTANTLY APPLIED TO **TERMINAL BATT** OF THE ENGINE CONTROL MODULE (ECU). WHEN THE IGNITION SW IS TURNED TO ON, VOLTAGE FOR ENGINE CONTROL MODULE (ECU) OPERATION IS APPLIED VIA THE EFI MAIN RELAY TO **TERMINALS +B** AND **B1** OF THE ENGINE CONTROL MODULE (ECU).

(9) INTAKE AIR VOLUME SIGNAL SYSTEM

INTAKE AIR VOLUME IS DETECTED BY THE POTENTIOMETER INSTALLED INSIDE THE VOLUME AIR FLOW (AIR FLOW METER) AND IS INPUT AS A CONTROL SIGNAL TO **TERMINAL VS** OF THE ENGINE CONTROL MODULE (ECU).

(10) STOP LIGHT SW SIGNAL SYSTEM

THE STOP LIGHT SW IS USED TO DETECT WHETHER OR NOT THE VEHICLE IS BRAKING AND THE INFORMATION IS INPUT AS A CONTROL SIGNAL TO **TERMINAL STP** OF THE ENGINE CONTROL MODULE (ECU).

(11) STA SIGNAL SYSTEM

TO CONFIRM THAT THE ENGINE IS CRANKING, THE VOLTAGE APPLIED TO THE STARTER MOTOR DURING CRANKING IS DETECTED AND IS INPUT AS A CONTROL SIGNAL TO **TERMINAL STA** OF THE ENGINE CONTROL MODULE (ECU).

(12) ENGINE KNOCK CONTROL SYSTEM

ENGINE KNOCKING IS DETECTED BY THE KNOCK SENSOR AND INPUT AS A CONTROL SIGNAL TO **TERMINAL KNK** OF THE ENGINE CONTROL MODULE (ECU).

(13) ELECTRICAL IDLE–UP SYSTEM

THE SIGNAL WHEN SYSTEMS SUCH AS THE REAR WINDOW DEFOGGER, HEADLIGHTS, ETC. WHICH CAUSE A HIGH ELECTRICAL BURDEN ARE ON IS INPUT TO **TERMINAL ELS** AS A CONTROL SIGNAL.

2. CONTROL SYSTEM

* SFI (SEQUENTIAL MULTIPORT FUEL INJECTION) (EFI) SYSTEM

  THE SFI (EFI) SYSTEM MONITORS THE ENGINE CONDITIONS THROUGH THE SIGNALS EACH SENSOR (INPUT SIGNALS (1) TO (12)) INPUTS TO THE ENGINE CONTROL MODULE (ECU). BASED ON THIS DATA AND THE PROGRAM MEMORIZED IN THE ENGINE CONTROL MODULE (ECU). THE MOST APPROPRIATE FUEL INJECTION TIMING IS DECIDED AND CURRENT IS OUTPUT TO **TERMINALS #1, #2, #3** AND **#4** OF THE ENGINE CONTROL MODULE (ECU). CAUSING THE INJECTORS TO OPERATE (TO INJECT FUEL). IT IS THIS SYSTEM WHICH THROUGH THE WORK OF THE ENGINE CONTROL MODULE (ECU). FINELY CONTROLS FUEL INJECTION IN RESPONSE TO DRIVING CONDITIONS.

* ESA (ELECTRONIC SPARK ADVANCE) SYSTEM

  THE ESA SYSTEM MONITORS THE ENGINE CONDITIONS USING THE SIGNALS (INPUT SIGNALS (1, 3, 4, 6, 7, 9, 11)) INPUT TO THE ENGINE CONTROL MODULE (ECU) FROM EACH SENSOR. BASED ON THIS DATA AND THE PROGRAM MEMORIZED IN THE ENGINE CONTROL MODULE (ECU). THE MOST APPROPRIATE IGNITION TIMING IS DECIDED AND CURRENT IS OUTPUT TO **TERMINAL IGT** OF THE ENGINE CONTROL MODULE (ECU). THIS OUTPUT CONTROLS THE IGNITER TO PRODUCE THE MOST APPROPRIATE IGNITION TIMING FOR THE DRIVING CONDITIONS.

* FUEL PUMP CONTROL SYSTEM

  COMPUTER OPERATION OUTPUTS TO **TERMINAL FPR** AND CONTROLS THE FUEL PUMP CONTROL RELAY AND THUS CONTROLS THE FUEL PUMP DRIVE SPEED IN RESPONSE TO CONDITIONS.

* OXYGEN SENSOR HEATER CONTROL SYSTEM

  THE OXYGEN SENSOR HEATER CONTROL SYSTEM TURNS THE HEATER TO ON WHEN THE INTAKE AIR VOLUME IS LOW (TEMP. OF EXHAUST EMISSIONS LOW). AND WARMS UP THE OXYGEN SENSOR TO IMPROVE DETECTION PERFORMANCE OF THE SENSOR. THE ENGINE CONTROL MODULE (ECU) EVALUATES THE SIGNALS FROM EACH SENSOR (INPUT SIGNALS (1, 6, 8, 9, 11)), CURRENT IS OUTPUT TO **TERMINAL HT** AND CONTROLS THE HEATER.

* IDLE AIR CONTROL (ISC) VALVE SYSTEM

  THE IDLE AIR CONTROL (ISC) SYSTEM (ROTARY SOLENOID TYPE) INCREASES THE RPM AND PROVIDES IDLING STABILITY FOR FAST IDLE–UP WHEN THE ENGINE IS COLD AND WHEN THE IDLE SPEED HAS DROPPED DUE TO ELECTRICAL LOAD, ETC. THE ENGINE CONTROL MODULE (ECU) EVALUATES THE SIGNALS FROM EACH SENSOR (INPUT SIGNALS 1, 4 TO 8, 11, 13)), OUTPUTS CURRENT TO **TERMINALS ISC1** AND **ISC2** AND CONTROLS THE IDLE AIR CONTROL VALVE (ISC VALVE).

* EGR CONTROL SYSTEM

  WITH THE EGR CONTROL SYSTEM, THE ENGINE CONTROL MODULE (ECU) EVALUATES THE (INPUT SIGNALS (1, 4, 10)) FROM EACH SENSOR, CURRENT IS OUTPUT TO **TERMINAL EGR** AND OPERATION OF THE EGR VALVE IS CONTROLLED.

* INTAKE AIR CONTROL SYSTEM

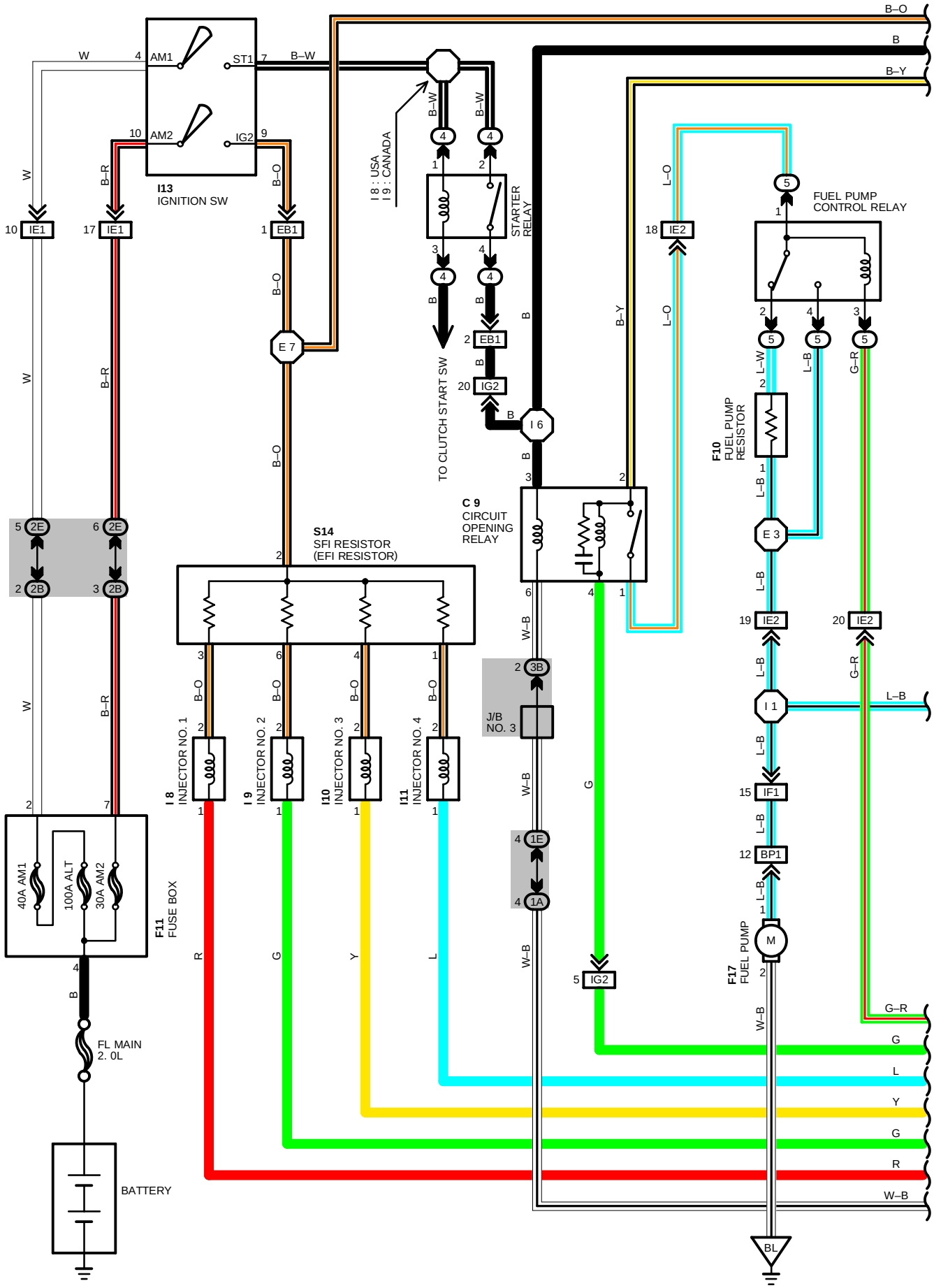
  IN THE INTAKE AIR CONTROL SYSTEM, EACH CYLINDER IN THE INTAKE MANIFOLD IS DIVIDED INTO TWO PARTS, WITH AN INTAKE AIR CONTROL VALVE INSTALLED IN THE PASSAGE ON ONE SIDE. THE OPENING AND CLOSING OF THE VALVE PROVIDES THE MOST APPROPRIATE INTAKE AIR FLOW AND, AS WELL AS PREVENTING PERFORMANCE LOSS AT LOW SPEEDS, ALSO IMPROVES FUEL ECONOMY. THE ENGINE CONTROL MODULE (ECU) EVALUATES THE SIGNALS FROM EACH SENSOR (INPUT SIGNALS (1, 4, 5)), OUTPUTS CURRENT TO **TERMINAL TVIS** CONTROLS THE VSV (FOR T–VIS) AND, CARRIES OUT OPENING AND CLOSING OF THE VALVE.

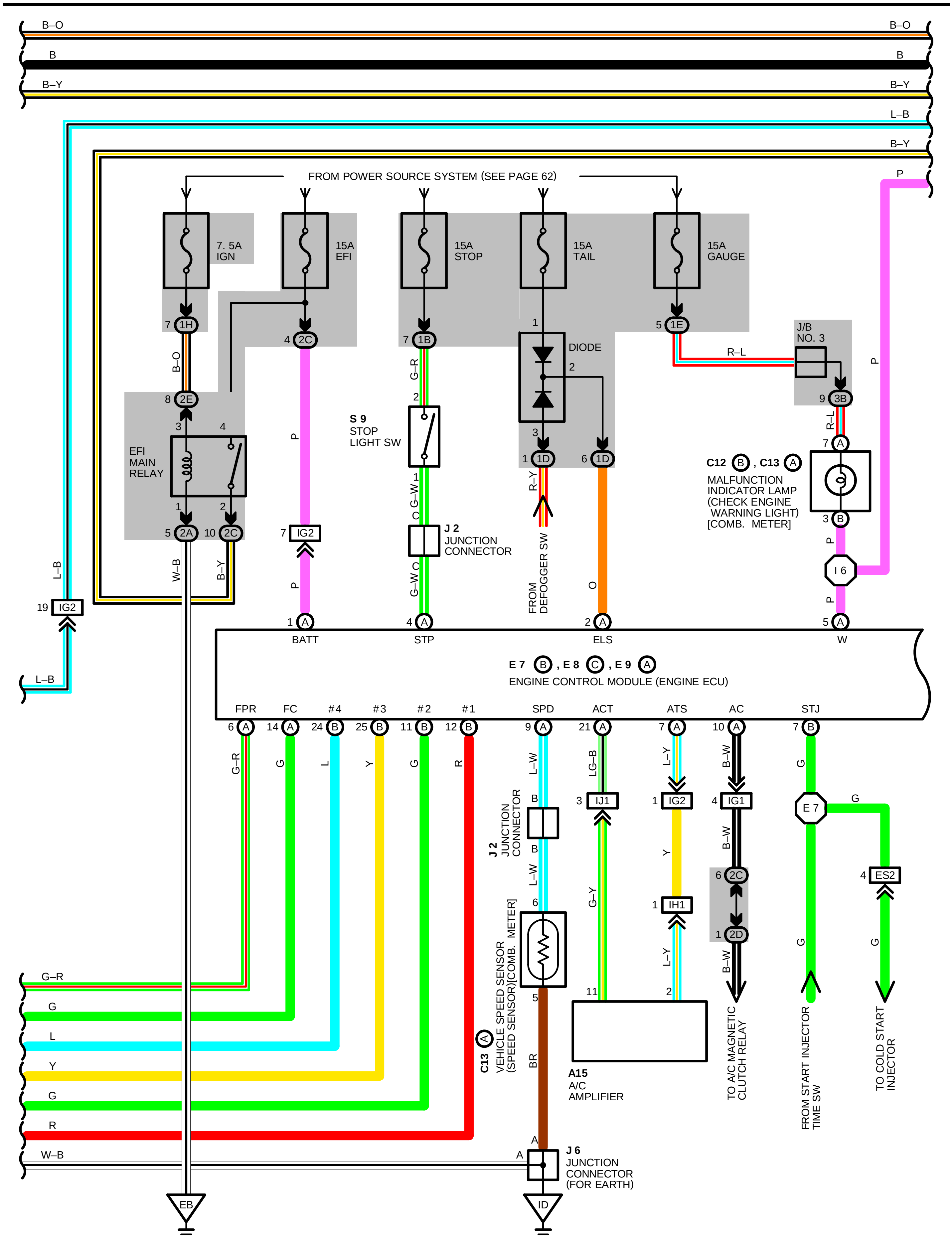
3. DIAGNOSIS SYSTEM

WITH THE DIAGNOSIS SYSTEM, WHEN THERE IS A MALFUNCTION IN THE ENGINE CONTROL MODULE (ECU) SIGNAL SYSTEM, THE MALFUNCTIONING SYSTEM IS RECORDED IN THE MEMORY. THE MALFUNCTIONING SYSTEM CAN THEN BE FOUND BY READING THE DISPLAY (CODE) OF THE MALFUNCTION INDICATOR LAMP (CHECK ENGINE WARNING LIGHT).

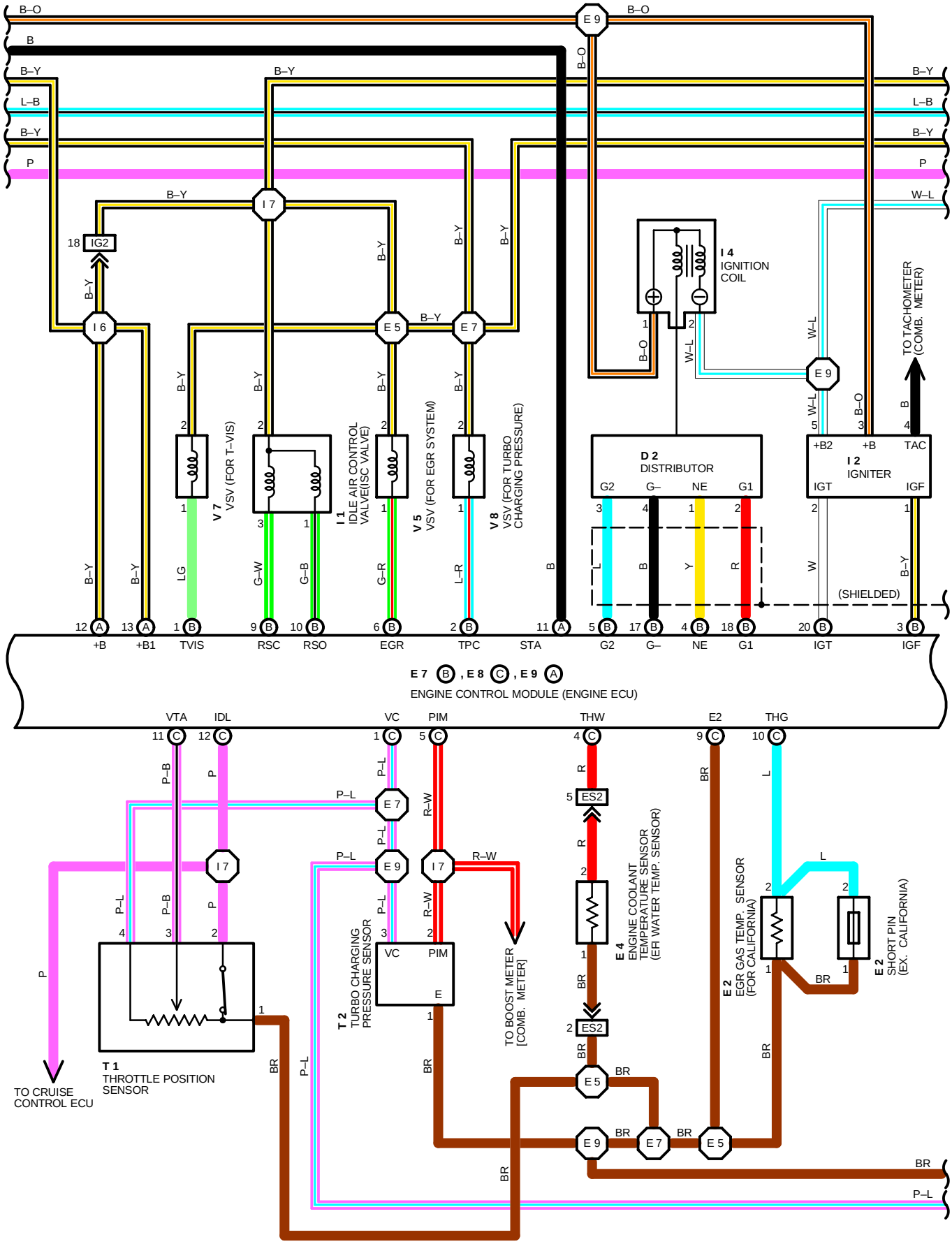
4. FAIL–SAFE SYSTEM

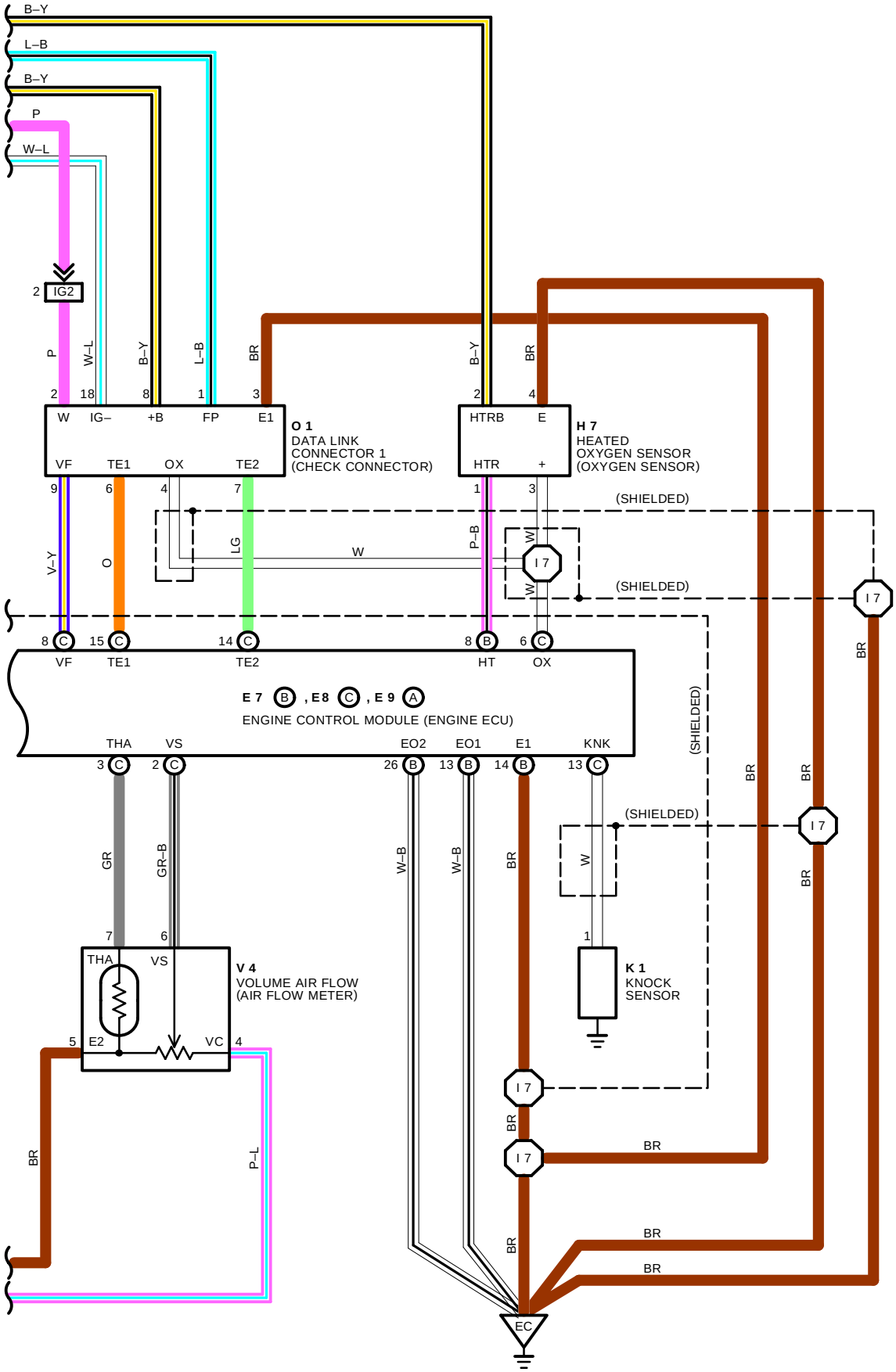
WHEN A MALFUNCTION OCCURS IN ANY SYSTEM, IF THERE IS A POSSIBILITY OF ENGINE TROUBLE BEING CAUSED BY CONTINUED CONTROL BASED ON THE SIGNALS FROM THAT SYSTEM. THE FAIL–SAFE SYSTEM EITHER CONTROLS THE SYSTEM BY USING DATA (STANDARD VALUES) RECORDED IN THE ECU MEMORY OR ELSE STOPS THE ENGINE.


I13
IGNITION SW
AM1
AM2
ST1
IG2
I 8 : USA
I 9 : CANADA
STARTER RELAY
TO CLUTCH START SW
C 9
CIRCUIT OPENING RELAY
S14
SFI RESISTOR
(EFI RESISTOR)
I 8
INJECTOR NO. 1
I 9
INJECTOR NO. 2
I10
INJECTOR NO. 3
I11
INJECTOR NO. 4
J/B
NO. 3
F11
FUSE BOX
40A AM1
100A ALT
30A AM2
FL MAIN
2. 0L
BATTERY
FUEL PUMP
CONTROL RELAY
F10
FUEL PUMP
RESISTOR
F17
FUEL PUMP
E 7
E 3
I 6
I 1
IE1
IE2
EB1
IG2
IF1
BP1
2E
2B
3B
1E
1A
BL


B–O
B
B–Y
L–B
P
FROM POWER SOURCE SYSTEM (SEE PAGE 62)
7. 5A IGN
15A EFI
15A STOP
15A TAIL
15A GAUGE
DIODE
J/B NO. 3
R–L
S 9 STOP LIGHT SW
EFI MAIN RELAY
J 2 JUNCTION CONNECTOR
FROM DEFOGGER SW
C12 B , C13 A
MALFUNCTION INDICATOR LAMP (CHECK ENGINE WARNING LIGHT) [COMB. METER]
I 6
BATT
STP
ELS
W
E 7 B , E 8 C , E 9 A
ENGINE CONTROL MODULE (ENGINE ECU)
FPR
FC
#4
#3
#2
#1
SPD
ACT
ATS
AC
STJ
G–R
G
L
Y
R
W–B
L–W
LG–B
L–Y
B–W
G–Y
BR
J 2 JUNCTION CONNECTOR
C13 A VEHICLE SPEED SENSOR (SPEED SENSOR)[COMB. METER]
A15 A/C AMPLIFIER
TO A/C MAGNETIC CLUTCH RELAY
FROM START INJECTOR TIME SW
TO COLD START INJECTOR
E 7
ES2
J 6 JUNCTION CONNECTOR (FOR EARTH)
EB
ID

ENGINE CONTROL (3S–GTE)




B–Y
L–B
B–Y
P
W–L
2 IG2
P
W–L
B–Y
L–B
BR
B–Y
BR
2 18 8 1 3 2 4
W IG– +B FP E1
O 1
DATA LINK
CONNECTOR 1
(CHECK CONNECTOR)
HTRB E
H 7
HEATED
OXYGEN SENSOR
(OXYGEN SENSOR)
VF TE1 OX TE2
HTR +
9 6 4 7 1 3
(SHIELDED)
V–Y
O
LG
W
P–B
W
I 7
W
(SHIELDED)
I 7
BR
8 C 15 C 14 C 8 B 6 C
VF TE1 TE2 HT OX
E 7 B , E8 C , E 9 A
ENGINE CONTROL MODULE (ENGINE ECU)
THA VS EO2 EO1 E1 KNK
3 C 2 C 26 B 13 B 14 B 13 C
(SHIELDED)
BR
BR
GR
GR–B
W–B
W–B
BR
W
(SHIELDED)
I 7
BR
7 6 1
THA VS
V 4
VOLUME AIR FLOW
(AIR FLOW METER)
K 1
KNOCK
SENSOR
5 E2 VC 4
I 7
BR
BR
I 7
BR
BR
BR
P–L
BR
BR
EC

SERVICE HINTS

EFI MAIN RELAY
4–2 : CLOSED WITH IGNITION SW AT **ON** OR **ST** POSITION

S14 SFI RESISTOR (EFI RESISTOR)
2–1, 3, 4, 5 : **5–7**

I 8, I 9, I10, I11 INJECTOR
1–2 : **2–4**

F10 FUEL PUMP RESISTOR
1–2: APPROX. **73**

V 4 VOLUME AIR FLOW (AIR FLOW METER)
1–2 : CLOSED WITH STARTER RUNNING OR MEASURING PLATE OPEN
5–6 : **200–600** (MEASURING PLATE CLOSED)
20–1000 (MEASURING PLATE OPEN)
5–4 : **200–400**
5–7 : **10–20** K (**–20**˚C, **–4**˚F)
4–7 K (**0**˚C, **32**˚F)
2–3 K (**20**˚C, **68**˚F)
0.9–1.3 K (**40**˚C, **104**˚F)
0.4–0.7 K (**60**˚C, **140**˚F)

E 4 ENGINE COOLANT TEMPERATURE SENSOR (EFI WATER TEMP. SENSOR)
1–2: **10–20** K (**–20**˚C, **–4**˚F)
4–7 K (**0**˚C, **32**˚F)
2–7 K (**20**˚C, **68**˚F)
0.9–1.3 K (**40**˚C, **104**˚F)
0.4–0.7 K (**60**˚C, **140**˚F)
0.2–0.4 K (**80**˚C, **176**˚F)

T 1 THROTTLE POSITION SENSOR
2–4: **0.2–0.8** K WITH CLEARANCE BETWEEN LEVER AND STOP SCREW **0** MM (**0** IN)
3–4: LESS THAN **2.3** K WITH CLEARANCE BETWEEN LEVER AND STOP SCREW **0.50** MM (**0.020** IN)
∞ WITH **0.7** MM (**0.028** IN.)
2–4: **3.3–10** K WITH THROTTLE VALVE FULLY OPEN
1–4: 3**–8** K

E 7, E 8, E 9 ENGINE CONTROL MODULE (ENGINE ECU)
VOLTAGE AT ENGINE CONTROL MODULE (ENGINE ECU) CONNECTORS

BATT–E1	:	**9–14** VOLTS
+B, +B1–E1	:	**9–14** VOLTS (IGNITION SW ON)
IDL–E2	:	**9–14** VOLTS (IGNITION SW ON AND THROTTLE VALVE OPEN)
VTA–E2	:	**0.3–0.8** VOLTS (IGNITION SW ON AND THROTTLE VALVE FULLY CLOSED)
		3.2–4.8 VOLTS (IGNITION SW ON AND THROTTLE VALVE OPEN)
VC–E2	:	**4.5–5.5** VOLTS (IGNITION SW ON)
VS–E2	:	**4.0–5.5** VOLTS (IGNITION SW ON AND MEASURING PLATE FULLY CLOSED)
		1.0 VOLTS OR LESS (IGNITION SW ON AND MEASURING PLATE FULLY OPEN)
		2.0–4.0 VOLTS (IDLING)
		1.0–2.0 VOLTS (**3000** RPM)
THA–E2	:	**0.5–3.4** VOLTS (IGNITION SW ON AND INTAKE AIR TEMP. **20**˚C, (**68**˚F))
THW–E2	:	**0.2–1.0** VOLTS (IGNITION SW ON AND COOLANT TEMP. **80**˚C, (**176**˚F))
STA–E1	:	**6–14** VOLTS (CRANKING)
#1, #2, #3, #4 – E01, E02	:	**10–14** VOLTS (IGNITION SW ON)
IGT–E1	:	**0.7–1.0** VOLTS (CRANKING OR IDLING)
TVIS–E1	:	**2.0** VOLTS OR LESS WITH IGNITION SW ON AND THROTTLE VALVE FULLY CLOSED
		9–14 VOLTS WITH IGNITION SW ON AND THROTTLE VALVE OPEN
		2.0 VOLTS OR LESS IDLING
		9–14 VOLTS WITH **4200** RPM OR MORE
TE1–E1	:	9–14 VOLTS WITH IGNITION SW ON AND DATA LINK CONNECTOR 1 (CHECK CONNECTOR) T–E1 NO CONNECT
		0.5 VOLTS OR LESS WITH IGNITION SW ON AND DATA LINK CONNECTOR 1 (CHECK CONNECTOR) T–E1 CONNECT
AC–E1	:	**7.5–14** VOLTS WITH IGNITION SW ON A/C SWITCH ON
RSC, RSO –E1	:	**9–14** VOLTS (IGNITION SW ON)
PIM–E2	:	**3.3–3.9** VOLTS (IGNITION SW ON)
W–E1	:	**9–14** VOLTS (NO TROUBLE (MALFUNCTION INDICATOR LAMP (CHECK ENGINE WARNING LIGHT) OFF) AND ENGINE RUNNING)

RESISTANCE AT ENGINE CONTROL MODULE (ENGINE ECU) CONNECTORS
(DISCONNECT WIRING CONNECTOR FROM ENGINE CONTROL MODULE (ENGINE ECU))

IDL–E1	:	INFINITY (THROTTLE VALVE OPEN)
		LESS THAN **2300** (THROTTLE VALVE FULLY CLOSED)
VTA–E2	:	**3300–10000** (THROTTLE VALVE OPEN)
		200–800 (THROTTLE VALVE FULLY CLOSED)
VS–E2	:	**200–600** (MEASURING PLATE FULLY CLOSED)
		20–1200 (MEASURING PLATE FULLY OPEN)
THA–E2	:	**2000–3000** (INTAKE AIR TEMP. **20**˚C, **68**˚F)
THW–E2	:	**200–400** (COOLANT TEMP. **80**˚C, **176**˚F)
G1,G2–G–	:	**140–180**
NE–G–	:	**180–220**
RSO, RSC–+B, +B1	:	**17.7–23.9**

: PARTS LOCATION

CODE		SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
A15		32	F11	28 (3S–GTE)	J 6	33
C 9		32	F17	34	K 1	33
C12	B	32	H 7	29 (3S–GTE)	S 9	33
C13	A	32	I 1	29 (3S–GTE)	S14	28 (3S–GTE)
D 1		28 (3S–GTE)	I 2	29 (3S–GTE)	T 1	29 (3S–GTE)
D 2		28 (3S–GTE)	I 4	29 (3S–GTE)	T 2	29 (3S–GTE)
E 2		28 (3S–GTE)	I 8	29 (3S–GTE)	V 4	29 (3S–GTE)
E 4		28 (3S–GTE)	I 9	29 (3S–GTE)	V 5	29 (3S–GTE)
E 7	B	33	I10	29 (3S–GTE)	V 7	29 (3S–GTE)
E 8	C	33	I11	29 (3S–GTE)	V 8	29 (3S–GTE)
E 9	A	33	I13	33		
F10		28 (3S–GTE)	J 2	33		

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
4	27	R/B NO. 4 (RIGHT KICK PANEL)
5	27	R/B NO. 5 (ENGINE COMPARTMENT FRONT RIGHT)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1B		
1D		
1E		
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2A	23 (ALL–TRAC/4WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2B	23 (ALL–TRAC/4WD)	ENGINE WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2C		
2D	23 (ALL–TRAC/4WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2E		
3B	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EB1	36 (3S–GTE)	ENGINE WIRE AND COWL WIRE (REAR SIDE OF RIGHT FRONT FENDER)
ES2	36 (3S–GTE)	ENGINE WIRE AND ENGINE ROOM NO. 2 WIRE (NEAR THE DISTRIBUTOR)
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)
IE2		
IF1	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
IG1	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE CONTROL MODULE (ENGINE ECU))
IG2		
IH1	42	ENGINE WIRE AND A/C NO. 1 WIRE (BEHIND THE GLOVE BOX)
IJ1	44	COWL WIRE AND A/C NO. 1 WIRE (BEHIND THE GLOVE BOX)
BP1	46 (L/B)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LEFT QUARTER PANEL CENTER)

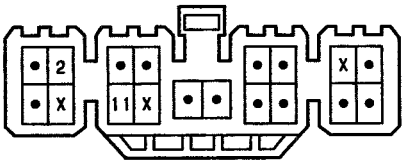
: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
EB	36 (3S–GTE)	FRONT LEFT FENDER
EC	36 (3S–GTE)	INTAKE MANIFOLD
ID	42	LEFT KICK PANEL
BL	46 (L/B)	BACK PANEL CENTER

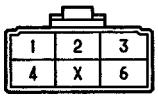
: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 3	36 (3S–GTE)	ENGINE ROOM MAIN WIRE	I 2	44	COWL WIRE
E 5	36 (3S–GTE)	ENGINE WIRE	I 6		
E 7			I 7	44	ENGINE WIRE
E 9			I 8	44	COWL WIRE
I 1	44	COWL WIRE	I 9	44	

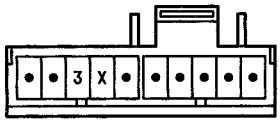
A15



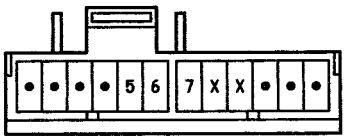
C 9 DARK GRAY



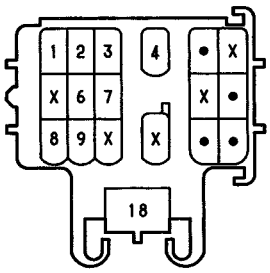
C12 (B) BROWN



C13 (A)



D 1 GRAY

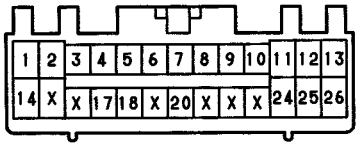


D 2 BLACK

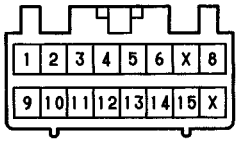
E 2 DARK GRAY

E 4 DARK GRAY

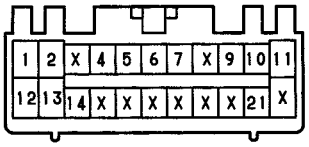
E 7 (B) DARK GRAY



E 8 (C) DARK GRAY

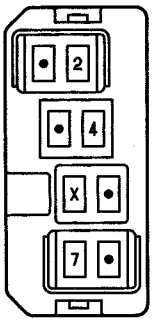


E 9 (A) DARK GRAY

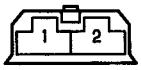


F10 DARK GRAY

F11 BLACK



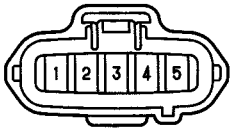
F17 DARK GRAY



H 7 DARK GRAY

I 1 BLACK

I 2 BLACK

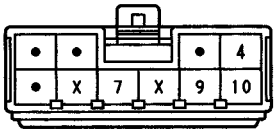


I 4 BLACK

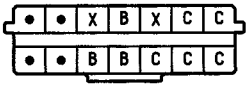
I 8, I10 BROWN

I 9, I11 GRAY

I13 BLACK

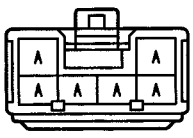


J 2



(HINT:SEE PAGE 7)

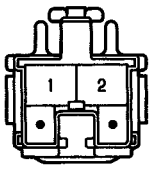
J 6



(HINT:SEE PAGE 7)

K 1 DARK GRAY

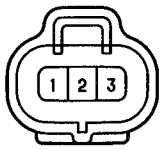
S 9



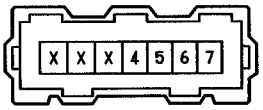
S14 DARK GRAY

T 1 BLACK

T 2 BLACK



V 4 BLACK



V 5, V 7 BROWN

V 8 BLUE

SYSTEM OUTLINE

THE ENGINE CONTROL SYSTEM UTILIZES A MICROCOMPUTER AND MAINTAINS OVERALL CONTROL OF THE ENGINE ETC. AN OUTLINE OF ENGINE CONTROL IS GIVEN HERE.

1. INPUT SIGNALS

(1) ENGINE COOLANT TEMP. (WATER TEMP.) SIGNAL SYSTEM

THE ENGINE COOLANT TEMPERATURE SENSOR (EFI WATER TEMP. SENSOR) DETECTS THE ENGINE COOLANT TEMP. AND HAS A BUILT–IN THERMISTOR WITH A RESISTANCE WHICH VARIES ACCORDING TO THE ENGINE COOLANT TEMP. (WATER TEMP.). THUS THE ENGINE COOLANT TEMP. (WATER TEMP.) IS INPUT IN THE FORM OF A CONTROL SIGNAL TO **TERMINAL THW** OF THE ENGINE CONTROL MODULE (ECU).

(2) INTAKE AIR TEMP. SIGNAL SYSTEM

THE INTAKE AIR TEMP. SENSOR IS DETECTS THE INTAKE AIR TEMP., WHICH IS INPUT AS A CONTROL SIGNAL TO **TERMINAL THA** OF THE ENGINE CONTROL MODULE (ECU).

(3) HEATER OXYGEN SENSOR (OXYGEN SENSOR) SIGNAL SYSTEM

THE HEATER OXYGEN DENSITY IN THE EXHAUST EMISSIONS IS DETECTED AND INPUT AS A CONTROL SIGNAL TO **TERMINAL OX** OF THE ENGINE CONTROL MODULE (ECU).

(4) RPM SIGNAL SYSTEM

CRANKSHAFT POSITION AND ENGINE RPM ARE DETECTED BY THE PICK–UP COIL INSTALLED INSIDE THE DISTRIBUTOR. CRANKSHAFT POSITION IS INPUT AS A CONTROL SIGNAL TO **TERMINAL G1** OF THE ENGINE CONTROL MODULE (ECU), AND RPM SIGNAL IS INPUT TO **TERMINAL NE**.

(5) THROTTLE SIGNAL SYSTEM

THE THROTTLE POSITION SENSOR DETECTS THE THROTTLE VALVE OPENING ANGLE, WHICH IS INPUT AS A CONTROL SIGNAL TO **TERMINAL PSW** OF THE ENGINE CONTROL MODULE (ECU), OR WHEN THE VALVE IS FULLY CLOSED, TO **TERMINAL IDL.**

(6) VEHICLE SPEED SIGNAL SYSTEM

THE SPEED SENSOR, INSTALLED INSIDE THE COMBINATION METER, DETECTS THE VEHICLE SPEED AND INPUTS A CONTROL SIGNAL TO **TERMINAL SPD** OF THE ENGINE CONTROL MODULE (ECU).

(7) PARK/NEUTRAL POSITION SW (NEUTRAL START SW) SIGNAL SYSTEM

THE PARK/NEUTRAL POSITION SW (NEUTRAL START SW) DETECTS WHETHER THE SHIFT POSITION IS IN NEUTRAL OR NOT, AND INPUTS A CONTROL SIGNAL TO **TERMINAL NSW** OF THE ENGINE CONTROL MODULE (ECU).

(8) A/C SW SIGNAL SYSTEM

THE OPERATING VOLTAGE OF THE A/C MAGNETIC CLUTCH IS DETECTED AND INPUT TIN THE FORM OF A CONTROL SIGNAL TO **TERMINAL AC1** OF THE ENGINE CONTROL MODULE (ECU).

(9) BATTERY SIGNAL SYSTEM

VOLTAGE IS CONSTANTLY APPLIED TO **TERMINAL BATT** OF THE ENGINE CONTROL MODULE (ECU). WHEN THE IGNITION SW IS TURNED TO ON, VOLTAGE FOR ENGINE CONTROL MODULE (ECU) OPERATION IS APPLIED VIA THE EFI MAIN RELAY TO **TERMINALS +B** AND **+B1** OF THE ENGINE CONTROL MODULE (ECU).

(10) INTAKE AIR VOLUME SIGNAL SYSTEM

INTAKE AIR VOLUME IS DETECTED BY THE MANIFOLD ABSOLUTE PRESSUER SENSOR (VACUUM SENSOR) AND IS INPUT AS A CONTROL SIGNAL TO **TERMINAL PIM** OF THE ENGINE CONTROL MODULE (ECU).

(11) STA SIGNAL SYSTEM

TO CONFIRM THAT THE ENGINE IS CRANKING, THE VOLTAGE APPLIED TO THE STARTER MOTOR DURING CRANKING IS DETECTED AND IS INPUT AS A CONTROL SIGNAL TO **TERMINAL STA** OF THE ENGINE CONTROL MODULE (ECU).

2. CONTROL SYSTEM

* MFI (MULTIPORT FUEL INJECTION) (EFI) SYSTEM

THE MFI (EFI) SYSTEM MONITORS THE ENGINE CONDITIONS THROUGH THE SIGNALS EACH SENSOR (INPUT SIGNALS (1) TO (11)) INPUTS TO THE ENGINE CONTROL MODULE (ECU). BASED ON THIS DATA AND THE PROGRAM MEMORIZED IN THE ENGINE CONTROL MODULE (ECU), THE MOST APPROPRIATE FUEL INJECTION TIMING IS DECIDED AND CURRENT IS OUTPUT TO **TERMINALS #10** AND **#20** OF THE ENGINE CONTROL MODULE (ECU), CAUSING THE INJECTORS TO OPERATE IT (TO INJECT FUEL). IT IS THIS SYSTEM WHICH, THROUGH THE WORK OF THE ENGINE CONTROL MODULE (ECU), FINELY CONTROLS FUEL INJECTION IN RESPONSE TO DRIVING CONDITIONS.

DURING ENGINE CRANKING (SIGNAL INPUT TO **TERMINAL STA**) OR FOR APPROX. **2** SECONDS AFTER NE SIGNAL INPUT, ENGINE CONTROL MODULE (ECU) OPERATION ENERGIZES (POINT CLOSED) THE FUEL PUMP CIRCUIT INSIDE THE CIRCUIT OPENING RELAY, CAUSING THE FUEL PUMP TO OPERATE.

* ESA (ELECTRONIC FUEL ADVANCE) SYSTEM

THE ESA SYSTEM MONITORS THE ENGINE CONDITIONS USING THE SIGNALS (INPUT SIGNALS (1, 4, 5, 10, 11)) INPUT TO THE ENGINE CONTROL MODULE (ECU) FROM EACH SENSOR. BASED ON THIS DATA AND THE PROGRAM MEMORIZED IN THE ENGINE CONTROL MODULE (ECU), THE MOST APPROPRIATE IGNITION TIMING IS DECIDED AND CURRENT IS OUTPUT TO **TERMINAL IGT** OF THE ENGINE CONTROL MODULE (ECU). THIS OUTPUT CONTROLS THE IGNITER TO PRODUCE THE MOST APPROPRIATE IGNITION TIMING FOR THE DRIVING CONDITIONS.

* IDLE–UP SPEED CONTROL SYSTEM

THE IDLE–UP SYSTEM USES THE AIR CONTROL VALVE FOR IDLE–UP TO INCREASE THE RPM AND PROVIDE STABLE IDLING WHEN THE IDLE SPEED DROPS DUE TO THE ELECTRICAL LOAD, ETC. THE ECU EVALUATES THE SIGNALS FROM EACH SENSOR (INPUT SIGNALS (1, 4 TO 8)), CURRENT IS OUTPUT TO **TERMINAL V–ISC** AND CONTROLS THE VSV.

* EGR CUT CONTROL SYSTEM

THE EGR CUT CONTROL SYSTEM CONTROLS THE VSV (FOR EGR) BY EVALUATING THE SIGNALS FROM EACH SENSOR INPUT TO THE ENGINE CONTROL MODULE (ECU) (INPUT SIGNALS (1, 5, 6, 9)) AND BY SENDING OUTPUT TO **TERMINAL EGR** OF THE ENGINE CONTROL MODULE (ECU).

* A/C CUT CONTROL SYSTEM

WHEN THE VEHICLE SUDDENLY ACCELERATES FROM LOW ENGINE SPEED, THIS SYSTEM CUTS OFF AIR CONDITIONING (AIR CONDITIONER) OPERATION FOR A FIXED PERIOD OF TIME IN RESPONSE TO THE VEHICLE SPEED, THROTTLE VALVE OPENING ANGLE AND INTAKE MANIFOLD PRESSURE IN ORDER TO MAINTAIN ACCELERATION PERFORMANCE.

THE ENGINE CONTROL MODULE (ECU) RECEIVES INPUT SIGNALS (4, 5, 6, 7 AND 10), AND OUTPUTS SIGNALS TO **TERMINAL ACT**.

* OVERDRIVE CONTROL SYSTEM

THE ENGINE CONTROL MODULE (ECU) CONTROLS THE O/D SOLENOID OF THE AUTOMATIC TRANSAXLE IN RESPONSE TO SIGNALS FROM EACH SENSOR (INPUT SIGNALS (1, 4, 5, 6 AND 10)) IN ORDER TO MAINTAIN DRIVABILITY AND ACCELERATION PERFORMANCE.

THE ENGINE CONTROL MODULE (ECU) OUTPUTS A SIGNAL FROM **TERMINAL OD** TO CONTROL THE O/D (CALIFORNIA), **TERMINAL ODT** (EX. CALIFORNIA) TO CONTROL THE O/D SOLENOID.

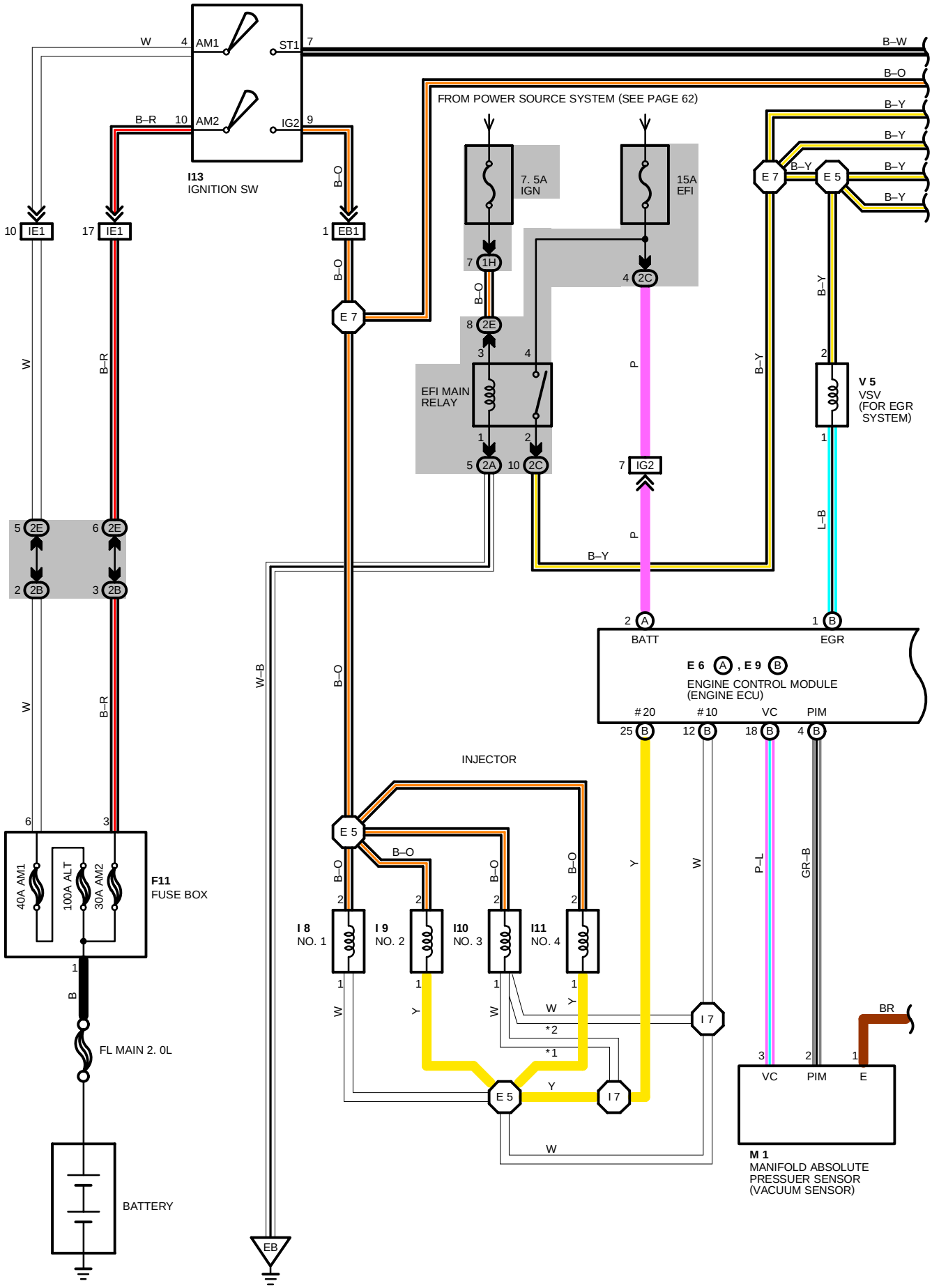
3. DIAGNOSIS SYSTEM

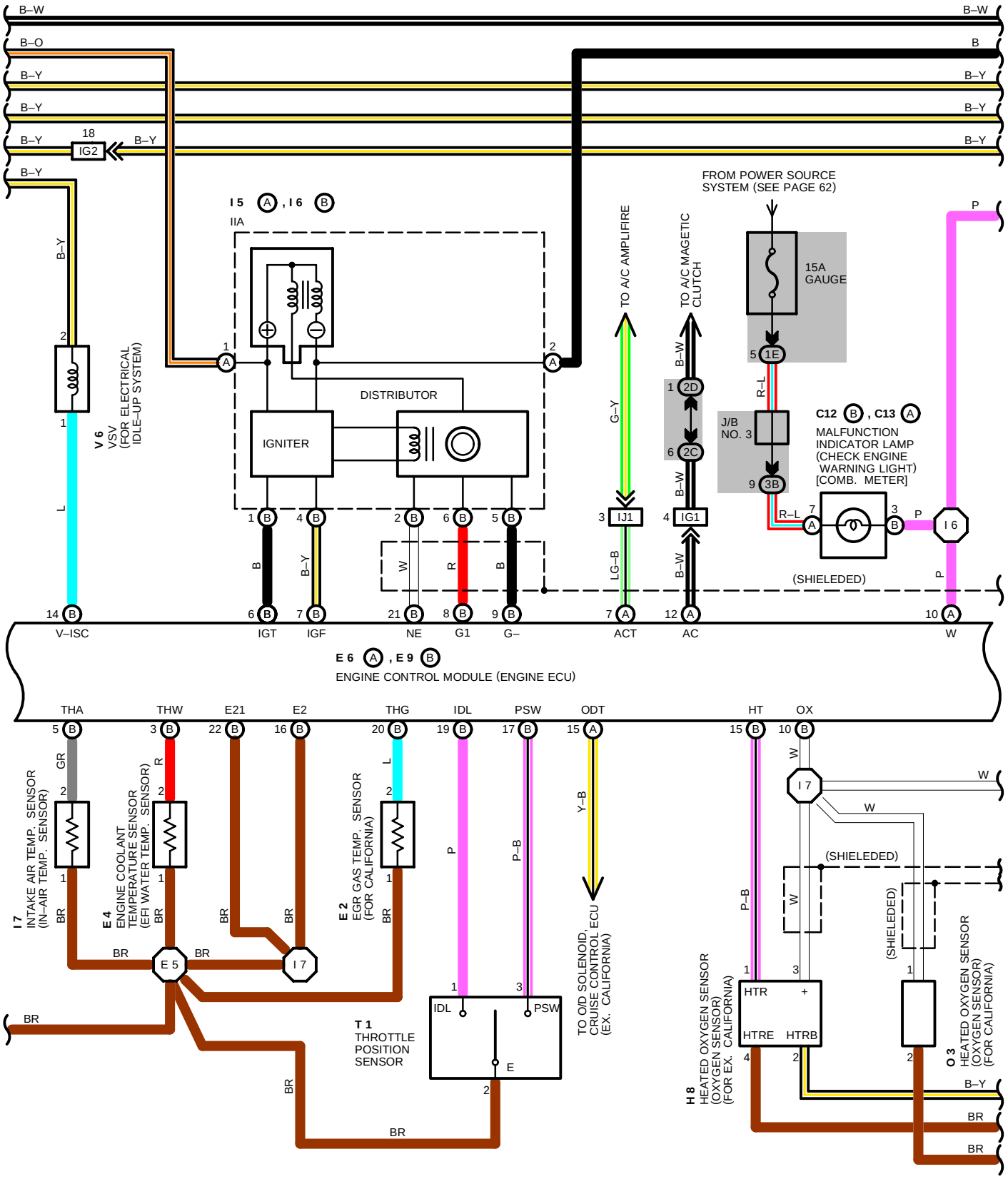
WITH THE DIAGNOSIS SYSTEM, WHEN THERE IS A MALFUNCTIONING IN THE ENGINE CONTROL MODULE (ECU) SIGNAL SYSTEM, THE MALFUNCTION SYSTEM IS RECORDED IN THE MEMORY. THE MALFUNCTIONING SYSTEM CAN THEN BE FOUND BY READING THE DISPLAY (CODE) OF THE MALFUNCTION INDICATOR LAMP (CHECK ENGINE WARNING LIGHT).

4. FAIL–SAFE SYSTEM

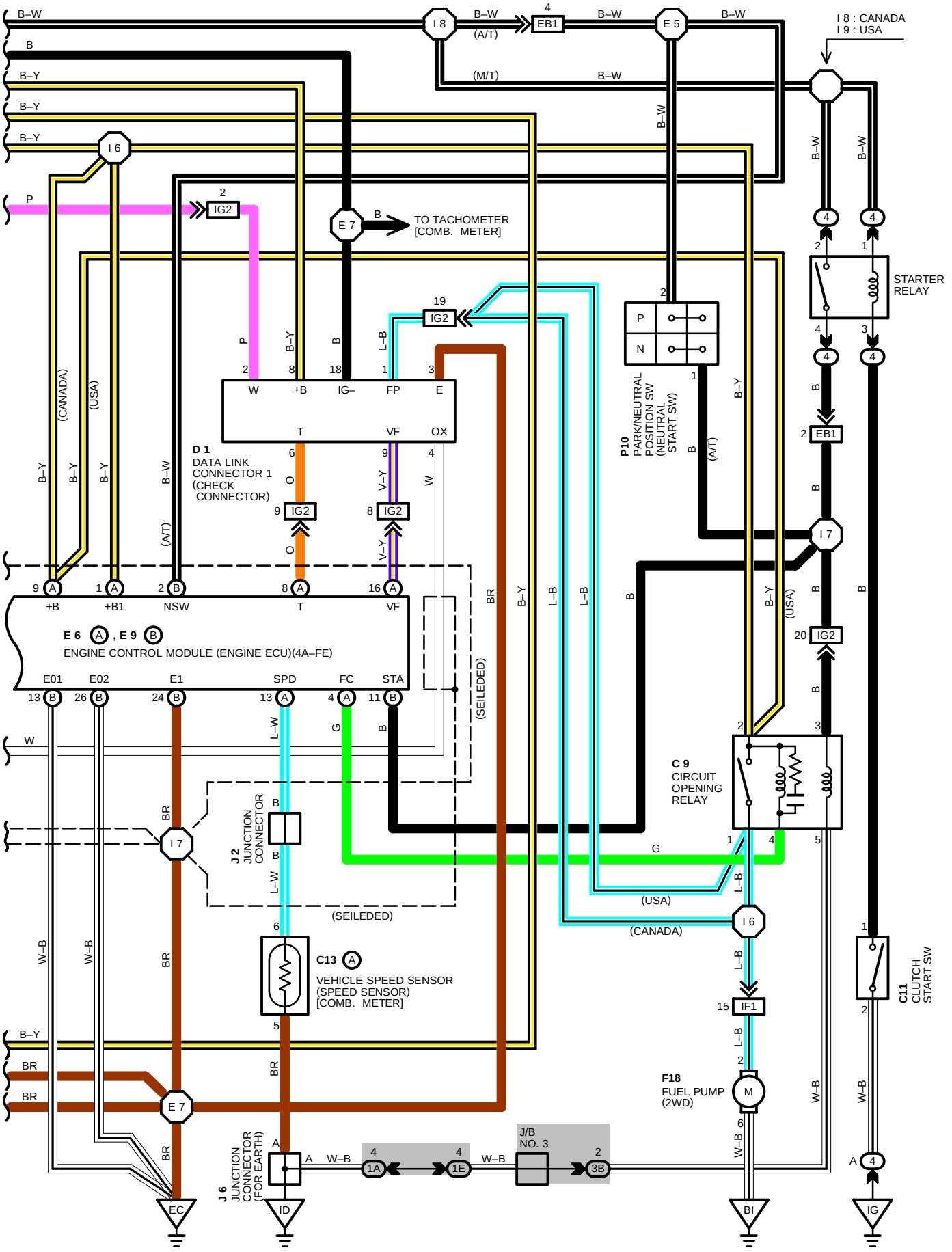
WHEN A MALFUNCTION OCCURS IN ANY SYSTEM, IF THERE IS A POSSIBILITY OF ENGINE TROUBLE BEING CAUSED BY CONTINUED CONTROL BASED ON THE SIGNALS FROM THAT SYSTEM, THE FAIL–SAFE SYSTEM EITHER CONTROLS THE SYSTEM BY USING DATA (STANDARD VALUES) RECORDED IN THE ENGINE CONTROL MODULE (ECU) MEMORY OR ELSE STOPS THE ENGINE.

*1 : CALIFORNIA A/T
*2 : EX. CALIFORNIA A/T

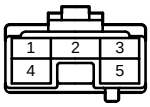



B–W
B–O
B–Y
B
18
IG2
FROM POWER SOURCE SYSTEM (SEE PAGE 62)
I 5 A , I 6 B
IIA
V 6
VSV
(FOR ELECTRICAL IDLE–UP SYSTEM)
DISTRIBUTOR
IGNITER
TO A/C AMPLIFIRE
TO A/C MAGETIC CLUTCH
15A GAUGE
J/B NO. 3
C12 B , C13 A
MALFUNCTION INDICATOR LAMP (CHECK ENGINE WARNING LIGHT) [COMB. METER]
(SHIELEDED)
V–ISC
IGT
IGF
NE
G1
G–
ACT
AC
W
E 6 A , E 9 B
ENGINE CONTROL MODULE (ENGINE ECU)
THA
THW
E21
E2
THG
IDL
PSW
ODT
HT
OX
I 7
INTAKE AIR TEMP. SENSOR (IN–AIR TEMP. SENSOR)
E 4
ENGINE COOLANT TEMPERATURE SENSOR (EFI WATER TEMP. SENSOR)
E 2
EGR GAS TEMP. SENSOR (FOR CALIFORNIA)
E 5
I 7
T 1
THROTTLE POSITION SENSOR
TO O/D SOLENOID, CRUISE CONTROL ECU (EX. CALIFORNIA)
H 8
HEATED OXYGEN SENSOR (OXYGEN SENSOR) (FOR EX. CALIFORNIA)
O 3
HEATED OXYGEN SENSOR (OXYGEN SENSOR) (FOR CALIFORNIA)
HTR
HTRE
HTRB

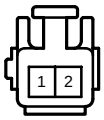
* 1 : A/T EX. CALIFORNIA
* 2 : M/T, FOR CALIFORNIA A/T



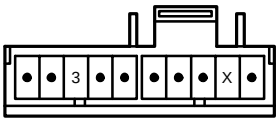
C 9 DARK GRAY



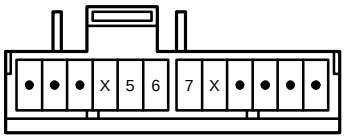
C11



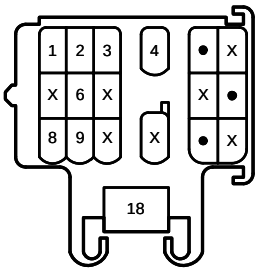
C12 (B) BROWN



C13 (A)



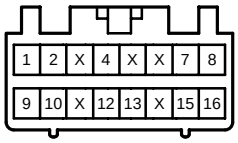
D 1 DARK GRAY



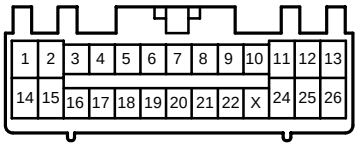
E 2 DARK GRAY

E 4 DARK GREEN

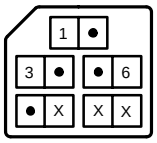
E 6 (A) DARK GRAY



E 9 (B) DARK GRAY



F11 BLACK



F18 DARK GRAY

H 8 DARK GRAY

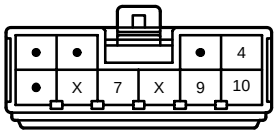
I 5 (A) DARK GRAY

I 6 (B) DARK GRAY

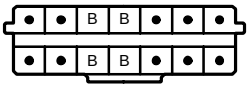
I 7 BLACK

I 8, I 9, I10, I11 GRAY

I13 BLACK

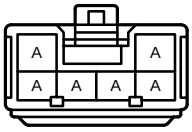


J 2



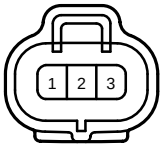
(HINT : SEE PAGE 7)

J 6



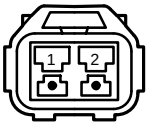
(HINT : SEE PAGE 7)

M 1 BLACK

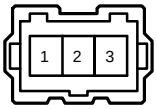


O 3 DARK GRAY

P10 GRAY



T 1 BLACK



V 5 BROWN

V 6 BLUE

SERVICE HINTS

E 6, E 9 ENGINE CONTROL MODULE (ENGINE ECU)

BATT–E1 : ALWAYS **9.0–14.0** VOLTS
+B–E1 : **9.0–14.0** VOLTS (IGNITION SW AT **ON** POSITION)
+B1–E1 : **9.0–14.0** VOLTS (IGNITION SW AT **ON** POSITION)
IDL–E1 : **9.0–14.0** VOLTS (IGNITION SW ON AND THROTTLE VALVE OPEN)
PSW–E1 : **4.0–5.0** VOLTS (IGNITION SW ON AND THROTTLE VALVE FULLY CLOSED)
PIM–E2 : **3.3–3.9** VOLTS (IGNITION SW AT **ON** POSITION)
VC–E2 : **4.5–5.5** VOLTS (IGNITION SW AT **ON** POSITION)
#10, #20–E01, E02 : **9.0–14.0** VOLTS (IGNITION SW AT **ON** POSITION)
THA–E2 : **0.5–3.4** VOLTS (IGNITION SW ON AND INTAKE AIR TEMP. **20**˚C (**68**˚F))
THW–E2 : **0.2–1.0** VOLTS (IGNITION SW ON AND COOLANT TEMP. **80**˚C (**176**˚F)
STA–E1 : **6.0–14.0** VOLTS (ENGINE CRANKING)
IGT–E1 : **0.7–1.0** VOLTS (ENGINE CRANKING OR IDLING)
WRN–E1 : **9.0–14.0** VOLTS (IGNITION SW ON, NO TROUBLE AND ENGINE RUNNING)
AC–E1 : **9.0–14.0** VOLTS (IGNITION SW ON AND AIR CONDITIONING ON)
ACT–E1 : **4.0–6.0** VOLTS (IGNITION SW ON AND HEATER BLOWER SW ON)
T–E1 : **9.0–14.0** VOLTS (IGNITION SW ON AND DATA LINK CONNECTOR 1 (CHECK CONNECTOR) **T–E1** NOT CONNECTED)
: **0.5** OR LESS (IGNITION SW ON AND DATA LINK CONNECTOR 1 (CHECK CONNECTOR) **T–E1** CONNECTED)
NSW–E1 : **0–3.0** VOLTS (IGNITION SW ON AND PARK/NEUTRAL POSITION SW (NEUTRAL START SW) POSITION **P** OR **N** POSITION)
: **9.0–14.0** VOLTS (IGNITION SW ON AND EX. PARK/NEUTRAL POSITION SW (NEUTRAL START SW) POSITION **P** OR **N** POSITION)
V–ISC–E1 : **9.0–14.0** VOLTS (CRANKINNG FOR **10** SECONDS AFTER STARTING)

RESISTANCE AT ENGINE CONTROL MODULE (ENGINE ECU) WIRING CONNECTORS

(DISCONNECT WIRING CONNECTORS)

IDL–E2 : INFINITY (THROTTLE VALVE OPEN)
0 (THROTTLE VALVE FULLY CLOSED)
PSW–E2 : **0** (THROTTLE VALVE FULLY OPEN)
INFINITY (THROTTLE VALVE FULLY CLOSED)
THA–E1 : **2.0 – 3.0** K (INTAKE AIR TEMP. **20**˚C, **68**˚F)
THW–E1 : **0.2 – 0.4** K (COOLANT TEMP. **80**˚C, **176**˚F)
G1, NE–G– : **0.17–0.21** K

○ : PARTS LOCATION

CODE		SEE PAGE	CODE		SEE PAGE	CODE	SEE PAGE
C 9		32	**F18**		35 (C/P)	**J 2**	33
C11		32	**H 8**		31 (4A–FE)	**J 6**	33
C12	B	32	**I 5**	A	31 (4A–FE)	**M 1**	31 (4A–FE)
C13	A	32	**I 6**	B	31 (4A–FE)	**N 1**	31 (4A–FE)
D 1		31 (4A–FE)	**I 7**		31 (4A–FE)	**P10**	31 (4A–FE)
E 2		31 (4A–FE)	**I 8**		31 (4A–FE)	**O 3**	31 (4A–FE)
E 4		31 (4A–FE)	**I 9**		31 (4A–FE)	**T 1**	31 (4A–FE)
E 6	A	33	**I10**		31 (4A–FE)	**V 5**	31 (4A–FE)
E 9	B	33	**I11**		31 (4A–FE)	**V 6**	31 (4A–FE)
F11		31 (4A–FE)	**I13**		33		

▭ : RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
4	27	R/B NO. 4 (RIGHT KICK PANEL)

▭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2A	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2B	22 (2WD)	ENGINE WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2C		
2D	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2E		
3B	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EB1	40 (4A–FE)	ENGINE WIRE AND COWL WIRE (REAR SIDE OF RIGHT FRONT FENDER)
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)
IF1	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
IG1	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE CONTROL MODULE (ECU))
IG2		
IJ1	44	COWL WIRE AND A/C NO. 1 WIRE (BEHIND THE GLOVE BOX)

: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
EB	40 (4A–FE)	FRONT LEFT FENDER
EC	40 (4A–FE)	INTAKE MANIFOLD
ID	42	LEFT KICK PANEL
IG	42	R/B NO. 4 SET BOLT
BI	48 (C/P)	UNDER THE LEFT CENTER PILLAR

: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 5	40 (4A–FE)	ENGINE WIRE	**I 7**	44	ENGINE WIRE
E 7			**I 8**	44	COWL WIRE
I 6	44	COWL WIRE	**I 9**	44	

SYSTEM OUTLINE

THE ENGINE CONTROL SYSTEM UTILIZES A MICROCOMPUTER AND MAINTAINS OVERALL CONTROL OF THE ENGINE, TRANSMISSION, ETC. AN OUTLINE OF ENGINE CONTROL IS GIVEN HERE.

1. INPUT SIGNALS

(1) ENGINE COOLANT TEMP. (WATER TEMP.) SIGNAL SYSTEM

THE ENGINE COOLANT TEMPERATURE SENSOR (EFI WATER TEMP. SENSOR) DETECTS THE ENGINE COOLANT TEMP. AND HAS A BUILT–IN THERMISTOR WITH A RESISTANCE WHICH VARIES ACCORDING TO THE ENGINE COOLANT TEMP. (WATER TEMP.). THUS THE ENGINE COOLANT TEMP (WATER TEMP.). IS INPUT IN THE FORM OF A CONTROL SIGNAL TO **TERMINAL THW** OF THE ENGINE CONTROL MODULE (ECU).

(2) INTAKE AIR TEMP. SIGNAL SYSTEM

THE INTAKE AIR TEMP. SENSOR IS DETECTS THE INTAKE AIR TEMP., WHICH IS INPUT AS A CONTROL SIGNAL TO **TERMINAL THA** OF THE ENGINE CONTROL MODULE (ECU).

(3) OXYGEN SENSOR SIGNAL SYSTEM

THE OXYGEN DENSITY IN THE EXHAUST EMISSIONS IS DETECTED AND INPUT AS A CONTROL SIGNAL TO **TERMINAL OX1** AND **OX2** (CALIFORNIA) OF THE ENGINE CONTROL MODULE (ECU).

(4) RPM SIGNAL SYSTEM

CRANKSHAFT POSITION AND ENGINE RPM ARE DETECTED BY THE PICK–UP COIL INSTALLED INSIDE THE DISTRIBUTOR. CRANKSHAFT POSITION IS INPUT AS A CONTROL SIGNAL TO **TERMINAL G+** OF THE ENGINE CONTROL MODULE (ECU), AND RPM IS INPUT TO **TERMINAL NE+**.

(5) THROTTLE SIGNAL SYSTEM

THE THROTTLE POSITION SENSOR DETECTS THE THROTTLE VALVE OPENING ANGLE, WHICH IS INPUT AS A CONTROL SIGNAL TO **TERMINAL VTA** OF THE ENGINE CONTROL MODULE (ECU), OR WHEN THE VALVE IS FULLY CLOSED, TO **TERMINAL IDL**.

(6) VEHICLE SPEED SIGNAL SYSTEM

THE VEHICLE SPEED SENSOR (SPEED SENSOR), INSTALLED INSIDE THE COMBINATION METER, DETECTS THE VEHICLE SPEED AND INPUTS A CONTROL SIGNAL TO **TERMINAL SPD** OF THE ENGINE CONTROL MODULE (ECU).

(7) PARK/NEUTRAL POSITION SW (NEUTRAL START SW) SIGNAL SYSTEM

THE PARK/NEUTRAL POSITION SW (NEUTRAL START SW) DETECTS WHETHER THE SHIFT POSITION IS IN NEUTRAL OR NOT, AND INPUTS A CONTROL SIGNAL TO **TERMINAL NSW** OF THE ENGINE CONTROL MODULE (ECU).

(8) A/C SW SIGNAL SYSTEM

THE OPERATING VOLTAGE OF THE A/C MAGNETIC CLUTCH IS DETECTED AND INPUT IN THE FORM OF A CONTROL SIGNAL TO **TERMINAL ACT** OF THE ENGINE CONTROL MODULE (ECU), AND OPERATION A/C IDLE–UP VSV IS DETECTED AND INPUT IN THE FORM OF A CONTROL SIGNAL TO **TERMINAL ACA** OF THE ENGINE CONTROL MODULE (ECU).

(9) BATTERY SIGNAL SYSTEM

VOLTAGE IS CONSTANTLY APPLIED TO **TERMINAL BATT** OF THE ENGINE CONTROL MODULE (ECU). WHEN THE IGNITION SW IS TURNED TO ON, VOLTAGE FOR ENGINE CONTROL MODULE (ECU) OPERATION IS APPLIED VIA THE EFI MAIN RELAY TO **TERMINALS +B** AND **+B1** OF THE ENGINE CONTROL MODULE (ECU).

(10) INTAKE AIR VOLUME SIGNAL SYSTEM

INTAKE AIR VOLUME IS DETECTED BY THE MANIFOLD ABSOLUTE PRESSURE SENSOR (VACUUM SENSOR) AND IS INPUT AS A CONTROL SIGNAL TO **TERMINAL PIM** OF THE ENGINE CONTROL MODULE (ECU).

(11) STA SIGNAL SYSTEM

TO CONFIRM THAT THE ENGINE IS CRANKING, THE VOLTAGE APPLIED TO THE STARTER MOTOR DURING CRANKING IS DETECTED AND IS INPUT AS A CONTROL SIGNAL TO **TERMINAL STA** OF THE ENGINE CONTROL MODULE (ECU).

(12) ELECTRICAL LOAD SIGNAL SYSTEM

THE SIGNAL WHEN SYSTEMS SUCH AS THE REAR WINDOW DEFOGGER, HEADLIGHT, ETC. WHICH CAUSE A HIGH ELECTRICAL BURDEN ARE ON IS INPUT TO **TERMINAL ELS** AS A CONTROL SIGNAL.

2. CONTROL SYSTEM

* MFI (MULTIPART FUEL INJECTION) (EFI) SYSTEM

THE MFI (EFI) SYSTEM MONITORS THE ENGINE CONDITIONS THROUGH THE SIGNALS EACH SENSOR (INPUT SIGNALS (1) TO (12)) INPUTS TO THE ENGINE CONTROL MODULE (ECU). BASED ON THIS DATA AND THE PROGRAM MEMORIZED IN THE ENGINE CONTROL MODULE (ECU), THE MOST APPROPRIATE FUEL INJECTION TIMING IS DECIDED AND CURRENT IS OUTPUT TO **TERMINALS #10** AND **#20** OF THE ENGINE CONTROL MODULE (ECU), CAUSING THE INJECTORS TO OPERATE (TO INJECT FUEL). IT IS THIS SYSTEM WHICH, THROUGH THE WORK OF THE ENGINE CONTROL MODULE (ECU), FINELY CONTROLS FUEL INJECTION IN RESPONSE TO DRIVING CONDITIONS.

DURING ENGINE CRANKING (SIGNAL INPUT TO **TERMINAL STA**) OR FOR APPROX. **2** SECONDS AFTER NE SIGNAL INPUT, ENGINE CONTROL MODULE (ECU) OPERATION ENERGIZES (POINT CLOSED) THE FUEL PUMP CIRCUIT INSIDE THE CIRCUIT OPENING RELAY, CAUSING THE FUEL PUMP TO OPERATE.

* ESA (ELECTRONIC SPARK ADVANCE) SYSTEM

THE ESA SYSTEM MONITORS THE ENGINE CONDITIONS USING THE SIGNALS (INPUT SIGNALS (1, 4, 5, 10, 11)) INPUT TO THE ENGINE CONTROL MODULE (ECU) FROM EACH SENSOR. BASED ON THIS DATA AND THE PROGRAM MEMORIZED IN THE ENGINE CONTROL MODULE (ECU), THE MOST APPROPRIATE IGNITION TIMING IS DECIDED AND CURRENT IS OUTPUT TO **TERMINAL IGT** OF THE ENGINE CONTROL MODULE (ECU). THIS OUTPUT CONTROLS THE IGNITER TO PRODUCE THE MOST APPROPRIATE IGNITION TIMING FOR THE DRIVING CONDITIONS.

* IDLE AIR CONTROL (ISC) SYSTEM

THE IDLE AIR CONTROL (ISC) SYSTEM (ROTARY SOLENOID TYPE) INCREASES THE RPM AND PROVIDES IDLING STABILITY FOR FAST IDLE–UP WHEN THE ENGINE IS COLD AND WHEN THE IDLE SPEED HAS DROPPED DUE TO ELECTRICAL LOAD, ETC. THE ENGINE CONTROL MODULE (ECU) EVALUATES THE SIGNALS FROM EACH SENSOR (INPUT SIGNALS (1, 4 TO 8, 11, 12)), OUTPUTS CURRENT TO **TERMINAL ISCC** AND **ISCO,** AND CONTROLS THE IDLE AIR CONTROL VALVE (ISC VALVE).

* EGR CONTROL SYSTEM

THE EGR CUT CONTROL SYSTEM CONTROLS THE VSV (FOR EGR) BY EVALUATING THE SIGNALS FROM EACH SENSOR INPUT TO THE ENGINE CONTROL MODULE (ECU) (INPUT SIGNALS (1, 4, 5, 6, 10)) AND BY SENDING OUTPUT TO **TERMINAL EGR** OF THE ENGINE CONTROL MODULE (ECU).

* A/C CUT CONTROL SYSTEM

WHEN THE VEHICLE SUDDENLY ACCELERATES FROM LOW ENGINE SPEED, THIS SYSTEM CUTS OFF AIR CONDITIONING (AIR CONDITIONER) OPERATION FOR A FIXED PERIOD OF TIME IN RESPONSE TO THE VEHICLE SPEED AND THROTTLE VALVE OPENING ANGLE IN ORDER TO MAINTAIN ACCELERATION PERFORMANCE.

THE ENGINE CONTROL MODULE (ECU) RECEIVES INPUT SIGNALS (4, 5, 6), AND OUTPUTS SIGNALS TO **TERMINAL ACT**.

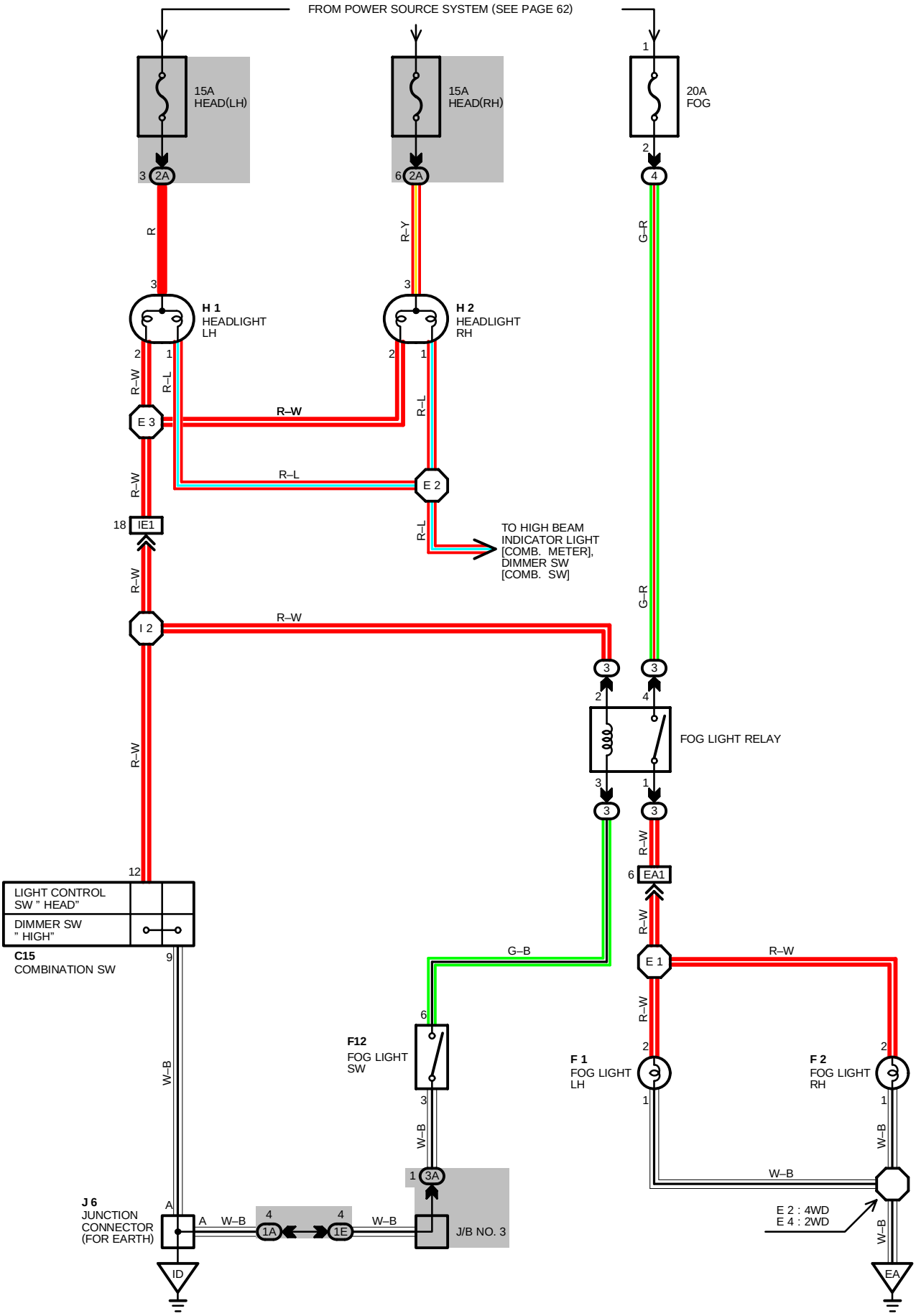
3. DIAGNOSIS SYSTEM

WITH THE DIAGNOSIS SYSTEM, WHEN THERE IS A MALFUNCTIONING IN THE ENGINE CONTROL MODULE (ECU) SIGNAL SYSTEM, THE MALFUNCTION SYSTEM IS RECORDED IN THE MEMORY. THE MALFUNCTIONING SYSTEM CAN THEN BE FOUND BY READING THE DISPLAY (CODE) OF THE MALFUNCTION INDICATOR LAMP (CHECK ENGINE WARNING LIGHT).

4. FAIL–SAFE SYSTEM

WHEN A MALFUNCTION OCCURS IN ANY SYSTEM, IF THERE IS A POSSIBILITY OF ENGINE TROUBLE BEING CAUSED BY CONTINUED CONTROL BASED ON THE SIGNALS FROM THAT SYSTEM, THE FAIL–SAFE SYSTEM EITHER CONTROLS THE SYSTEM BY USING DATA (STANDARD VALUES) RECORDED IN THE ENGINE CONTROL MODULE (ECU) MEMORY OR ELSE STOPS THE ENGINE.

FOG LIGHT (F0R USA)



SERVICE HINTS

FOG LIGHT RELAY

(3) 1–**(3)** 4 : CLOSED WITH 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
C15	32	**F 2**	31 (4A–FE)	**H 2**	28 (3S–GTE), 30 (5S–FE)
F 1	28 (3S–GTE), 30 (5S–FE)	**F12**	33		31 (4A–FE)
	31 (4A–FE)	**H 1**	28 (3S–GTE), 30 (5S–FE)	**J 6**	33
F 2	28 (3S–GTE), 30 (5S–FE)		31 (4A–FE)		

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
3	26	R/B NO. 3 (RIGHT KICK PANEL)
4	27	R/B NO. 4 (RIGHT KICK PANEL)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
2A	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EA1	36 (3S–GTE)	COWL WIRE AND ENGINE ROOM MAIN WIRE (FRONT SIDE OF RIGHT FRONT FENDER)
	38 (5S–FE)	
	40 (4A–FE)	
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)

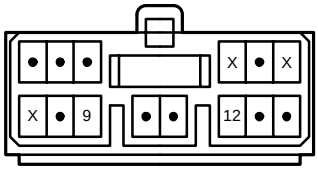
: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
EA	36 (3S–GTE)	FRONT RIGHT FENDER
	38 (5S–FE)	
	40 (4A–FE)	
ID	42	LEFT KICK PANEL

: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 1	36 (3S–GTE)	ENGINE ROOM MAIN WIRE	**E 3**	38 (5S–FE)	ENGINE ROOM MAIN WIRE
	38 (5S–FE)			40 (4A–FE)	
	40 (4A–FE)		**E 4**	38 (5S–FE)	
E 2	36 (3S–GTE)			40 (4A–FE)	
E 3	36 (3S–GTE)		**I 2**	44	COWL WIRE

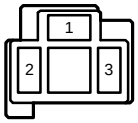
C15 BLACK



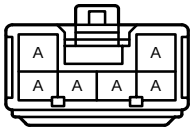
F 1, F 2

F12 BLACK

H 1, H 2 BROWN



J 6



(HINT : SEE PAGE 7)

FOREWORD

This wiring diagram manual has been prepared to provide information on the electrical system of the 1993 TOYOTA CELICA.

Applicable models: AT180 Series
ST184, 185 Series

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

Manual Name	Pub. No.
• 1992 CELICA Repair Manual Volume 1 Volume 2	 RM251U1 RM251U2
• 1993 CELICA Repair Manual Supplement	RM305U
• 1993 Model New Car Features	NCF091U

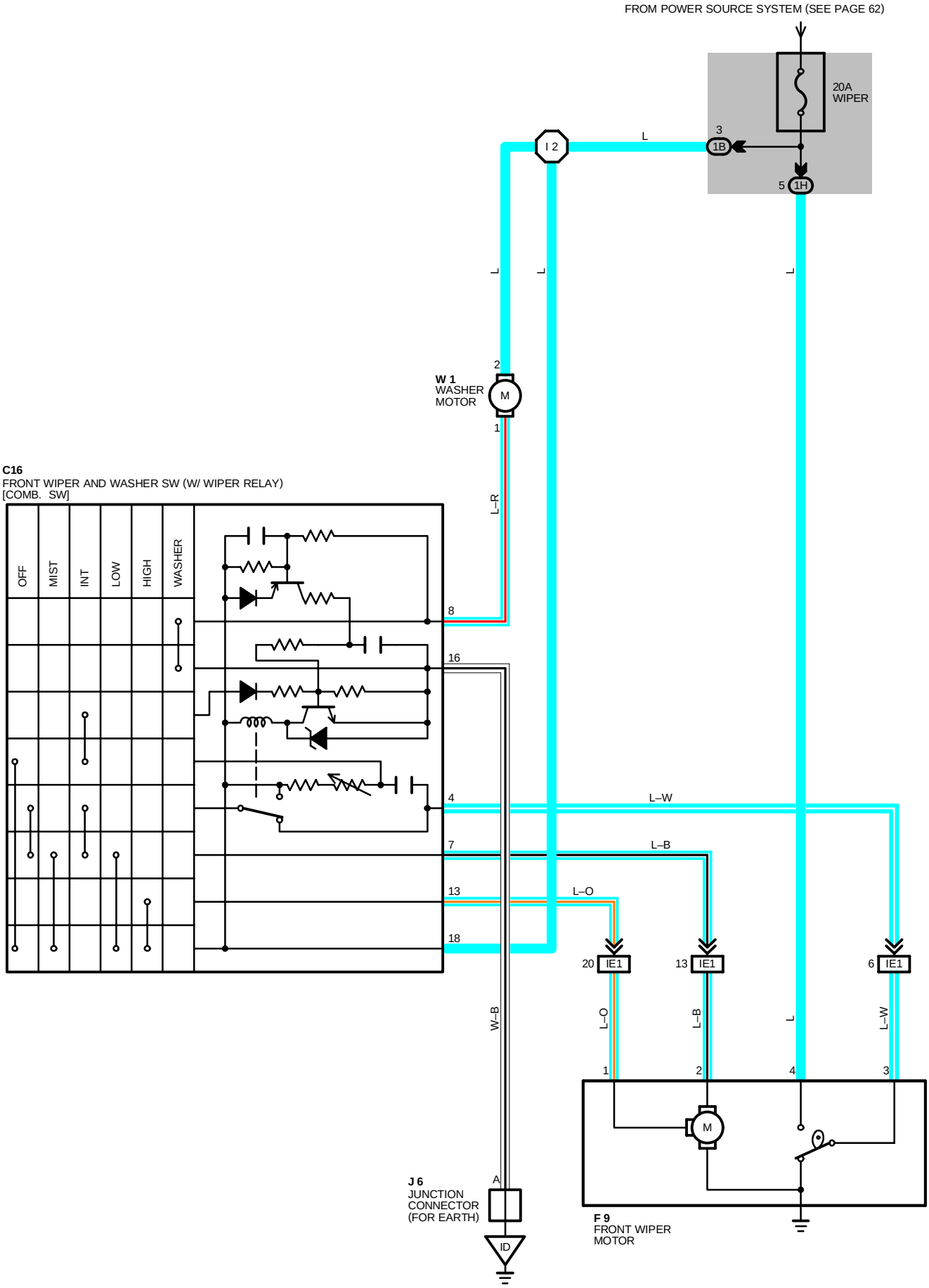
All information in this manual is based on the latest product information at the time of publication. However, specifications and procedures are subject to change without notice.

TOYOTA MOTOR CORPORATION

NOTICE

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

FRONT WIPER AND WASHER



SYSTEM OUTLINE

WITH THE IGNITION SW TURNED ON, THE CURRENT FLOWS TO **TERMINAL 18** OF THE WIPER AND WASHER SW, **TERMINAL 2** OF THE WASHER MOTOR AND **TERMINAL 4** OF THE FRONT WIPER MOTOR THROUGH THE WIPER FUSE.

1. LOW SPEED POSITION

WITH WIPER SW TURNED TO **LOW** POSITION, THE CURRENT FLOWS FROM **TERMINAL 18** OF THE WIPER AND WASHER SW → **TERMINAL 7** → **TERMINAL 2** OF THE FRONT WIPER MOTOR → FRONT WIPER MOTOR → TO **GROUND** AND CAUSES TO THE WIPER MOTOR TO RUN AT LOW SPEED.

2. HIGH SPEED POSITION

WITH WIPER SW TURNED TO **HIGH** POSITION, THE CURRENT FLOWS FROM **TERMINAL 18** OF THE WIPER AND WASHER SW → **TERMINAL 13** → **TERMINAL 1** OF THE FRONT WIPER MOTOR → FRONT WIPER MOTOR → TO **GROUND** AND CAUSES TO THE WIPER MOTOR TO RUN AT HIGH SPEED.

3. INT POSITION (W/ INT SW)

WITH WIPER SW TURNED TO **INT** POSITION, THE RELAY OPERATES AND THE CURRENT WHICH IS CONNECTED BY RELAY FUNCTION FLOWS FROM **TERMINAL 18** OF THE WIPER AND WASHER SW → **TERMINAL 16** → TO **GROUND**. THIS FLOW OF CURRENT OPERATES THE INTERMITTENT CIRCUIT AND THE CURRENT FLOWS FROM **TERMINAL 18** OF THE WIPER AND WASHER SW → **TERMINAL 7** → **TERMINAL 2** OF THE FRONT WIPER MOTOR → FRONT WIPER MOTOR → TO GROUND AND FUNCTIONS.

THE INTERMITTENT OPERATION IS CONTROLLED BY A CONDENSER'S CHARGED AND DISCHARGED FUNCTION INSTALLED IN RELAY AND THE INTERMITTENT TIME IS CONTROLLED BY A TIME CONTROL SW TO CHANGE THE CHARGING TIME OF THE CONDENSER.

4. MIST POSITION (W/ MIST SW)

WITH WIPER SW TURNED TO **MIST** POSITION, THE CURRENT FLOWS FROM **TERMINAL 18** OF THE WIPER AND WASHER SW → **TERMINAL 7** → **TERMINAL 2** OF THE FRONT WIPER MOTOR → FRONT WIPER MOTOR → TO GROUND AND CAUSES TO THE WIPER MOTOR TO RUN AT LOW SPEED.

5. WASHER CONTINUOUS OPERATION (W/ INT CONTROL)

WITH WASHER SW TURNED TO ON, THE CURRENT FLOWS FROM **TERMINAL 2** OF THE WASHER MOTOR → **TERMINAL 1** → **TERMINAL 8** OF THE WIPER AND WASHER SW → **TERMINAL 16** → TO GROUND AND CAUSES TO THE WASHER MOTOR TO RUN. AND WINDOW WASHER IS JET. THIS CAUSES THE CURRENT TO FLOW WASHER CONTINUOUS OPERATION CIRCUIT (W/ INT SW) IN **TERMINAL 18** OF THE WIPER AND WASHER SW → **TERMNAL 7** → **TERMINAL 2** OF THE FRONT WIPER MOTOR → FRONT WIPER MOTOR → TO **GROUND** AND FUNCTION.

SERVICE HINTS

C16 FRONT WIPER AND WASHER SW (W/ WIPER RELAY)

16–GROUND: ALWAYS CONTINUITY
18–GROUND: APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
7–GROUND : APPROX. **12** VOLTS WITH WIPER AND WASHER SW AT **LOW** POSITION
APPROX. **12** VOLTS EVERY APPROX. **1** TO **10** SECONDS INTERMITTENTLY WITH WIPER SW AT **INT** POSITION
4–GROUND : APPROX. **12** VOLTS WITH IGNITION SW ON UNLESS WIPER MOTOR AT **STOP** POSITION
13–GROUND: APPROX. **12** VOLTS WITH IGNITION SW ON AND AFTER WIPER SW OFF UNTIL WIPER MOTOR STOPS

F 9 FRONT WIPER MOTOR

3–4 : CLOSED UNLESS WIPER MOTOR AT **STOP** POSITION

○ : PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
C16	32	**F 9**	31 (4A–FE)	**W 1**	29 (3S–GTE), 30 (5S–FE)
F 9	28 (3S–GTE), 30 (5S–FE)	**J 6**	33		31 (4A–FE)

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1B	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)

▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)

▽ : GROUND POINTS

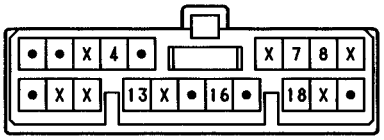
CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL

FRONT WIPER AND WASHER

: SPLICE POINTS

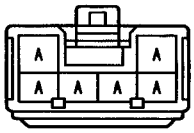
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I2	44	COWL WIRE			

C16 BLACK



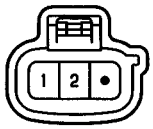
F 9 GRAY

J 6

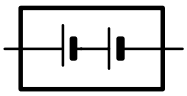


(HINT:SEE PAGE 7)

W 1 GRAY

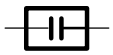


GLOSSARY OF TERMS AND SYMBOLS



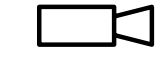
BATTERY

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



CAPACITOR (Condenser)

A small holding unit for temporary storage of electrical voltage.



CIGARETTE LIGHTER

An electric resistance heating element.

CIRCUIT BREAKER

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

DIODE

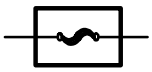
A semiconductor which allows current flow in only one direction.

DIODE, ZENER

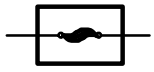
A diode which allows current flow in one direction but blocks reverse flow only up to a specific voltage. Above that potential, it passes the excess voltage. This acts as a simple voltage regulator.

DISTRIBUTOR, IIA

Channels high–voltage current from the ignition coil to the individual spark plugs.



(for Medium Current Fuse)



(for High Current Fuse or Fusible Link.)

FUSE

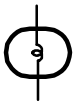
A thin metal strip which burns through when too much current flows through it, thereby stopping current flow and protecting a circuit from damage.

FUSIBLE LINK

A heavy–gauge wire placed in high amperage circuits which burns through on overloads, thereby protecting the circuit. The numbers indicate the cross–section surface area of the wires.

GROUND

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

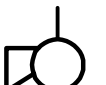


HEADLIGHTS

1. SINGLE FILAMENT

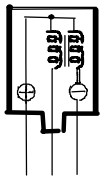
Current flow causes a headlight filament to heat up and emit light. A headlight may have either a single (1) filament or a double (2) filament.

2. DOUBLE FILAMENT



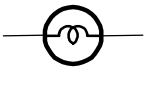
HORN

An electric device which sounds a loud audible signal.



IGNITION COIL

Converts low–voltage DC current into high–voltage ignition current for firing the spark plugs.



LIGHT

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

LED (LIGHT EMITTING DIODE)

Upon current flow, these diodes emit light without producing the heat of a comparable light.

METER, ANALOG

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

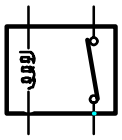
METER, DIGITAL

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

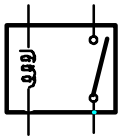
MOTOR

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

RELAY



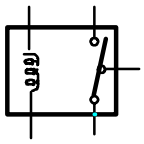
1. NORMALLY CLOSED



2. NORMALLY OPEN

Basically, an electrically operated switch which may be normally closed (1) or open (2).

Current flow through a small coil creates a magnetic field which either opens or closes an attached switch.



RELAY, DOUBLE THROW

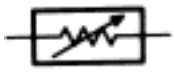
A relay which passes current through one set of contacts or the other.

RESISTOR

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

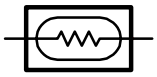
RESISTOR, TAPPED

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



RESISTOR, VARIABLE or RHEOSTAT

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

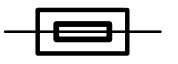


SENSOR (Thermistor)

A resistor which varies its resistance with temperature.

SENSOR, ANALOG SPEED

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



SHORT PIN

Used to provide an unbroken connection within a junction block.

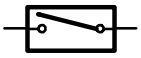
SOLENOID

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

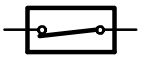
SPEAKER

An electromechanical device which creates sound waves from current flow.

SWITCH, MANUAL



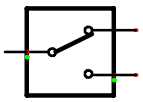
1. NORMALLY OPEN



2. NORMALLY CLOSED

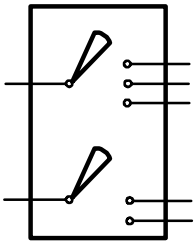
Opens and closes circuits, thereby stopping (1) or allowing (2) current flow.

SWITCH, DOUBLE THROW



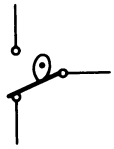
A switch which continuously passes current through one set of contacts or the other.

SWITCH, IGNITION



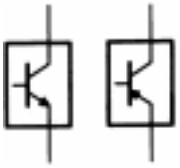
A key operated switch with several positions which allows various circuits, particularly the primary ignition circuit, to become operational.

SWITCH, WIPER PARK



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

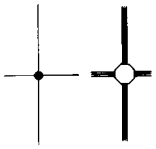
TRANSISTOR



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

WIRES

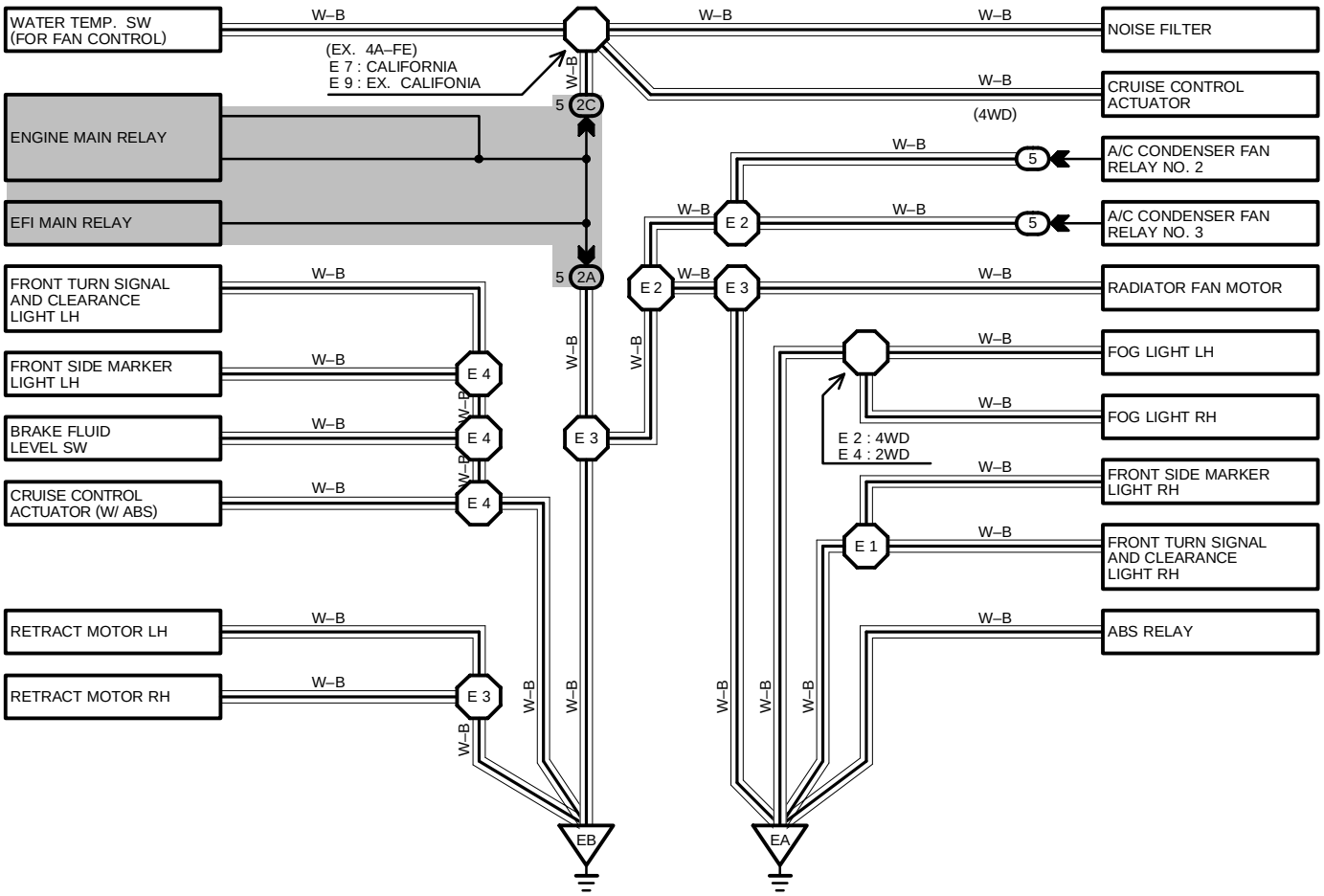
(1) NOT CONNECTED

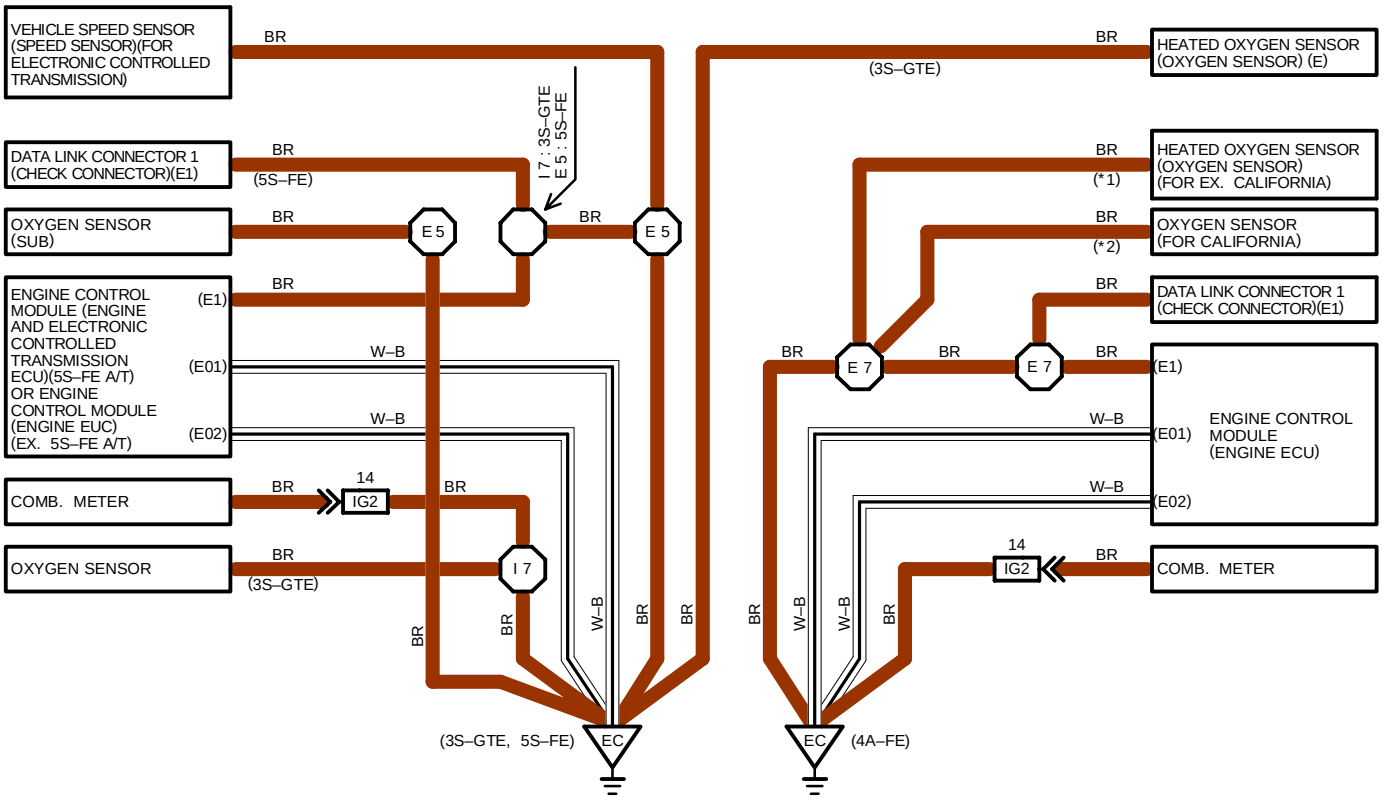


(2) SPLICED

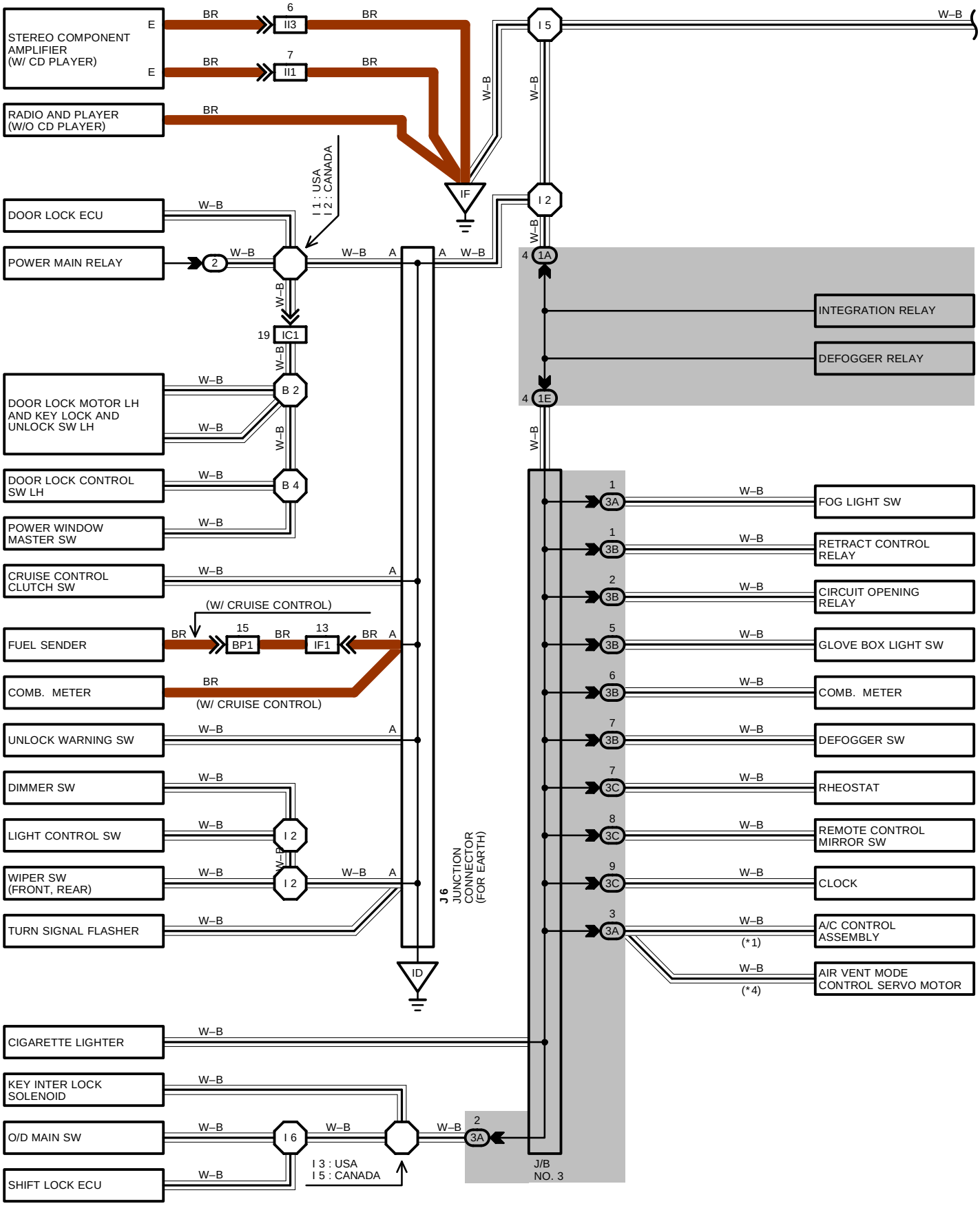
Wires are always drawn as straight lines on wiring diagrams. Crossed wires (1) without a black dot at the junction are not joined; crossed wires (2) with a black dot or octagonal (◯) mark at the junction are spliced (joined) connections.

GROUND POINT

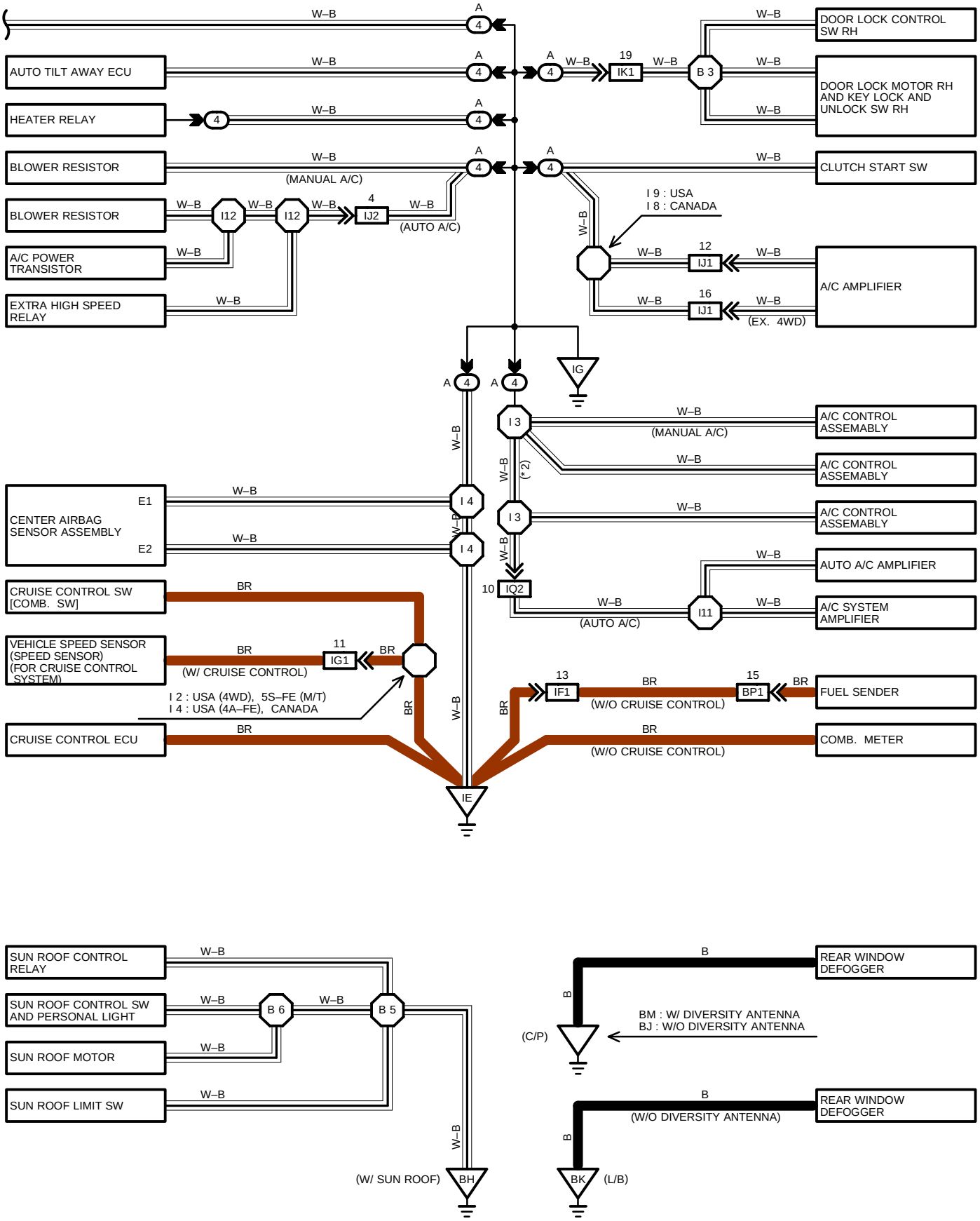




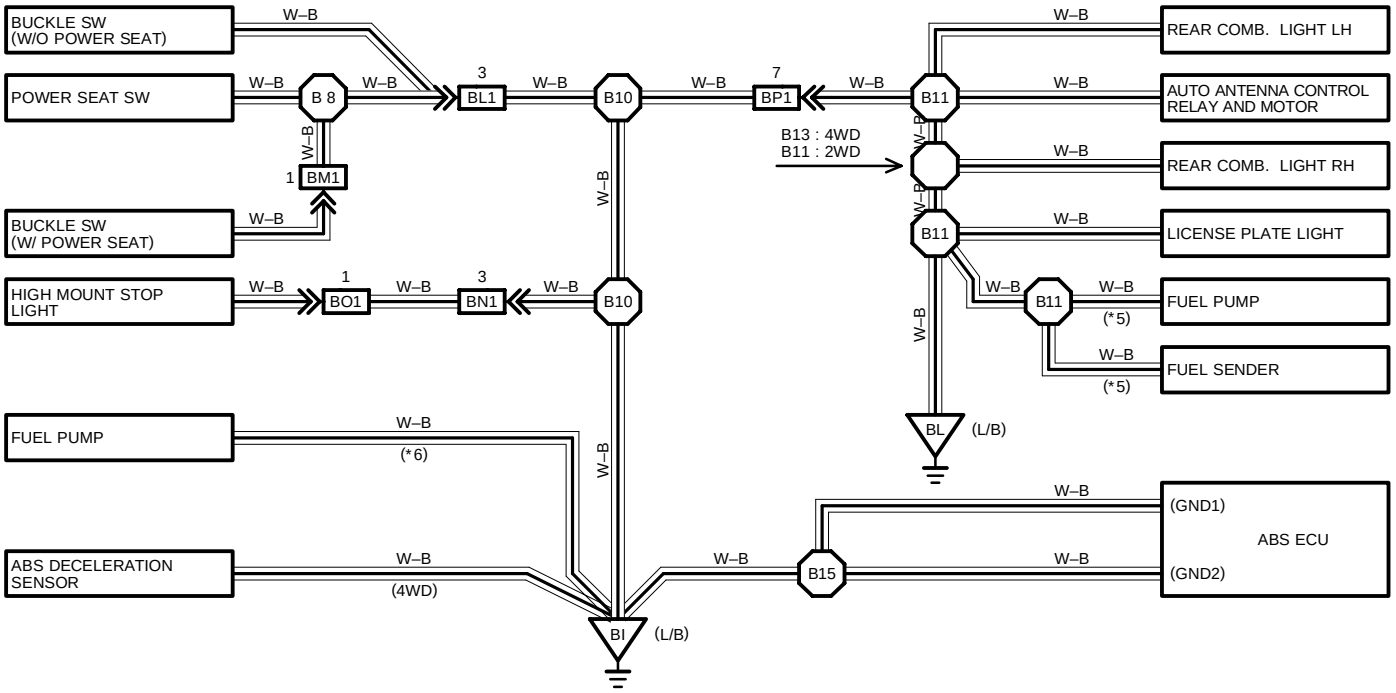
*1 : PUSH TYPE OF BLOWER CONTROL SW
*2 : DIAL TYPE OF BLOWER CONTROL SW

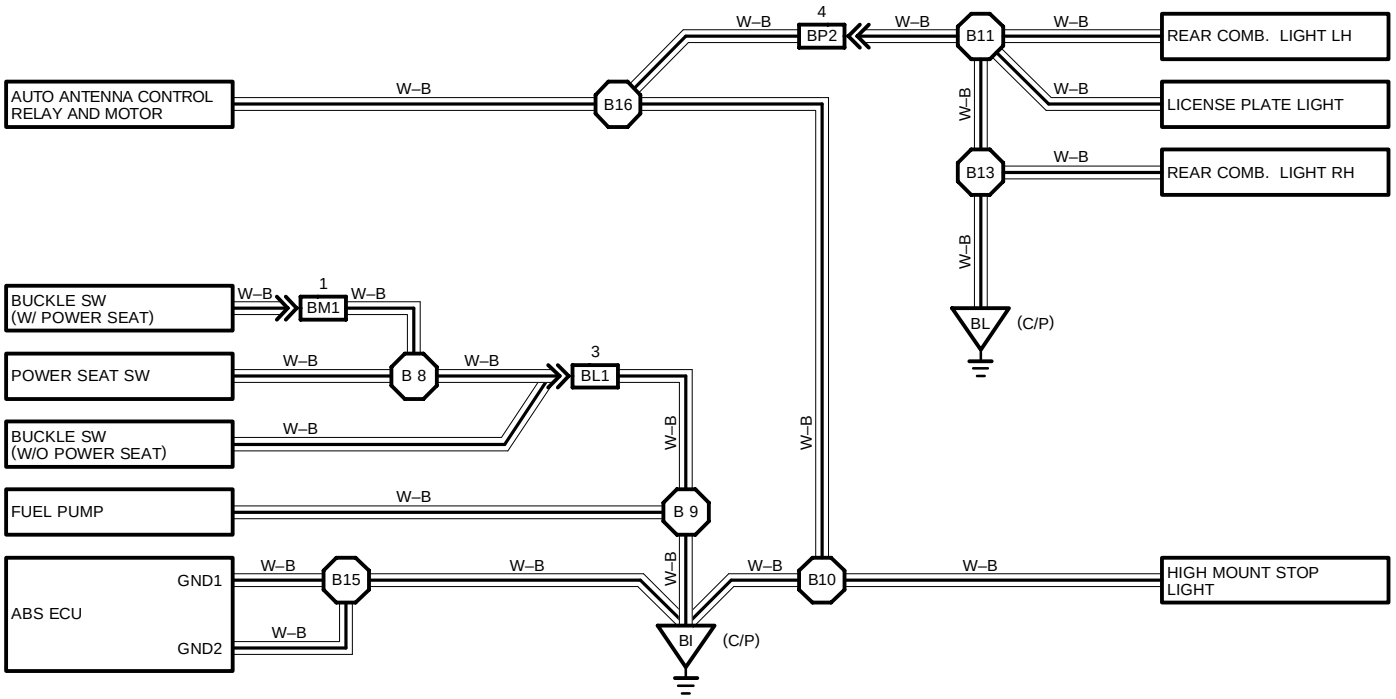


GROUND POINT



*1 : EX. AUTO A/C
*2 : AUTO A/C
*3 : PUSH TYPE OF BLOWER CONTROL SW
*4 : DIAL TYPE OF BLOWER CONTROL SW
*5 : ALL–TRAC/4WD
*6 : 2WD





GROUND POINT

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
J 6	33				

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
2	26	R/B NO. 2 (LEFT KICK PANEL)
4	27	R/B NO. 4 (RIGHT KICK PANEL)
5	27	R/B NO. 5 (ENGINE COMPARTMENT FRONT RIGHT)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
2A	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2C	22 (2WD)	ENGINE WIRE AND J/B NO. 2 (NEAR THE BATTERY)
3A	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)
3B		
3C		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IC1	42	FRONT DOOR LH WIRE AND COWL WIRE (LEFT KICK PANEL)
IF1	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
IG1	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE CONTROL MODULE (ENGINE ECU))
IG2		
II1	44	COWL WIRE AND CONSOLE BOX WIRE (INSTRUMENT PANEL CENTER)
II3	44	COWL WIRE AND CONSOLE BOX WIRE (RIGHT KICK PANEL OF ALL–TRAC/4WD)
	44	COWL WIRE AND CONSOLE BOX WIRE (RIGHT KICK PANEL OF 2WD)
IJ1	44	COWL WIRE AND A/C NO. 1 WIRE (BEHIND THE GLOVE BOX)
IJ2		
IK1	44	FRONT DOOR RH WIRE AND COWL WIRE (RIGHT KICK PANEL)
IQ2	44	COWL WIRE AND A/C NO. 2 WIRE (BESIDE HEATER UNIT)
BL1	46 (L/B)	FLOOR WIRE AND FRAME WIRE (LEFT SIDE OF FRONT FLOOR PANEL)
	48 (C/P)	
BM1	46 (L/B)	FRAME WIRE AND SEAT WIRE (UNDER THE DRIVER'S SEAT)
	48 (C/P)	
BN1	46 (L/B)	BACK DOOR NO. 1 WIRE AND FLOOR WIRE (LEFT SIDE OF PACKAGE TRAY TRIM)
BO1	46 (L/B)	BACK DOOR NO. 1 WIRE AND BACK DOOR NO. 1 SUB WIRE (BACK DOOR UPPER LEFT)
BP1	46 (L/B)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LEFT QUARTER PANEL CENTER)
BP2	48 (C/P)	

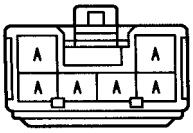
: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
EA	36 (3S–GTE)	FRONT RIGHT FENDER
	38 (5S–FE)	
	40 (4A–FE)	
EB	36 (3S–GTE)	FRONT LEFT FENDER
	38 (5S–FE)	
	40 (4A–FE)	
EC	36 (3S–GTE)	INTAKE MANIFOLD
	38 (5S–FE)	
	40 (4A–FE)	
ID	42	LEFT KICK PANEL
IE	42	INSTRUMENT PANEL BRACE LH
IF	42	INSTRUMENT PANEL BRACE RH
IG	42	R/B NO. 4 SET BOLT
BH	46 (L/B)	ROOF LEFT
	48 (C/P)	
BI	46 (L/B)	UNDER THE LEFT CENTER PILLAR
	48 (C/P)	
BJ	48 (C/P)	RIGHT REAR PILLAR (C/P)
BK	46 (L/B)	BACK DOOR RIGHT (L/B)
BL	46 (L/B)	BACK PANEL CENTER
	48 (C/P)	
BM	48 (C/P)	LEFT REAR PILLAR (C/P)

: SPLICE POINTS

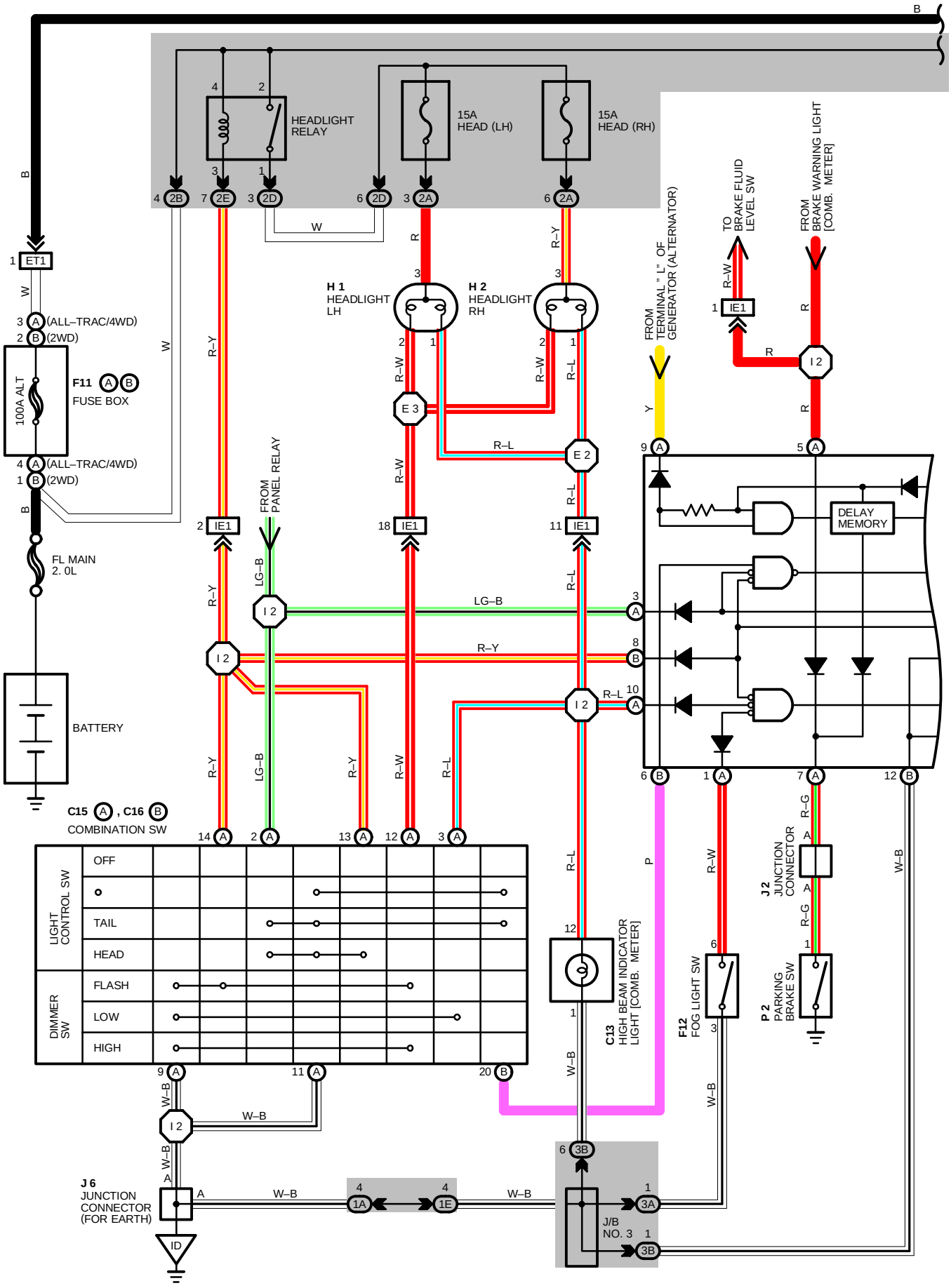
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 1	36 (3S–GTE)	ENGINE ROOM MAIN WIRE	I 8	44	COWL WIRE
	38 (5S–FE)		I 9		
	40 (4A–FE)		I11	44	A/C NO. 2 WIRE
E 2	36 (4A–FE)		I12	44	A/C NO. 1 WIRE
	38 (5S–FE)		B 2	46 (L/B)	FRONT DOOR LH WIRE
	40 (4A–FE)			48 (C/P)	
E 3	36 (3S–GTE)		B 3	46 (L/B)	FRONT DOOR RH WIRE
	38 (5S–FE)			48 (C/P)	
	40 (4A–FE)		B 4	46 (L/B)	
E 4	36 (3S–GTE)			48 (C/P)	
	38 (5S–FE)		B 5	46 (L/B)	ROOF WIRE
	40 (4A–FE)			48 (C/P)	
E 5	36 (3S–GTE)	ENGINE WIRE	B 6	46 (L/B)	
	38 (5S–FE)			48 (C/P)	
	40 (4A–FE)		B 8	46 (L/B)	FRAME WIRE
E 7	36 (3S–GTE)			48 (C/P)	
	38 (5S–FE)		B 9	46 (L/B)	FLOOR WIRE
	40 (4A–FE)			48 (C/P)	
E 9	36 (3S–GTE)		B10	46 (L/B)	
	38 (5S–FE)			48 (C/P)	
	40 (4A–FE)		B11	46 (L/B)	LUGGAGE ROOM WIRE
I 1	44	COWL WIRE		48 (C/P)	
I 2			B13	46 (L/B)	
I 3				48 (C/P)	FLOOR WIRE
I 4			B15	46 (L/B)	
I 5			B16	46 (L/B)	
I 6				48 (C/P)	
I 7	44	ENGINE WIRE			

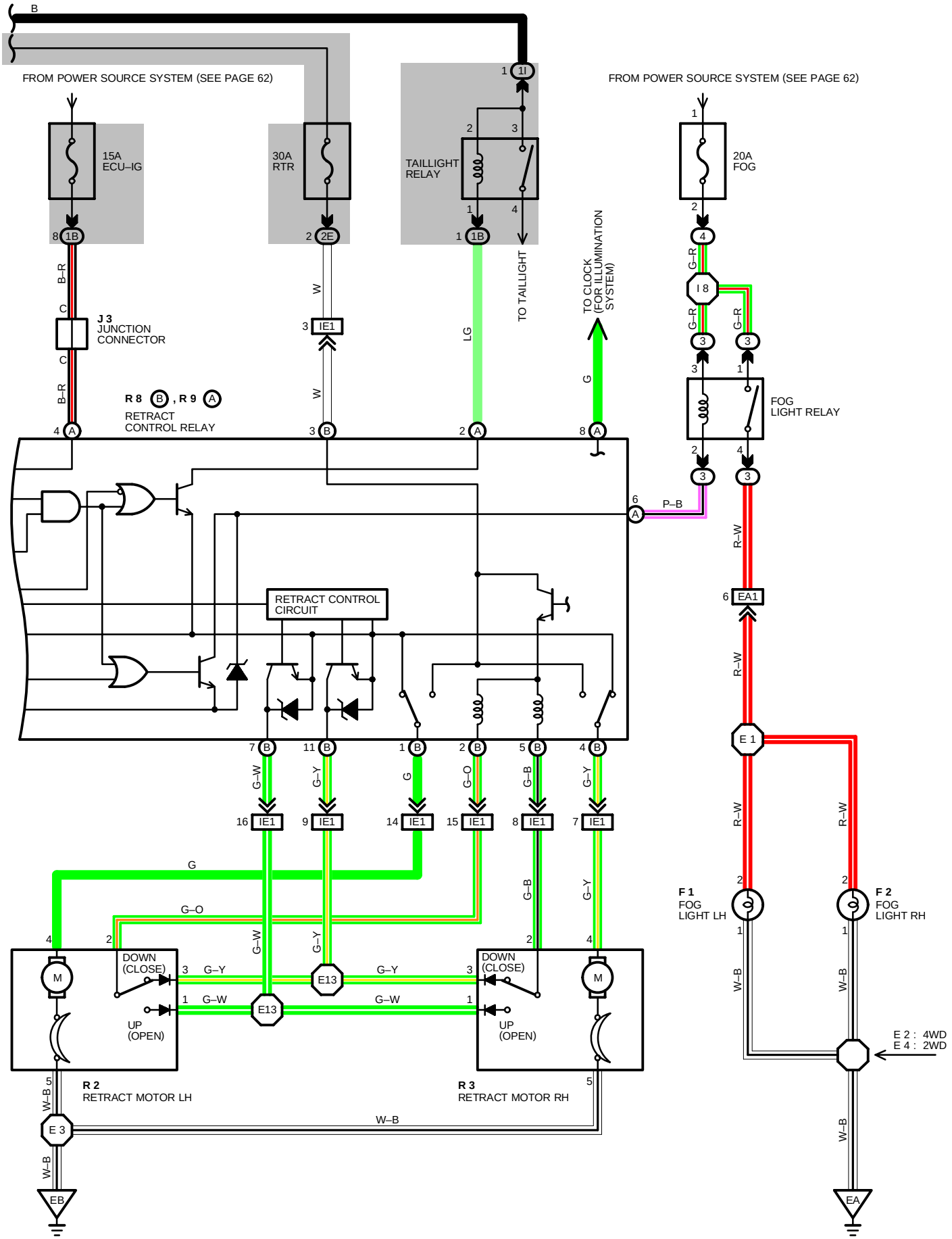
J 6



(HINT:SEE PAGE 7)

HEADLIGHT AND FOG LIGHT (FOR CANADA)




B
FROM POWER SOURCE SYSTEM (SEE PAGE 62)
FROM POWER SOURCE SYSTEM (SEE PAGE 62)
15A
ECU–IG
30A
RTR
TAILLIGHT
RELAY
20A
FOG
TO TAILLIGHT
TO CLOCK
(FOR ILLUMINATION
SYSTEM)
J 3
JUNCTION
CONNECTOR
R 8 B , R 9 A
RETRACT
CONTROL RELAY
FOG
LIGHT RELAY
RETRACT CONTROL
CIRCUIT
P–B
R–W
B–R
W
LG
G
G–R
G–W
G–Y
G–O
G–B
W–B
DOWN
(CLOSE)
UP
(OPEN)
R 2
RETRACT MOTOR LH
R 3
RETRACT MOTOR RH
F 1
FOG
LIGHT LH
F 2
FOG
LIGHT RH
E 2 : 4WD
E 4 : 2WD
1I
1B
2E
IE1
EA1
E 1
E13
E 3
EB
EA
M

HEADLIGHT AND FOG LIGHT (FOR CANADA)

SYSTEM OUTLINE

CURRENT FROM THE BATTERY FLOWS CONTINUOUSLY FROM FL MAIN 2.0L → ALT FUSE → TAILLIGHT RELAY (COIL SIDE) → **TERMINAL (A) 2** OF RETRACT CONTROL RELAY, AND FL MAIN 2.0L → HEADLIGHT RELAY (COIL SIDE) → **TERMINAL (B) 8** OF RETRACT CONTROL RELAY.

WHEN THE IGNITION SW IS TURNED ON, THE CURRENT FLOWING THROUGH THE ECU–IG FUSE FLOWS TO **TERMINAL (A) 4** OF THE RETRACT CONTROL RELAY.

DAYTIME RUNNING LIGHT OPERATION

WHEN THE ENGINE IS STARTED, VOLTAGE IS GENERATED AT **TERMINAL L** OF THE GENERATOR (ALTERNATOR) AND VOLTAGE IS APPLIED TO **TERMINAL (A) 9** OF THE RETRACT CONTROL RELAY.

IF THE PARKING BRAKE LEVER IS PULLED UP (PARKING BRAKE SW ON) AT THIS TIME, THE RELAY IS NOT ENERGIZED, SO THE DAYTIME RUNNING LIGHTS SYSTEM DOSE NOT OPERATE.

IF THE PARKING BRAKE LEVER IS THEN RELEASED (PARKING BRAKE SW OFF), THE SIGNAL IS INPUT TO **TERMINAL (A) 7** OF THE RELAY.

THIS ACTIVATES THE RELAY AND CURRENT FROM ALT FUSE FLOWS TO TAILLIGHT RELAY (POINT SIDE) → TAIL FUSE → TAIL, LICENSE AND FRONT CLEARANCE (SIDEMARKER) LIGHTS → **GROUND**.

ALSO, CURRENT FROM ALT FUSE FLOWS TO FOG FUSE → FOG LIGHT RELAY (POINT SIDE) → FOG LIGHTS → **GROUND**, SO BOTH TAIL AND FOG LIGHTS LIGHT UP. THIS IS HOW THE DAYTIME RUNNING LIGHT SYSTEM OPERATES AND TAIL, FOG LIGHT HAVE LIGHTED UP. THE TAIL AND FOG LIGHT REMAIN ON EVEN IF THE PARKING BRAKE LEVER IS PULLED UP (PARKING BRAKE SW ON).

EVEN IF THE ENGINE STALLS WITH THE IGNITION SW ON AND THERE IS NO VOLTAGE FROM **TERMINAL "L"** OF GENERATOR (ALTERNATOR), THE TAIL AND FOG LIGHTS REMAIN ON.

IF THE IGNITION SW IS THEN TURNED OFF, THE TAIL AND FOG LIGHTS ARE TURNED OFF.

IF THE ENGINE IS STARTED WHILE THE PARKING BRAKE IS RELEASED (PARKING BRAKE SW OFF), THE DAYTIME RUNNING LIGHT SYSTEM OPERATES AND THE TAIL AND FOG LIGHTS LIGHT UP AS THE ENGINE STARTS.

SERVICE HINTS

R 8(B), R 9(A) RETRACT CONTROL RELAY

(A) 2, **(B)** 3, **(B)** 8–GROUND : ALWAYS APPROX. **12** VOLTS
(A) 4–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
(B) 6–GROUND : NO CONTINUITY WITH LIGHT CONTROL SW AT **OFF** OR **HEAD** POSITION
CONTINUITY WITH LIGHT CONTROL SW AT **HOLD** OR **TAIL** POSITION
(A) 3–GROUND : NO CONTINUITY WITH LIGHT CONTROL SW AT **OFF** OR **HOLD** POSITION
CONTINUITY WITH LIGHT CONTROL SW AT **TAIL** OR **HEAD** POSITION
(B) 8–GROUND : NO CONTINUITY WITH LIGHT CONTROL SW AT **OFF, HOLD** OR **TAIL** POSITION
CONTINUITY WITH LIGHT CONTROL SW AT **HEAD** POSITION OR DIMMER SW AT **FLASH** POSITION
(B)12–GROUND : ALWAYS CONTINUITY
(A) 5–GROUND : CONTINUITY WITH PARKING BRAKE LEVER PULLED UP (PARKING BRAKE SW ON)
(B) 2, **(B)** 5–**(B)**11 : NO CONTINUITY WITH RETRACT MOTOR AT **LOWERMOST** POSITION
CONTINUITY WITH RETRACT MOTOR AT ANY POSITION EXCEPT **LOWERMOST** POSITION
(B) 2, **(B)** 5–**(B)** 7 : NO CONTINUITY WITH RETRACT MOTOR AT **UPPERMOST** POSITION
CONTINUITY WITH RETRACT MOTOR AT ANY POSITION EXCEPT **UPPERMOST** POSITION

R 2, R 3 RETRACT MOTOR

2–3 : OPEN WITH RETRACT MOTOR AT **LOWERMOST** POSITION
2–1 : OPEN WITH RETRACT MOTOR AT **UPPERMOST** POSITION

C15 (A) DIMMER SW [COMB. SW]

9–12 : CLOSED WITH DIMMER SW AT **HIGH** OR **FLASH** POSITION

FOG LIGHT RELAY

1–4 : CLOSED WITH LIGHT CONTROL SW AT **HEAD** POSITION, DIMMER SW AT **LOW** POSITION AND FOG LIGHT SW ON
CLOSED WITH ENGINE RUNNING AND PARKING BRAKE LEVER RELEASED

○ : PARTS LOCATION

CODE		SEE PAGE	CODE		SEE PAGE	CODE		SEE PAGE
C13		32	**F11**	B	30 (5S–FE), 31 (4A–FE)	**J 6**		33
C15	A	32	**F12**		33	**P 2**		33
C16	B	32	**H 1**		29 (3S–GTE), 30 (5S–FE)	**R 2**		29 (3S–GTE), 30 (5S–FE)
F 1		28 (3S–GTE), 30 (5S–FE)			31 (4A–FE)			31 (4A–FE)
		31 (4A–FE)	**H 2**		29 (3S–GTE), 30 (5S–FE)	**R 3**		29 (3S–GTE), 30 (5S–FE)
F 2		28 (3S–GTE), 30 (5S–FE)			31 (4A–FE)			31 (4A–FE)
		31 (4A–FE)	**J 2**		33	**R 8**	B	33
F11	A	28 (3S–GTE)	**J 3**		33	**R 9**	A	33

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
3	26	R/B NO. 3 (RIGHT KICK PANEL)
4	27	R/B NO. 4 (RIGHT KICK PANEL)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1B		
1E		
1I	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2A	22 (2WD) 23 (ALL–TRAC/4WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2B	22 (2WD) 23 (ALL–TRAC/4WD)	ENGINE WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2D	22 (2WD) 23 (ALL–TRAC/4WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2E	22 (2WD) 23 (ALL–TRAC/4WD)	
3A	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)
3B		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EA1	36 (3S–GTE) 38 (5S–FE) 40 (4A–FE)	COWL WIRE AND ENGINE ROOM MAIN WIRE (FRONT SIDE OF RIGHT FRONT FENDER)
ET1	36 (3S–GTE) 38 (5S–FE) 40 (4A–FE)	ENGINE ROOM MAIN WIRE AND ENGINE WIRE (NEAR THE J/B NO. 2)
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)

: GROUND POINTS

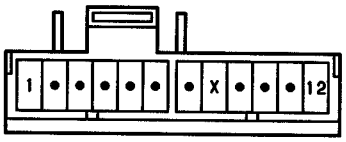
CODE	SEE PAGE	GROUND POINTS LOCATION
EA	36 (3S–GTE) 38 (5S–FE) 40 (4A–FE)	FRONT RIGHT FENDER
EB	36 (3S–GTE) 38 (5S–FE) 40 (4A–FE)	FRONT LEFT FENDER
ID	42	LEFT KICK PANEL

: SPLICE POINTS

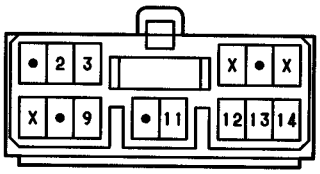
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 1	36 (3S–GTE) 38 (5S–FE) 40 (4A–FE)	ENGINE ROOM MAIN WIRE	**E 4**	38 (5S–FE) 40 (4A–FE)	ENGINE ROOM MAIN WIRE
E 2	36 (3S–GTE)		**E13**	36 (3S–GTE) 38 (5S–FE) 40 (4A–FE)	
E 3	36 (3S–GTE) 38 (5S–FE) 40 (4A–FE)		**I 2** **I 8**	44	COWL WIRE

HEADLIGHT AND FOGLIGHT (FOR CANADA)

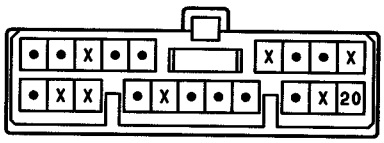
C13



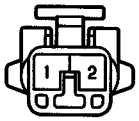
C15 (A) BLACK



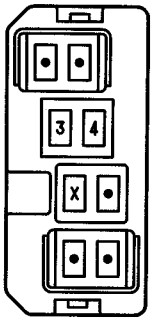
C16 (B) BLACK



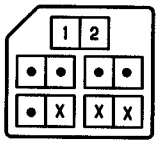
F 1, F 2



(ALL-TRAC/4WD) F11 (A) BLACK

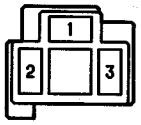


(2WD) F11 (B) BLACK

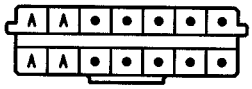


F12 BLACK

H 1, H 2 BROWN

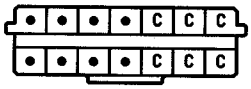


J 2



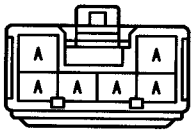
(HINT:SEE PAGE 7)

J 3



(HINT:SEE PAGE 7)

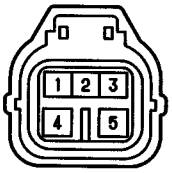
J 6



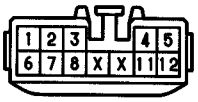
(HINT:SEE PAGE 7)

P 2 BLACK

R 2, R 3 BLACK



R 8 (B)



R 9 (A)

SERVICE HINTS

HEADLIGHT RELAY

1–2 : CLOSED WITH LIGHT CONTROL SW AT **HEAD** POSITION OR DIMMER SW AT **FLASH** POSITION

: PARTS LOCATION

CODE		SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
C13		32	**H 1**	28 (3S–GTE), 30 (5S–FE)	**R 2**	28 (3S–GTE), 30 (5S–FE)
C15	A	32		31 (4A–FE)		31 (4A–FE)
C16	B	32	**H 2**	28 (3S–GTE), 30 (5S–FE)	**R 3**	28 (3S–GTE), 30 (5S–FE)
F11	A	28 (3S GTE)		31 (4A–FE)		31 (4A–FE)
	B	30 (5S–FE), 31 (4A–FE)	**J 6**	33	**R 8**	33

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
2A	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	
2B	22 (2WD)	ENGINE WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	
2D	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	
2E	22 (2WD)	
	23 (ALL–TRAC/4WD)	
3B	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)

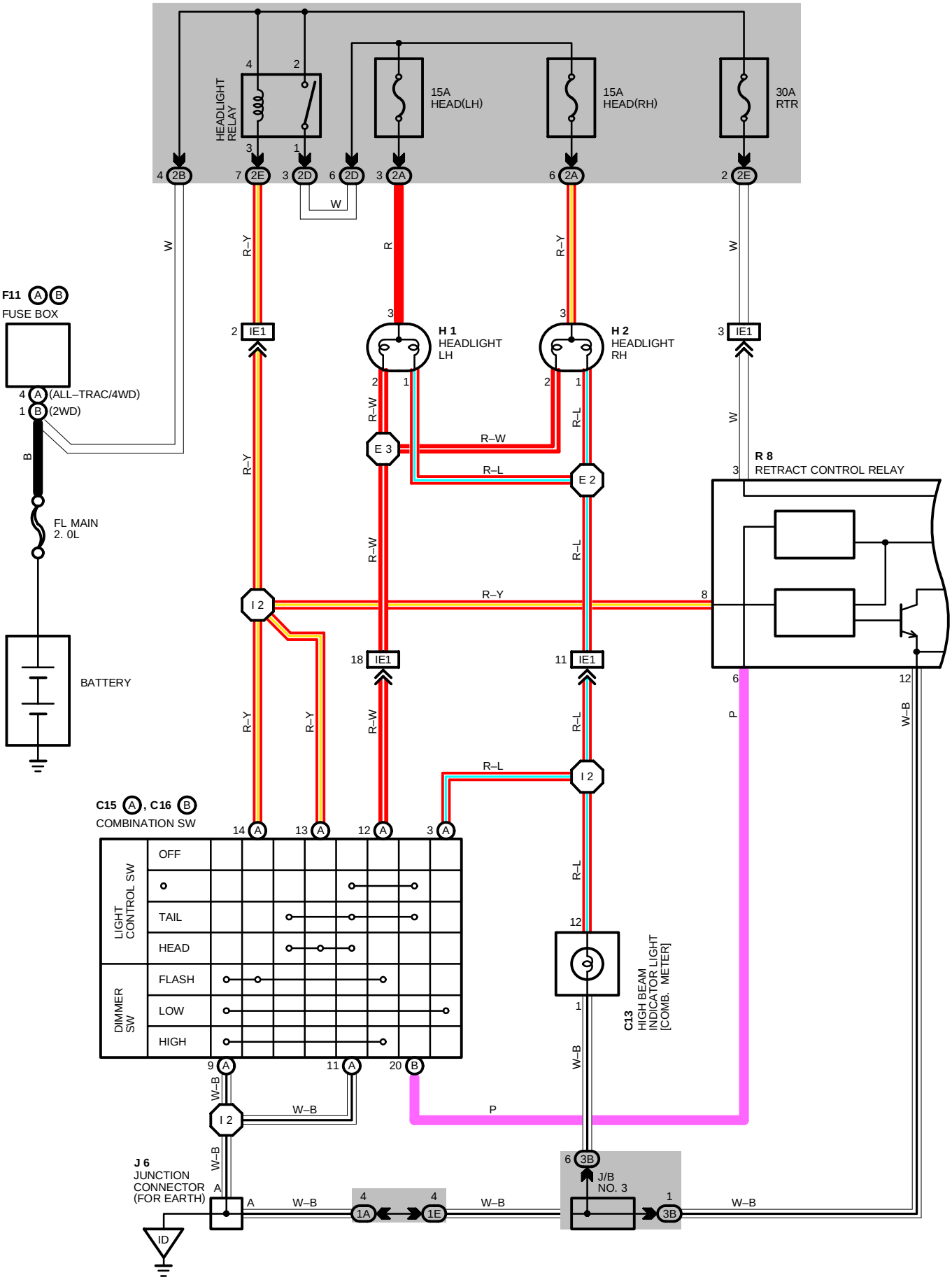
: GROUND POINTS

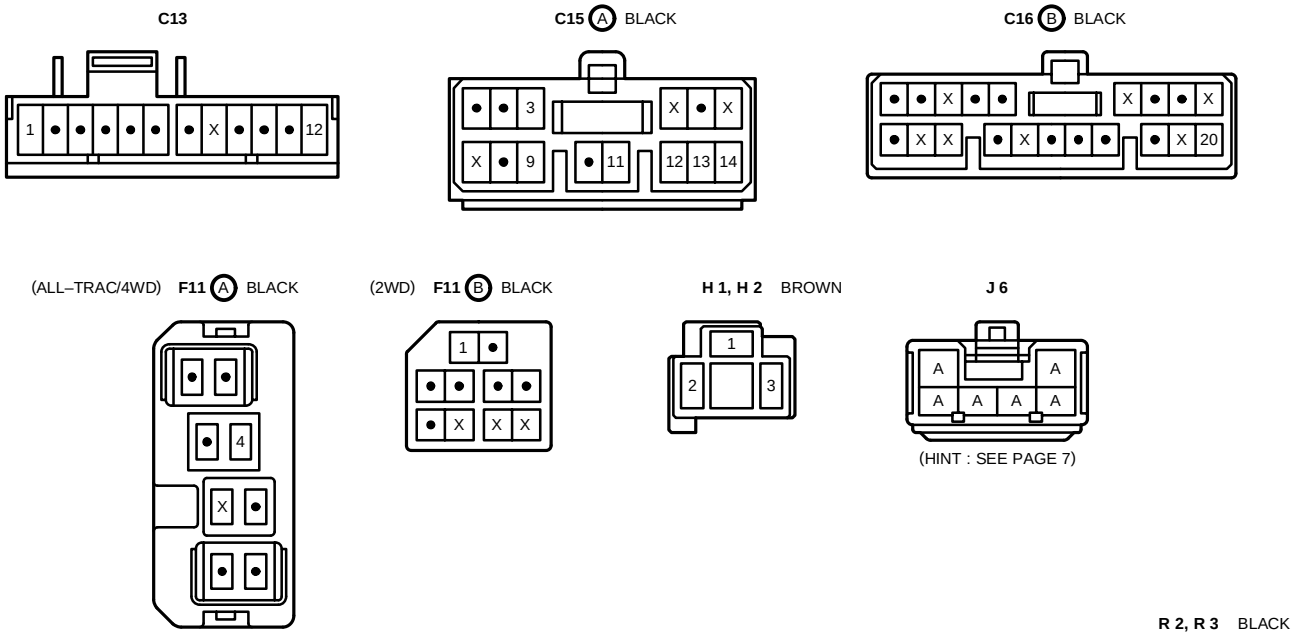
CODE	SEE PAGE	GROUND POINTS LOCATION
EB	36 (3S–GTE)	FRONT LEFT FENDER
	38 (5S–FE)	
	40 (4A–FE)	
ID	42	LEFT KICK PANEL

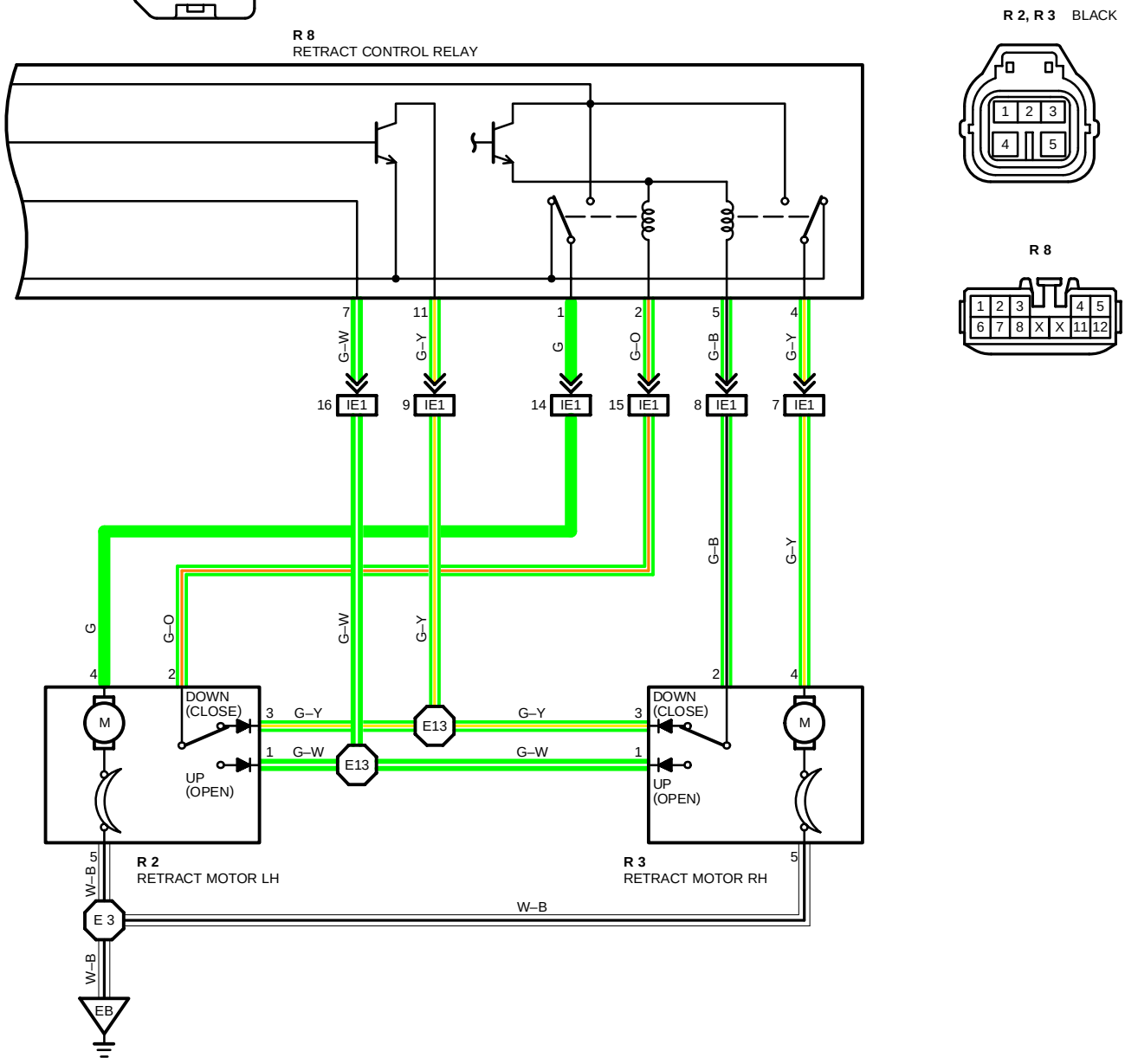
: SPLICE POINTS

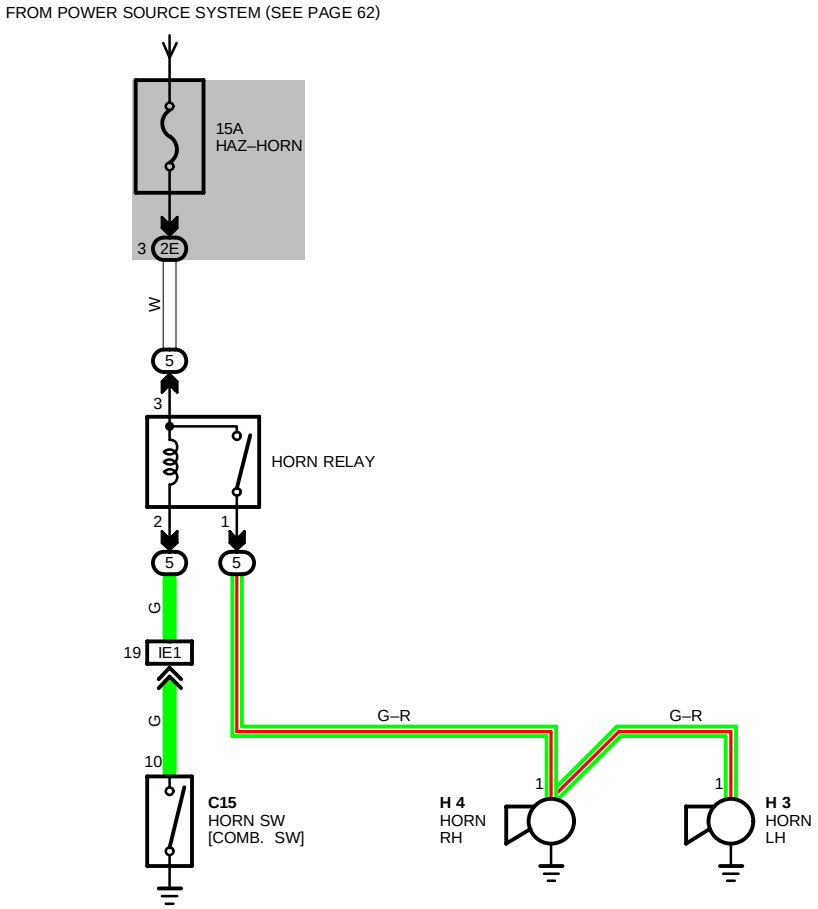
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 2	36 (3S–GTE)	ENGINE ROOM MAIN WIRE	**E 3**	40 (4A–FE)	ENGINE ROOM MAIN WIRE
	38 (5S–FE)		**E13**	36 (3S–GTE)	
	40 (4A–FE)			38 (5S–FE)	
E 3	36 (3S–GTE)			40 (4A–FE)	
	38 (5S–FE)		**I 2**	44	COWL WIRE

HEADLIGHT (FOR USA)




C13
1
X
12
C15 A BLACK
3
X
X
X
9
11
12
13
14
C16 B BLACK
X
X
X
X
X
X
X
20
(ALL–TRAC/4WD) F11 A BLACK
4
X
(2WD) F11 B BLACK
1
X
X
X
H 1, H 2 BROWN
1
2
3
J 6
A
A
A
A
A
A
(HINT : SEE PAGE 7)


R 8
RETRACT CONTROL RELAY
R 2, R 3 BLACK
1
2
3
4
5
R 8
1
2
3
4
5
6
7
8
X
X
11
12
7
11
1
2
5
4
G–W
G–Y
G
G–O
G–B
G–Y
16
IE1
9
IE1
14
IE1
15
IE1
8
IE1
7
IE1
G
G–O
G–W
G–Y
G–B
G–Y
4
2
2
4
M
DOWN
(CLOSE)
3
G–Y
E13
G–Y
3
DOWN
(CLOSE)
M
1
G–W
E13
G–W
1
UP
(OPEN)
UP
(OPEN)
5
5
W–B
R 2
RETRACT MOTOR LH
R 3
RETRACT MOTOR RH
E 3
W–B
W–B
EB



SERVICE HINTS

HORN RELAY

(5) 3– **(5)** 1 : CLOSED WITH HORN SW ON

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
C15	32	**H 3**	31 (4A–FE)	**H 4**	31 (4A–FE)
H 3	29 (3S–GTE), 30 (5S–FE)	**H 4**	29 (3S–GTE), 30 (5S–FE)		

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
5	27	R/B NO. 5 (ENGINE COMPARTMENT FRONT RIGHT)

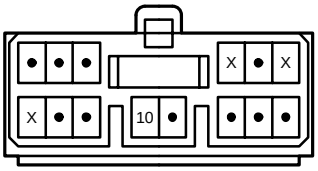
: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
2E	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO.2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	

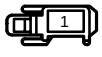
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)

C15 BLACK



H 3, H 4 BLACK



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

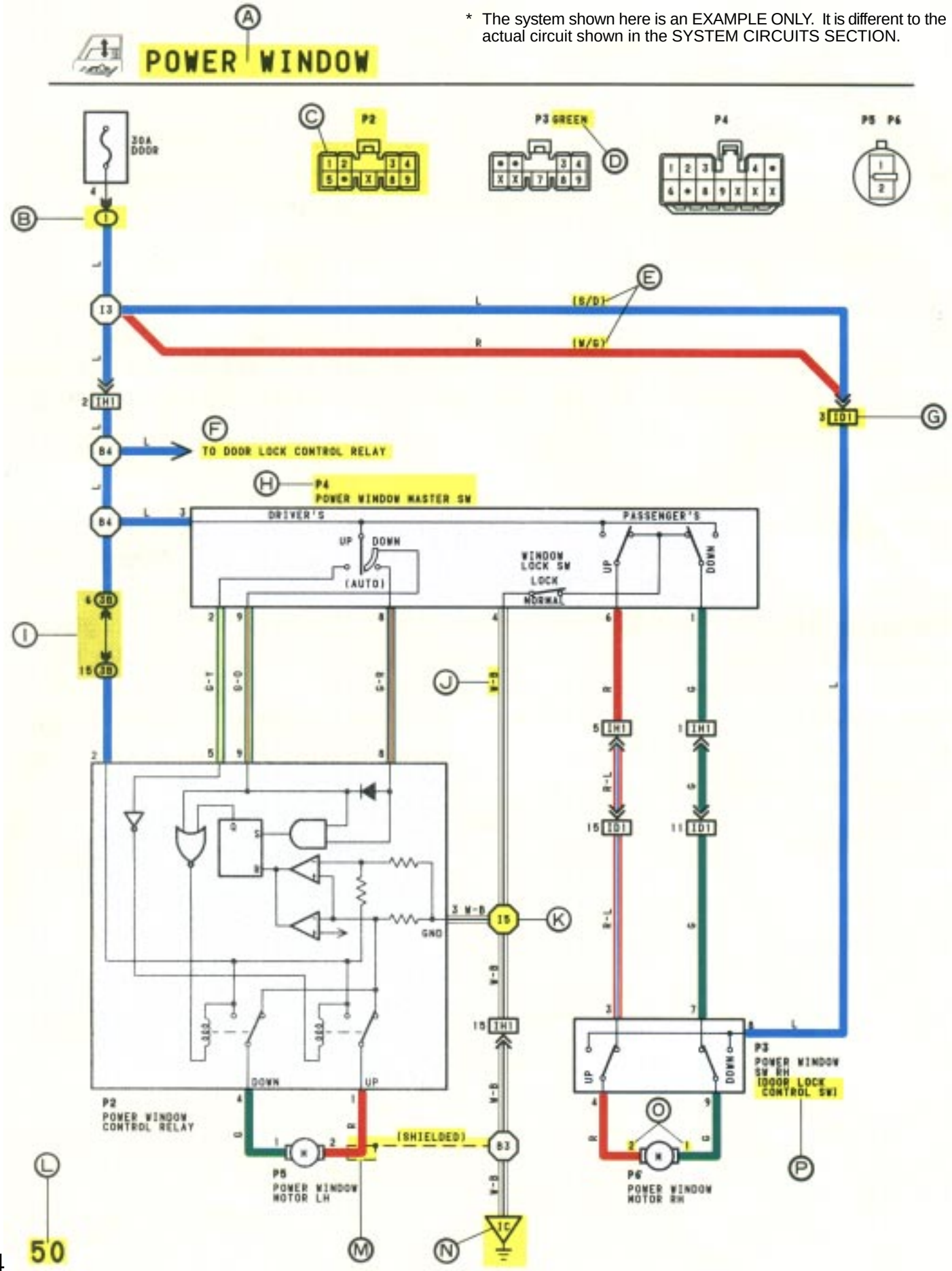
The actual wiring of each system circuit is shown from the point where the power source is received from the battery as far as each ground point. (All circuit diagrams are shown with the switches in the OFF position.)

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

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

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

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



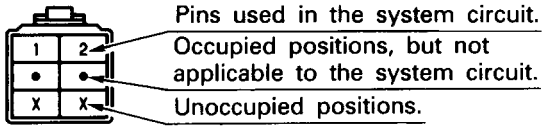
Ⓐ : System Title

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

Example: Indicates Relay Block No. 1.

Ⓒ : Indicates the connector to be connected to a part (the numeral indicates the pin No.)

Explanation of pin use.



The pins shown are only for the highest grade, or only include those in the specification.

Ⓓ : Connector Color

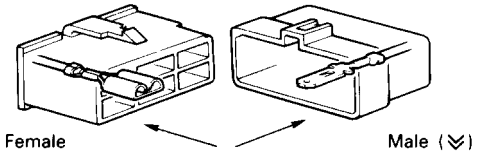
Connectors not indicated are milky white in color.

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

Ⓕ : Indicates related system.

Ⓖ : Indicates the wiring harness and wiring harness connector. The wiring harness with male terminal is shown with arrows (⩔).

Outside numerals are pin numbers.



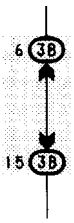
The first letter of the code for each wiring harness and wiring harness connector(s) indicates the component's location, e.g., "E" for the Engine Compartment, "I" for the Instrument Panel and Surrounding area, and "B" for the Body and Surrounding area.

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

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

Ⓘ : Junction Block (The number in the circle is the J/B No. and the connector code is shown beside it). Junction Blocks are shaded to clearly separate them from other parts (different junction blocks are shaded differently for further clarification).

Example:



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

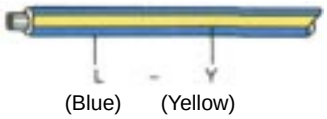
Ⓙ : Indicates the wiring color.

Wire colors are indicated by an alphabetical code.

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

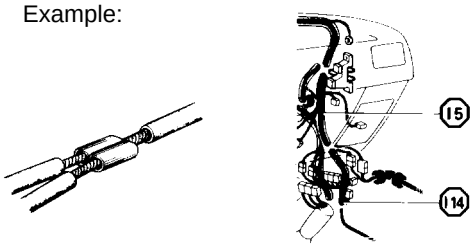
The first letter indicates the basic wire color and the second letter indicates the color of the stripe.

Example: L – Y



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

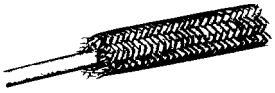
Example:



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

Ⓛ : Page No.

Ⓜ : Indicates a shielded cable.



Ⓝ : Indicates a ground point.

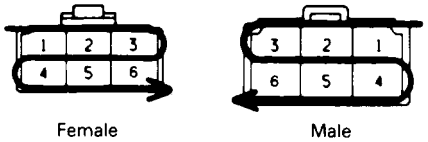
The first letter of the code for each ground point(s) indicates the component's location, e.g., "E" for the Engine Compartment, "I" for the Instrument Panel and Surrounding area, and "B" for the Body and Surrounding area.

Ⓞ : Indicates the pin number of the connector.

The numbering system is different for female and male connectors.

Example:

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



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

Q

SYSTEM OUTLINE

WITH THE IGNITION SW TURNED ON, THE CURRENT FLOWS TO TERMINAL 3 OF THE POWER WINDOW MASTER SW, TERMINAL 2 OF THE POWER WINDOW CONTROL RELAY AND TERMINAL 8 OF THE POWER WINDOW SW THROUGH THE DOOR FUSE.

1. DRIVER'S WINDOW "MANUAL UP" OPERATION BY MASTER SW

HOLDING MANUAL SW (DRIVER'S) ON "UP" POSITION LOCATED IN POWER WINDOW MASTER SW, THE CURRENT FLOWS TO TERMINAL 5 OF THE POWER WINDOW CONTROL RELAY THROUGH TERMINAL 3 OF THE MASTER SW → TERMINAL 2 TO OPERATE A POWER WINDOW CONTROL RELAY. THUS THE CURRENT INSIDE THE RELAY FLOWS FROM TERMINAL 2 OF THE RELAY → TERMINAL 1 → TERMINAL 2 OF THE POWER WINDOW MOTOR → TERMINAL 1 → TERMINAL 4 OF THE RELAY → TERMINAL 3 → TO GROUND. THE MOTOR TURNS TO ASCENT THE WINDOW. RELEASING THIS SW, THE ROTATION OF MOTOR IS STOPPED AND THE WINDOWS CAN STOP AT WILL POINT.

(FOR THE "MANUAL DOWN" OPERATION, CURRENT FLOWS IN THE REVERSE DIRECTION BECAUSE THE TERMINALS WHERE IT FLOWS ARE CHANGED).

2. DRIVER'S WINDOW "AUTO DOWN" OPERATION BY MASTER SW

ONCE THE "AUTO DOWN" BUTTON OF THE MASTER SW IS PUSHED, THE CURRENT FLOWS TERMINAL 9 OF THE POWER WINDOW CONTROL RELAY THROUGH TERMINAL 3 OF THE MASTER SW → TERMINALS 8 AND 9 TO OPERATE THE RELAY. THUS THE CURRENT INSIDE THE POWER WINDOW CONTROL RELAY FLOWS FROM TERMINAL 2 OF THE RELAY → TERMINAL 4 → TERMINAL 1 OF THE POWER WINDOW MOTOR → TERMINAL 2 → TERMINAL 1 OF THE RELAY → TERMINAL 3 → TO GROUND. THE MOTOR CONTINUES THE ROTATION ENABLING TO DESCENT THE WINDOW.

THE WINDOW DESCENDS TO THE END POSITION. THE CURRENT WILL BE CUT OFF TO RELEASE THE AUTO DOWN FUNCTION BASED ON THE INCREASING CURRENT BETWEEN TERMINAL 2 OF THE RELAY AND TERMINAL 1 IN RELAY.

3. DRIVER'S WINDOW AUTO DOWN RELEASE OPERATION BY MASTER SW

HOLDING THE MANUAL SW (DRIVER'S) ON "UP" POSITION IN OPERATING AUTO DOWN. THE CURRENT FROM TERMINAL 3 OF THE MASTER SW PASSING TERMINAL 2 FLOWS TERMINAL 5 OF THE RELAY AND RELEASES THE AUTO DOWN FUNCTION IN THE POWER WINDOW CONTROL RELAY. RELEASING THE HAND FROM SW, WINDOW STOPS AND CONTINUING ON TOUCHING SW, THE FUNCTION SWITCHES TO MANUAL UP OPERATION.

4. PASSENGER'S WINDOW UP OPERATION (MASTER SW) AND WINDOW LOCK SW OPERATION

HOLDING PASSENGER'S WINDOW SW (MASTER SW) ON "UP", THE CURRENT FLOWS FROM TERMINAL 3 OF THE MASTER SW PASSING TERMINAL 6 TO TERMINAL 3 OF THE POWER WINDOW SW (PASSENGER'S) → TERMINAL 4 → TERMINAL 2 OF THE MOTOR → TERMINAL 1 → TERMINAL 9 OF THE POWER WINDOW SW → TERMINAL 7 → TERMINAL 1 OF THE MASTER SW → TERMINAL 4 TO GROUND. THE MOTOR RUNS TO ASCENT THE WINDOW. RELEASING THIS SW, THE ROTATION OF MOTOR IS STOPPED AND WINDOW CAN STOP AT WILL PLACE.

SWITCHING THE WINDOW LOCK SW IN "LOCK" POSITION, THE CIRCUIT IS OPENED AND STOPPED THE MOTOR ROTATION.

(FOR THE DOWN OPERATION, CURRENT FLOWS IN THE REVERSE DIRECTION BECAUSE THE TERMINALS WHERE IT FLOWS ARE CHANGED).

R

SERVICE HINTS

P2 POWER WINDOW CONTROL RELAY

3–GROUND: ALWAYS CONTINUITY

2–GROUND: APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION

5–GROUND: APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION AND MASTER SW AT **UP** POSITION

8–GROUND: APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION AND MASTER SW AT **AUTO DOWN** POSITION

9–GROUND: APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION AND MASTER SW AT **DOWN** OR **AUTO DOWN** POSITION

P 4 POWER WINDOW MASTER SW

4–GROUND: ALWAYS CONTINUITY

3–GROUND: APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION

WINDOW LOCK SW

OPEN WITH WINDOW LOCK SW AT **LOCK** POSITION

S

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
P2	21	**P4**	21	**P6**	21
P3	21	**P5**	21		

T

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCK (RELAY BLOCK LOCATION)
1	16	R/B NO. 1 (INSTRUMENT PANEL LEFT SIDE)

U

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
3B	14	J/B NO. 3 AND COWL WIRE (INSTRUMENT PANEL LEFT SIDE)

V

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
ID1	26	FRONT DOOR RH WIRE AND COWL WIRE (RIGHT KICK PANEL)
IH1	26	FRONT DOOR LH WIRE AND COWL WIRE (LEFT KICK PANEL)

W

: GROUND POINTS

CODE	SEE PAGE	GROUND POINT LOCATION
IC	24	COWL LEFT

X

: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESSES WITH SPLICE POINTS
I5	24	COWL WIRE

Ⓠ : Explains the system outline.

Ⓡ : Indicates values or explains the function for reference during troubleshooting.

Ⓢ : Indicates the reference page showing the position on the vehicle of the parts in the system circuit.

Example: Part “P4” (Power Window Master SW) is on page 21 of the manual.

* The letter in the code is from the first letter of the part, and the number indicates its order in parts starting with that letter.

Example: P 4

Part is 4th in order

Power Window Master SW

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

Example: Connector “1” is described on page 16 of this manual and is installed on the left side of the instrument panel.

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

Example: Connector “3B” connects the Cowl Wire and J/B No. 3. It is described on page 14 of this manual, and is installed on the instrument panel left side.

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

Example: Connector “ID1” connects the front door RH wire (female) and cowl wire (male). It is described on page 26 of this manual, and is installed on the right side kick panel.

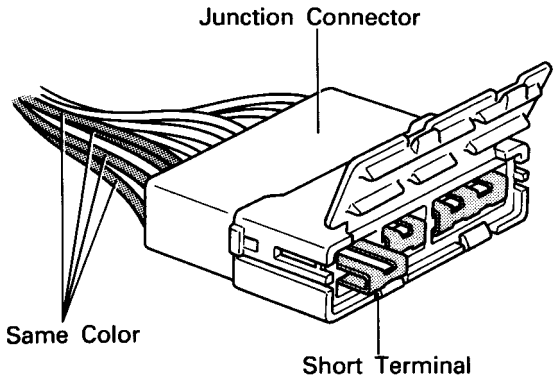
Ⓦ : Indicates the reference page showing the position of the ground points on the vehicle.

Example: Ground point “IC” is described on page 24 of this manual and is installed on the cowl left side.

Ⓧ : Indicates the reference page showing the position of the splice points on the vehicle.

Example: Splice point “I 5” is on the Cowl Wire Harness and is described on page 24 of this manual.

HINT:



Junction connector (code: J1, J2, J3, J4, J5, J6) in this manual include a short terminal which is connected to a number of wire harnesses. Always perform inspection with the short terminal installed. (When installing the wire harnesses, the harnesses can be connected to any position within the short terminal grouping. Accordingly, in other vehicles, the same position in the short terminal may be connected to a wire harness from a different part.)

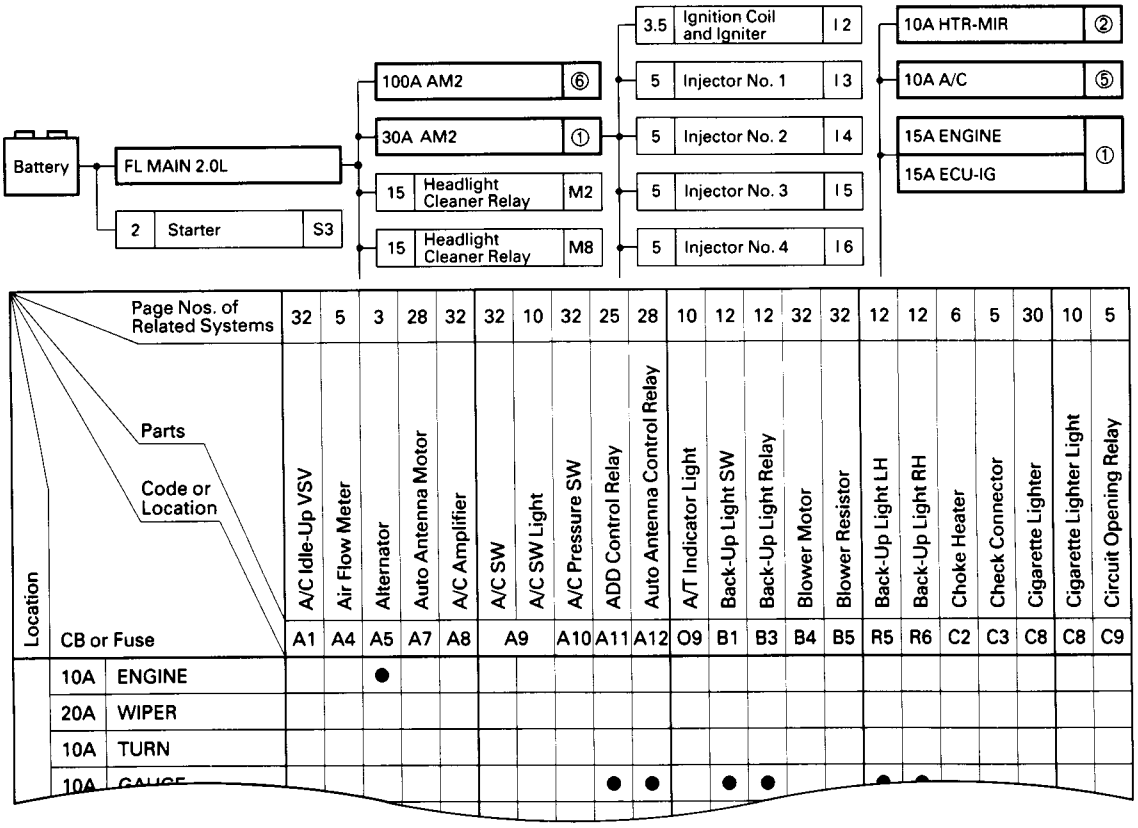
Wire harness sharing the same short terminal grouping have the same color.

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

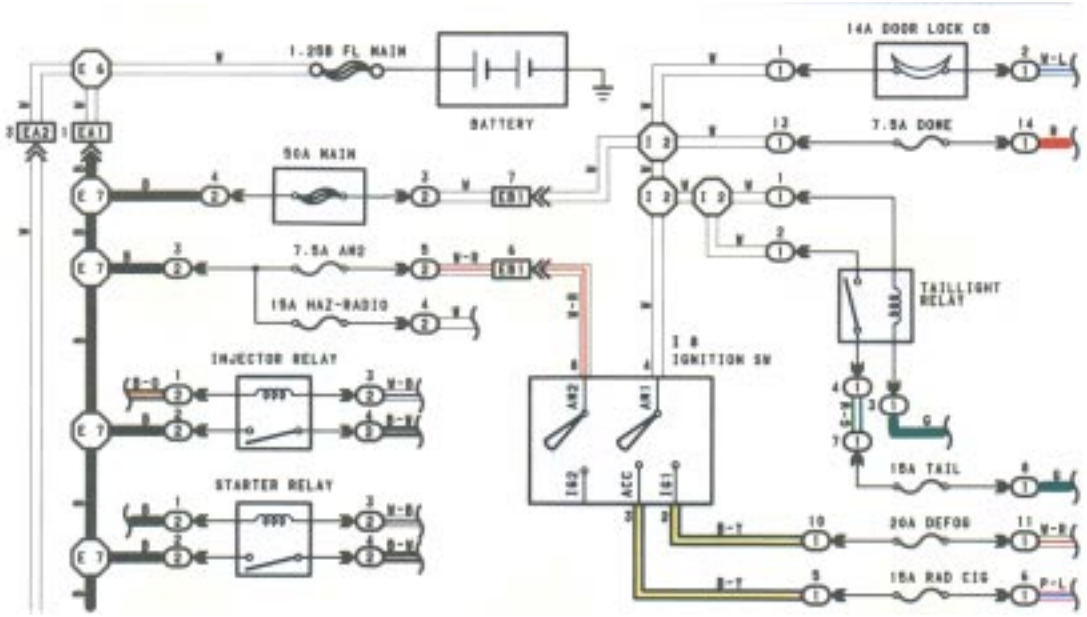
POWER SOURCE (Current Flow Chart)

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

The next page and following pages show the parts to which each electrical source outputs current.



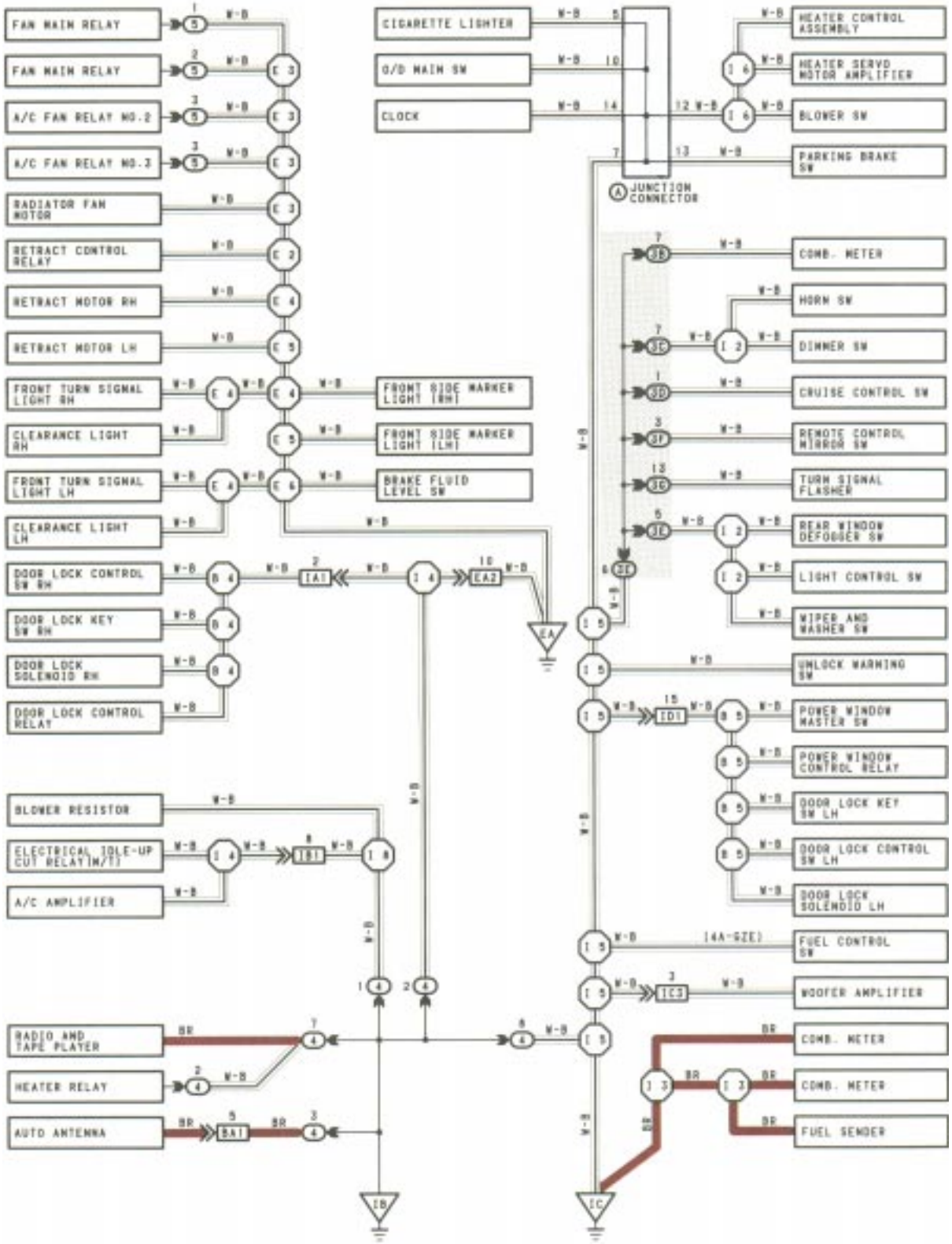
POWER SOURCE



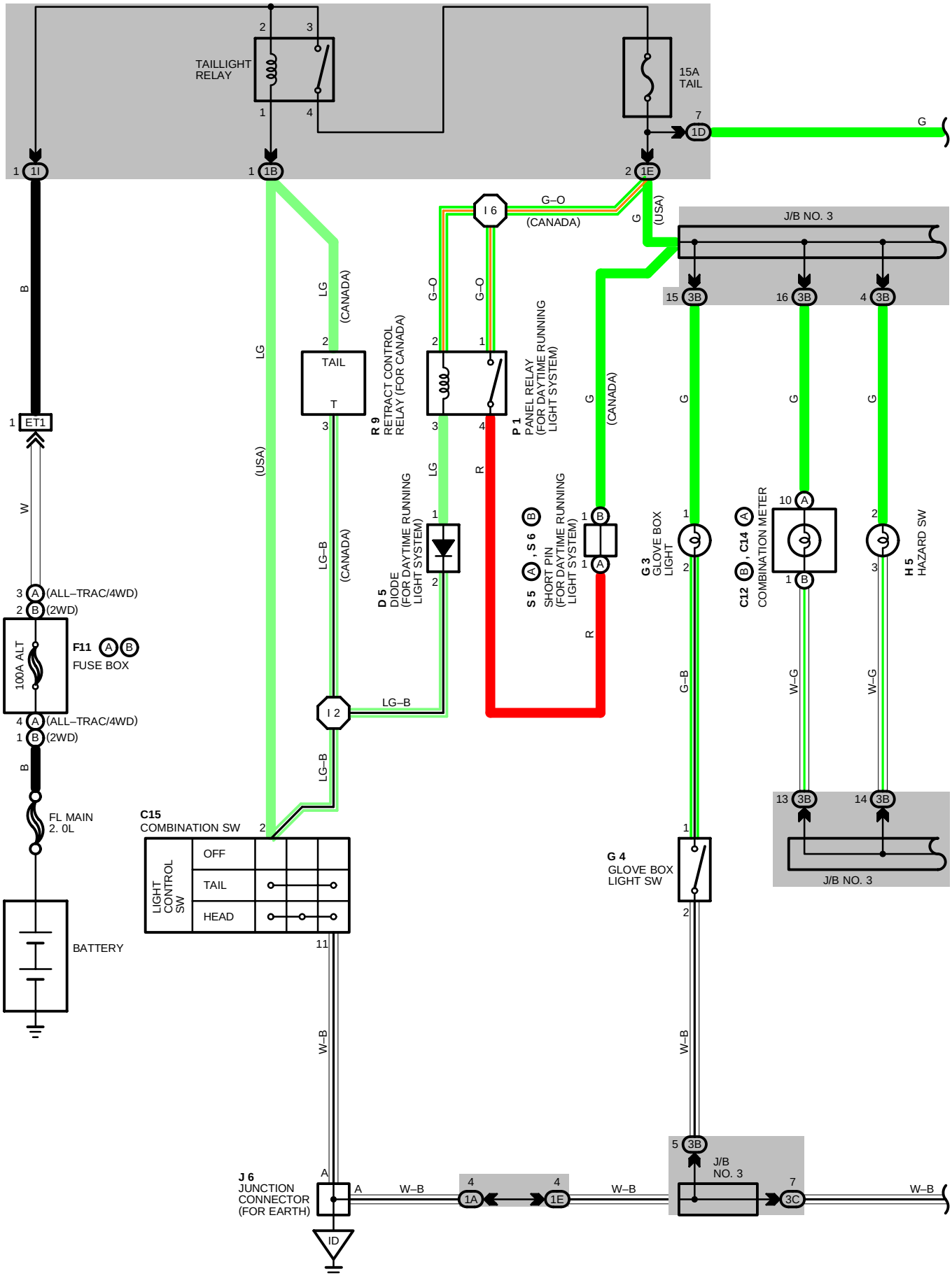
* The system shown here is an EXAMPLE ONLY. It is different to the actual circuit shown in the SYSTEM CIRCUITS SECTION.

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

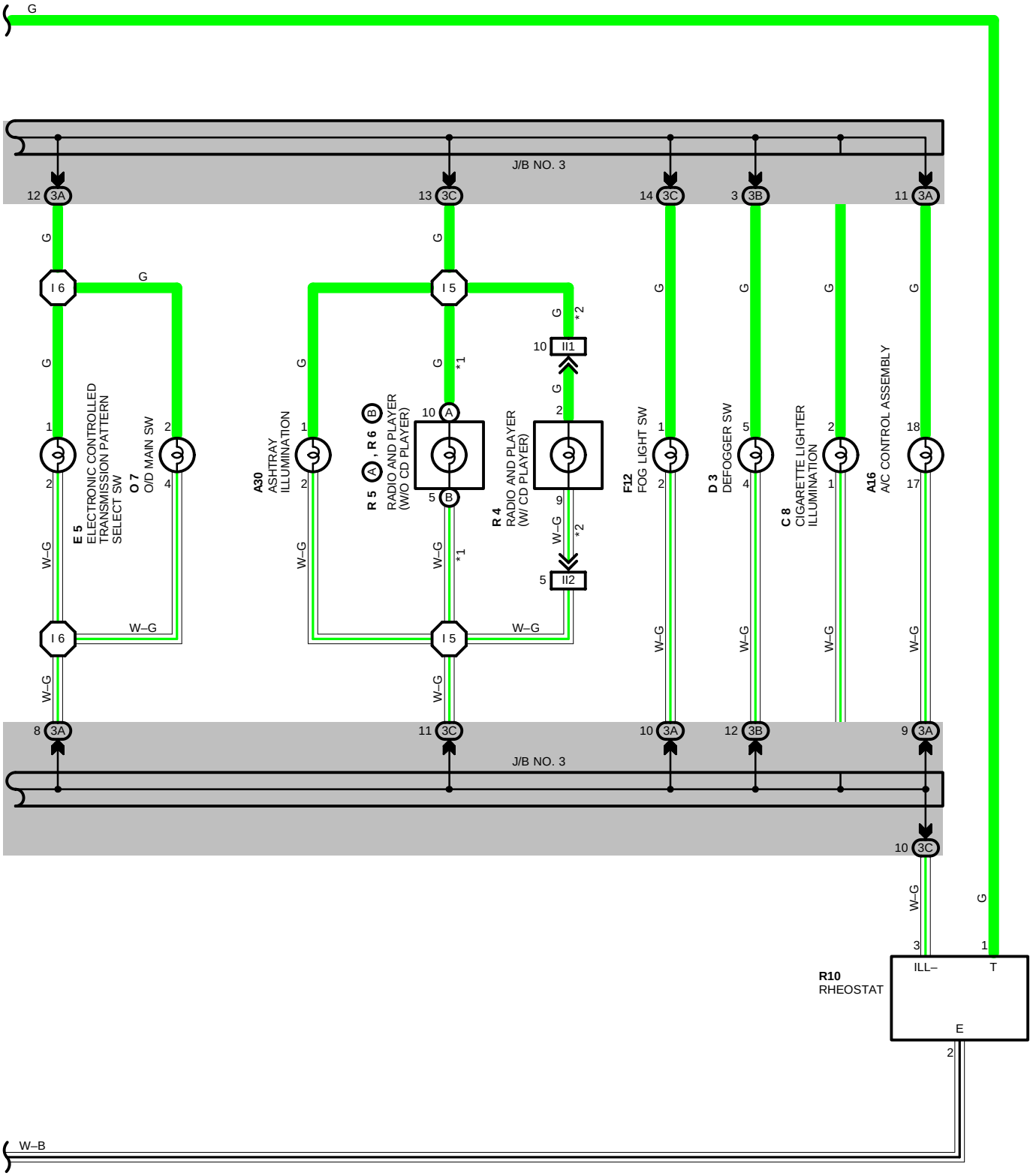
GROUND POINTS



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


TAILLIGHT RELAY
15A TAIL
1I
1B
1E
1D
G
B
ET1
W
(ALL–TRAC/4WD)
(2WD)
100A ALT
F11
FUSE BOX
FL MAIN 2. 0L
BATTERY
C15
COMBINATION SW
LIGHT CONTROL SW
OFF
TAIL
HEAD
I 6
G–O
(CANADA)
(USA)
LG
TAIL
R 9
RETRACT CONTROL RELAY (FOR CANADA)
P 1
PANEL RELAY (FOR DAYTIME RUNNING LIGHT SYSTEM)
D 5
DIODE (FOR DAYTIME RUNNING LIGHT SYSTEM)
S 5 , S 6
SHORT PIN (FOR DAYTIME RUNNING LIGHT SYSTEM)
I 2
LG–B
R
J/B NO. 3
G 3
GLOVE BOX LIGHT
G 4
GLOVE BOX LIGHT SW
C12 , C14
COMBINATION METER
H 5
HAZARD SW
W–G
G–B
W–B
J 6
JUNCTION CONNECTOR (FOR EARTH)
1A
3C
J/B NO. 3
ID

*1 : W/O CD PLAYER
*2 : W/ CD PLAYER



ILLUMINATION

SERVICE HINTS

TAILLIGHT RELAY

3–4 : CLOSED WITH LIGHT CONTROL SW AT **TAIL** OR **HEAD** POSITION (WHEN LIGHT AUTO TURN OFF SYSTEM IS OFF)
CLOSED WITH ENGINE RUNNING AND PARKING LEVER RELEASED (CANADA)

R10 RHEOSTAT

1–2 : APPROX. **12** VOLTS WITH RHEOSTAT FULLY TURNED COUNTERCLOCKWISE AND **0** VOLTS WITH FULLY TURNED CLOCKWISE

○ : PARTS LOCATION

CODE		SEE PAGE	CODE		SEE PAGE	CODE		SEE PAGE
A16		32	**F11**	A	28 (3S–GTE)	**R 4**		33
A30		32		B	30 (5S–FE), 31 (4A–FE)	**R 5**	A	33
C 8		32	**F12**		33	**R 6**	B	33
C12	B	32	**G 3**		33	**R 9**		33
C14	A	32	**G 4**		33	**R10**		33
C15		32	**H 5**		33	**S 5**	A	33
D 3		32	**J 6**		33	**S 6**	B	33
D 5		33	**O 7**		33			
E 5		33	**P 1**		33			

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1B		
1D		
1E		
1I	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
3A	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)
3B		
3C		

▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
ET1	36 (3S–GTE)	ENGINE ROOM MAIN WIRE AND ENGINE WIRE (NEAR THE J/B NO. 2)
	38 (5S–FE)	
	40 (4A–FE)	
II1	44	COWL WIRE AND CONSOLE BOX WIRE (INSTRUMENT PANEL CENTER)
II2		

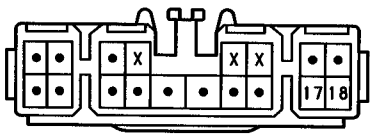
▽ : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL

⬡ : SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 2	44	COWL WIRE	**I 6**	44	COWL WIRE
I 5					

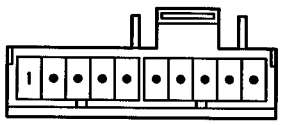
A16



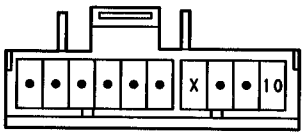
A30

C 8 GRAY

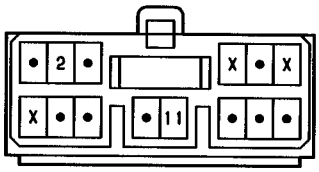
C12 (B) BROWN



C14 (A) GRAY



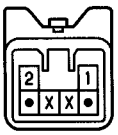
C15 BLACK



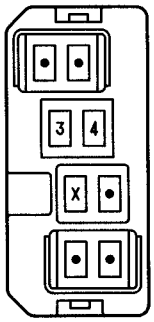
D 3 BLACK

D 5

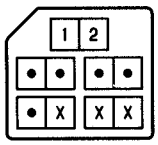
E 5



(ALL-TRAC/4WD) F11 (A) BLACK



(2WD) F11 (B) BLACK

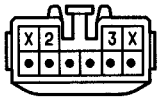


F12 BLACK

G 3 GRAY

G 4

H 5 BLACK

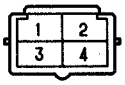


J 6

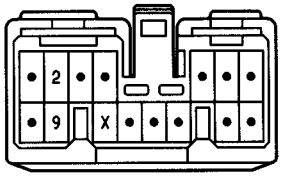
(HINT:SEE PAGE 7)

O 7

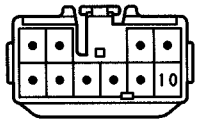
P 1



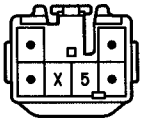
R 4



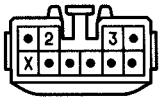
R 5 (A)



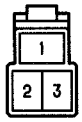
R 6 (B)



R 9



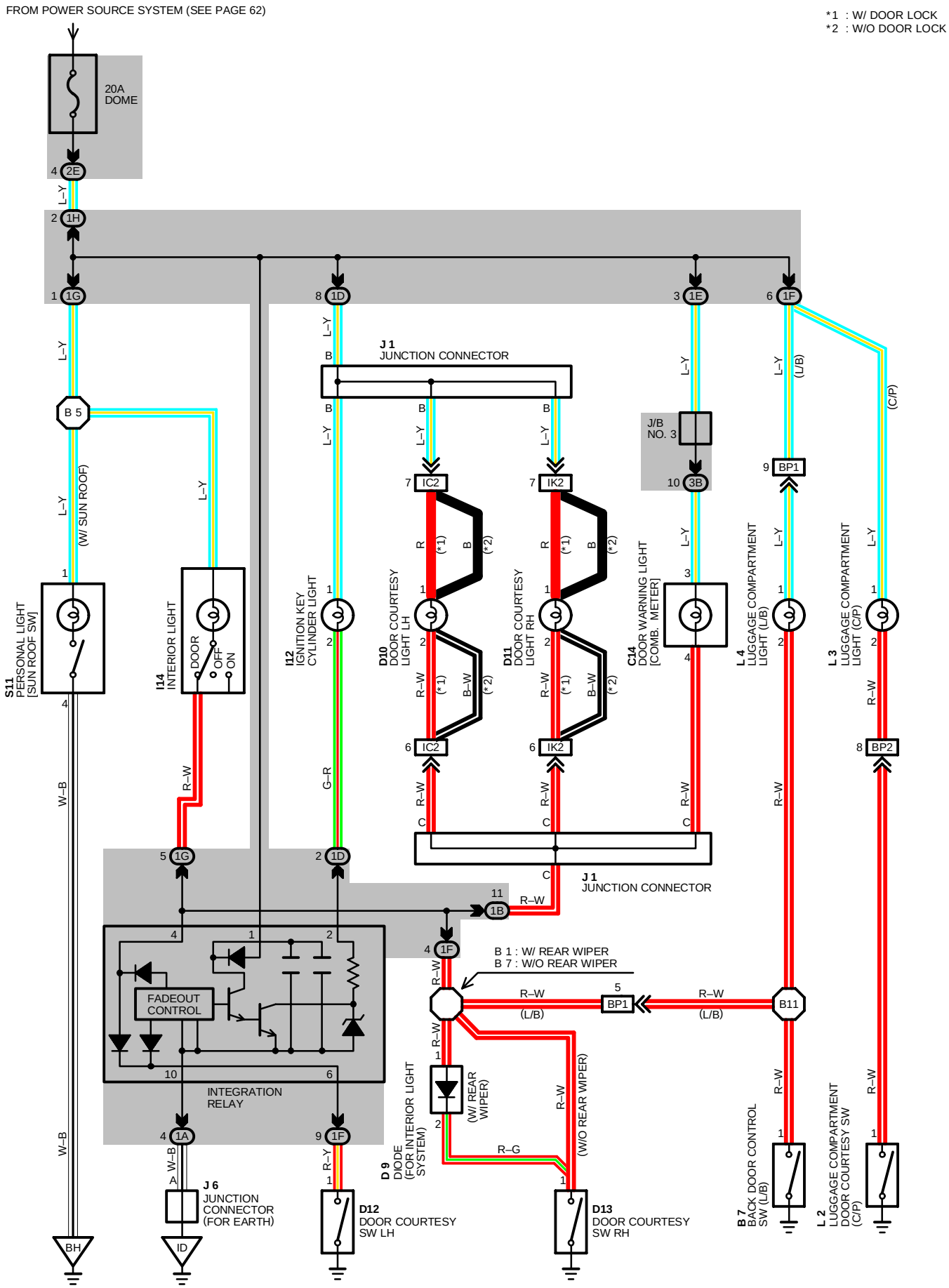
R10



S 5 (A) GRAY

S 6 (B) GRAY

INTERIOR LIGHT



SERVICE HINTS

INTEGRATION RELAY
(18) 11–GROUND : APPROX. **12** VOLTS WITH DOOR CLOSED
0 VOLTS WITH EACH DOOR OPEN

D12, D13 DOOR COURTESY SW
1–GROUND : CLOSED WITH DOOR OPEN

L 2 LUGGAGE COMPARTMENT LIGHT SW
1–GROUND : CLOSED WITH LUGGAGE COMPARTMENT DOOR OPEN

B 7 BACK DOOR COURTESY SW
1–GROUND : CLOSED WITH BACK DOOR OPEN

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
B 7	34 (L/B)	**D12**	34 (L/B), 35 (C/P)	**J 6**	33
C14	32	**D13**	34 (L/B), 35 (C/P)	**L 2**	35 (C/P)
D 9	34 (L/B), 35 (C/P)	**I12**	33	**L 3**	35 (C/P)
D10	34 (L/B), 35 (C/P)	**I14**	34 (L/B), 35 (C/P)	**L 4**	34 (L/B)
D11	34 (L/B), 35 (C/P)	**J 1**	33	**S11**	34 (L/B), 35 (C/P)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1B		
1D		
1E		
1F	20	FLOOR WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1G	20	ROOF WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2E	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	
3B	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IC2	42	FRONT DOOR LH WIRE AND COWL WIRE (LEFT KICK PANEL)
IK2	44	FRONT DOOR RH WIRE AND COWL WIRE (RIGHT KICK PANEL)
BP1	46 (L/B)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LEFT QUARTER PANEL CENTER)
BP2	48 (C/P)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LUGGAGE COMPARTMENT LEFT)

: GROUND POINTS

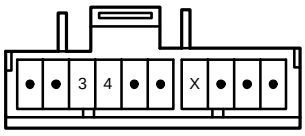
CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL
BH	46 (L/B), 48 (C/P)	ROOF LEFT

: SPLICE POINTS

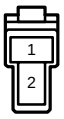
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
B 1	46 (L/B)	FLOOR WIRE	**B 7**	46 (L/B), 48 (C/P)	FLOOR WIRE
B 5	46 (L/B), 48 (C/P)	ROOF WIRE	**B11**	46 (L/B)	LUGGAGE ROOM WIRE

B 7, L 2 GRAY

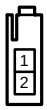
C14 GRAY



D 9



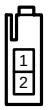
D10, D11



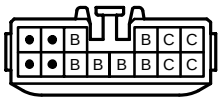
D12, D13

I12

I14

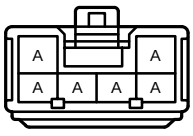


J 1



(HINT : SEE PAGE 7)

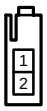
J 6



(HINT : SEE PAGE 7)

L 3 GRAY

L 4



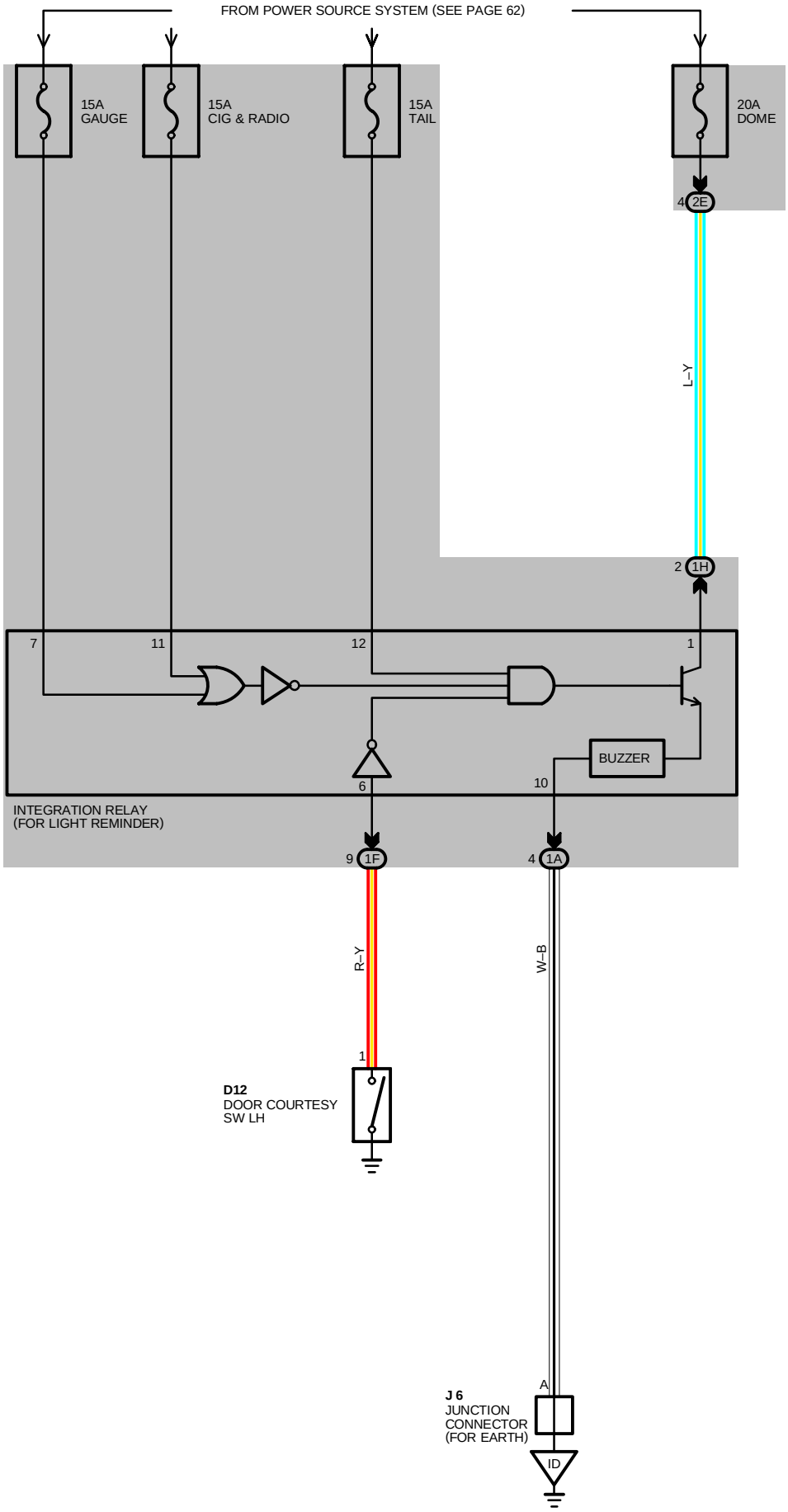
S11

INTRODUCTION

This manual consists of the following 11 sections:

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

LIGHT REMINDER BUZZER



SYSTEM OUTLINE

CURRENT ALWAYS FLOWS TO **TERMINAL 1** OF THE LIGHT REMINDER RELAY THROUGH THE DOME FUSE.

WITH THE IGNITION SW IN **ACC** POSITION, CURRENT FLOWS TO **TERMINAL 11** OF THE LIGHT REMINDER RELAY. WHEN THE IGNITION SW IS TURNED TO **ON** POSITION, CURRENT FLOWS TO **TERMINAL 7** THE LIGHT REMINDER RELAY. WHEN THE LIGHT CONTROL SW IS TURNED TO **TAIL** OR **HEAD** POSITION, CURRENT IS APPLIED TO **TERMINAL 12** THE LIGHT REMINDER RELAY.

LIGHT REMINDER SYSTEM

WHEN THE LIGHT CONTROL SW IN **TAIL** OR **HEAD** POSITION, THE IGNITION SW IS TURNED TO **OFF** FROM **ON** POSITION, AND THE DRIVER'S DOOR IS OPENED (DOOR COURTESY SW ON), THE CURRENT FLOW TO **TERMINAL 7** AND **11** OF THE LIGHT REMINDER RELAY STOPS. AS A RESULT, THE RELAY IS ACTIVATED AND CURRENT FLOWS FROM **TERMINAL 1** OF THE RELAY → **TERMINAL 10** → T0 **GROUND**, SOUNDING THE LIGHT REMINDER BUZZER.

SERVICE HINTS

LIGHT REMINDER RELAY (INTEGRATION RELAY)

7–GROUND : APPROX. **12** VOLTS WITH IGNITION AT **ON** POSITION
11–GROUND : APPROX. **12** VOLTS WITH IGNITION AT **ACC** OR **ON** POSITION
12–GROUND : APPROX. **12** VOLTS WITH LIGHT CONTROL SW AT **TAIL** OR **HEAD** POSITION
6–GROUND : CONTINUITY WITH DRIVER'S DOOR OPEN
1–GROUND : ALWAYS APPROX. **12** VOLTS
10–GROUND : ALWAYS CONTINUITY

○ : PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
D12	34 (L/B), 35 (C/P)	**J 6**	33		

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

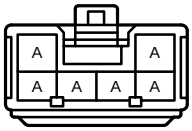
CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1F	20	FLOOR WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2E	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	

▽ : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL

D12

J 6



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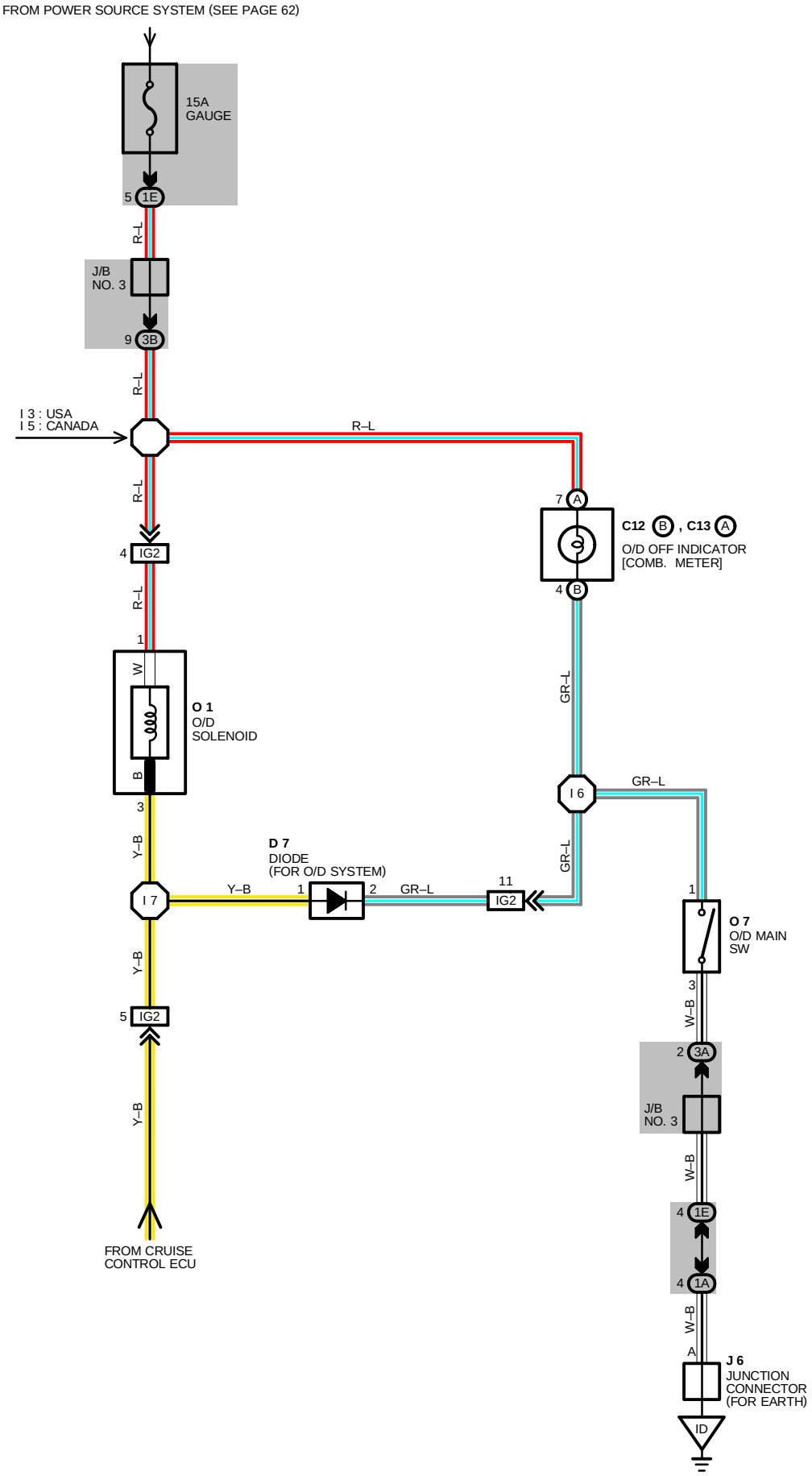

FROM POWER SOURCE SYSTEM (SEE PAGE 62)
15A
GAUGE
5 1E
R–L
J/B
NO. 3
9 3B
R–L
I 3 : USA
I 5 : CANADA
R–L
R–L
4 IG2
R–L
1
W
B
O 1
O/D
SOLENOID
3
Y–B
I 7
Y–B
1
D 7
DIODE
(FOR O/D SYSTEM)
2
GR–L
11
IG2
GR–L
7 A
C12 B , C13 A
O/D OFF INDICATOR
[COMB. METER]
4 B
GR–L
I 6
GR–L
1
O 7
O/D MAIN
SW
3
W–B
2 3A
J/B
NO. 3
W–B
4 1E
4 1A
W–B
A
J 6
JUNCTION
CONNECTOR
(FOR EARTH)
ID
Y–B
Y–B
5 IG2
Y–B
FROM CRUISE
CONTROL ECU

SERVICE HINTS

O 7 O/D MAIN SW

1–3 : CLOSED WITH O/D MAIN SW OFF, OPEN WITH O/D MAIN SW ON

: PARTS LOCATION

CODE		SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
C12	B	32	**D 7**	32	**O 1**	31 (4A–FE)
C13	A	32	**J 6**	33	**O 7**	33

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
3A	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)
3B		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IG2	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE CONTROL MODULE (ECU))

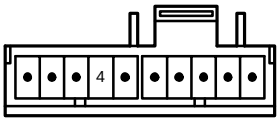
: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL

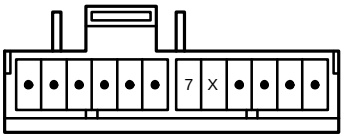
: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 3	44	COWL WIRE	**I 6**	44	COWL WIRE
I 5			**I 7**	44	ENGINE WIRE

C12 (B) BROWN

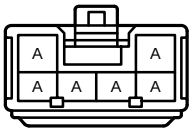


C13 (A)



D 7 BLACK

J 6



(HINT : SEE PAGE 7)

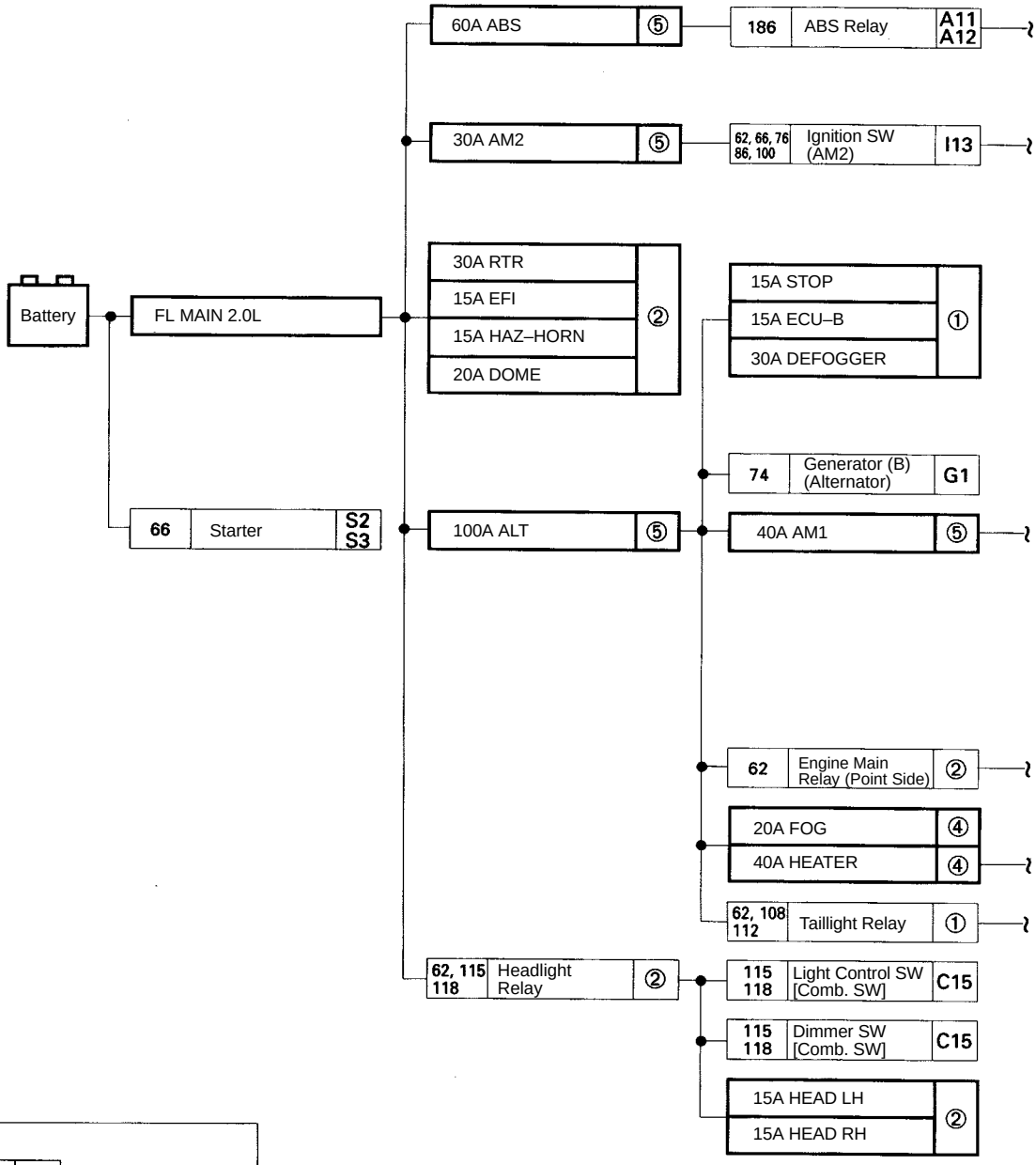
O 1 BLACK

O 7

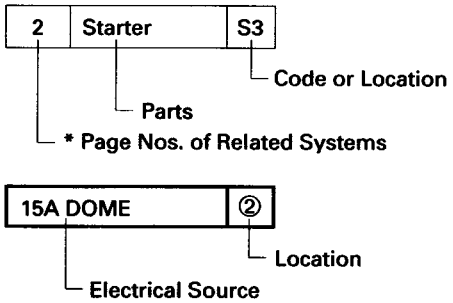
POWER SOURCE (Current Flow Chart)

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

The next page and following pages show the parts to which each electrical source outputs current.

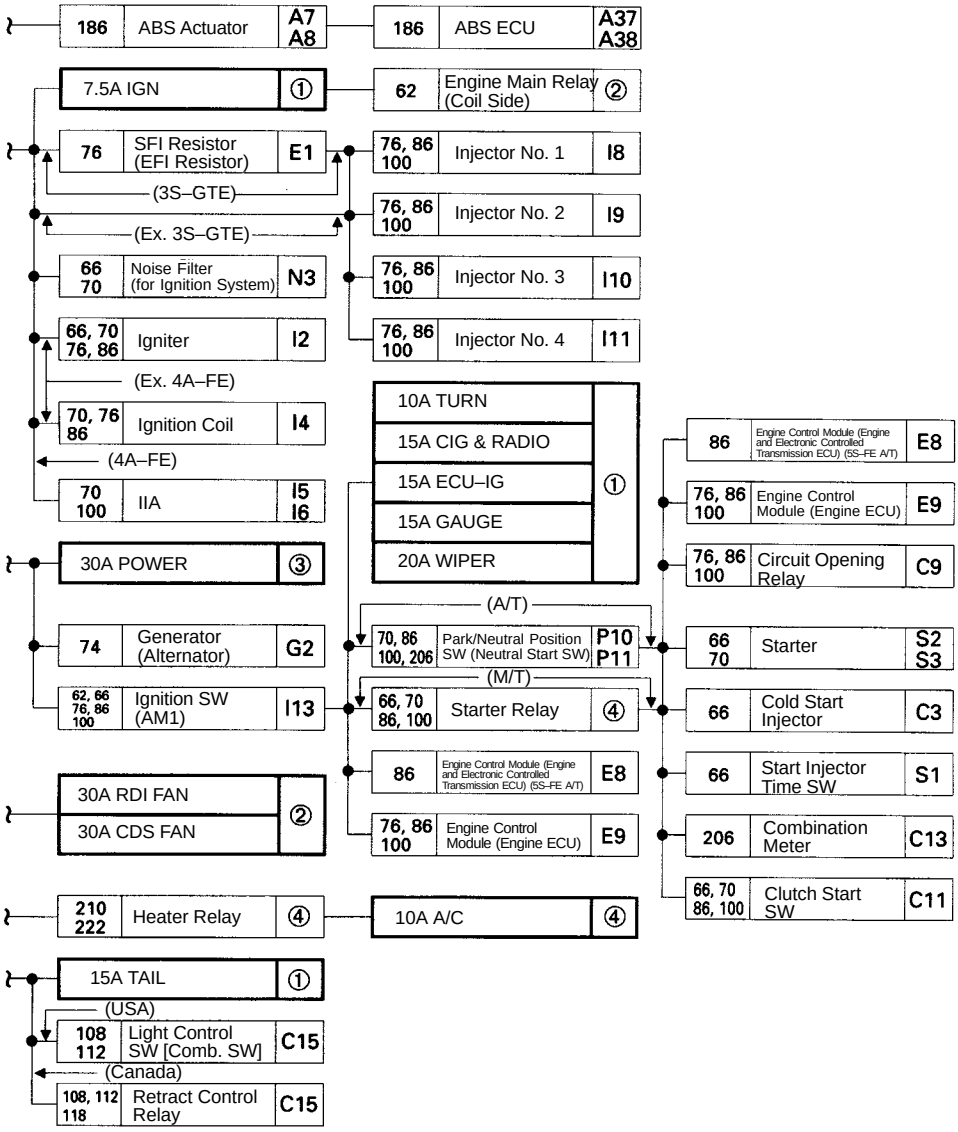


Example



* These are the page numbers of the first page on which the related system is shown.
The part indicated is located somewhere in the system, not necessarily on the page indicated here.

[LOCATION] (1) : J/B No. 1 (See page 20) (2) : J/B No. 2 (See page 22) (3) : R/B No. 2 (See page 26)



(1) : R/B No. 4 (See page 27) (2) : Fuse Box (F10 See on page 28) (3) : R/B No. 3 (See page 26)

POWER SOURCE (Current Flow Chart)

Location		CB or Fuse	*Page Nos. of Related Systems	210 222	222	210 222		186	108 210 222	210 222	210	210 222	210	210	210 222	210 222	108	210	170	186	186	198
			Parts	A/C Condenser Fan Motor	A/C Idle–Up VSV	A/C Magnetic Clutch	A/C Pressure SW	ABS Actuator	ABS Relay	A/C Amplifier	A/C Control Assembly			A/C Power Transistor	A/C System Amplifier	Air Inlet Control Servo Motor	Air Vent Mode Control Servo Motor	Ashtray Illumination	Auto A/C Amplifier	Auto Tilt Away ECU	ABS Deceleration Sensor (All–Trac/4WD)	ABS ECU	Auto Antenna Control Relay and Motor
			Code or Location	A2	A3	A4	A5	A7	A11	A15	A16	A17	A18	A20	A23	A26	A28	A30	A31	A32	A35	A36	A37	A38	A41
①	30A	DEFOGGER																						
	20A	WIPER																						
	15A	GAUGE			●	●	●	●	●	●		●	●		●	●	●		●	●	●		●	●	
	7.5A	IGN					●																		
	15A	ECU–B																						●	
	10A	TURN																							
	15A	CIG & RADIO																	●	●					●
	15A	TAIL									●	●						●							
	15A	ECU–IG																				●		●	●
	15A	STOP																						●	
②	15A	HEAD LH																							
	15A	HEAD RH																							
	30A	RTR																							
	15A	EFI																							
	20A	DOME																		●					●
	15A	HAZ–HORN																							
	30A	RDI FAN																							
	30A	CDS FAN		●																					
③	30A	POWER																			●				
④	20A	FOG																							
	10A	A/C			●		●			●		●													
	40A	HEATER											●	●					●	●					

* These are the page numbers of the first page on which the related system is shown.
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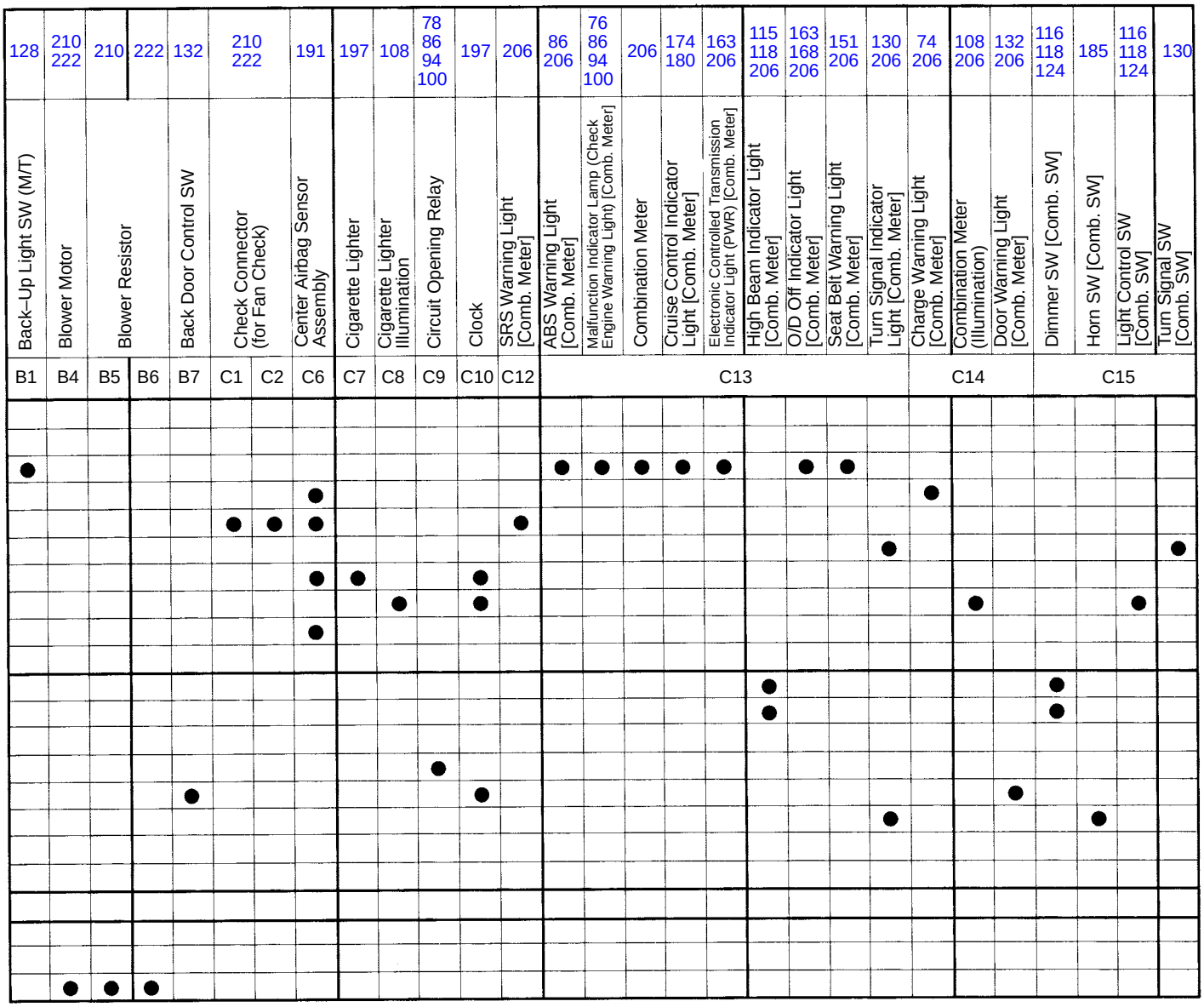
(1) : J/B No. 1 (See page 20) (2) : J/B No. 2 (See page 22) (3) R/B No. 2 (See page 26)



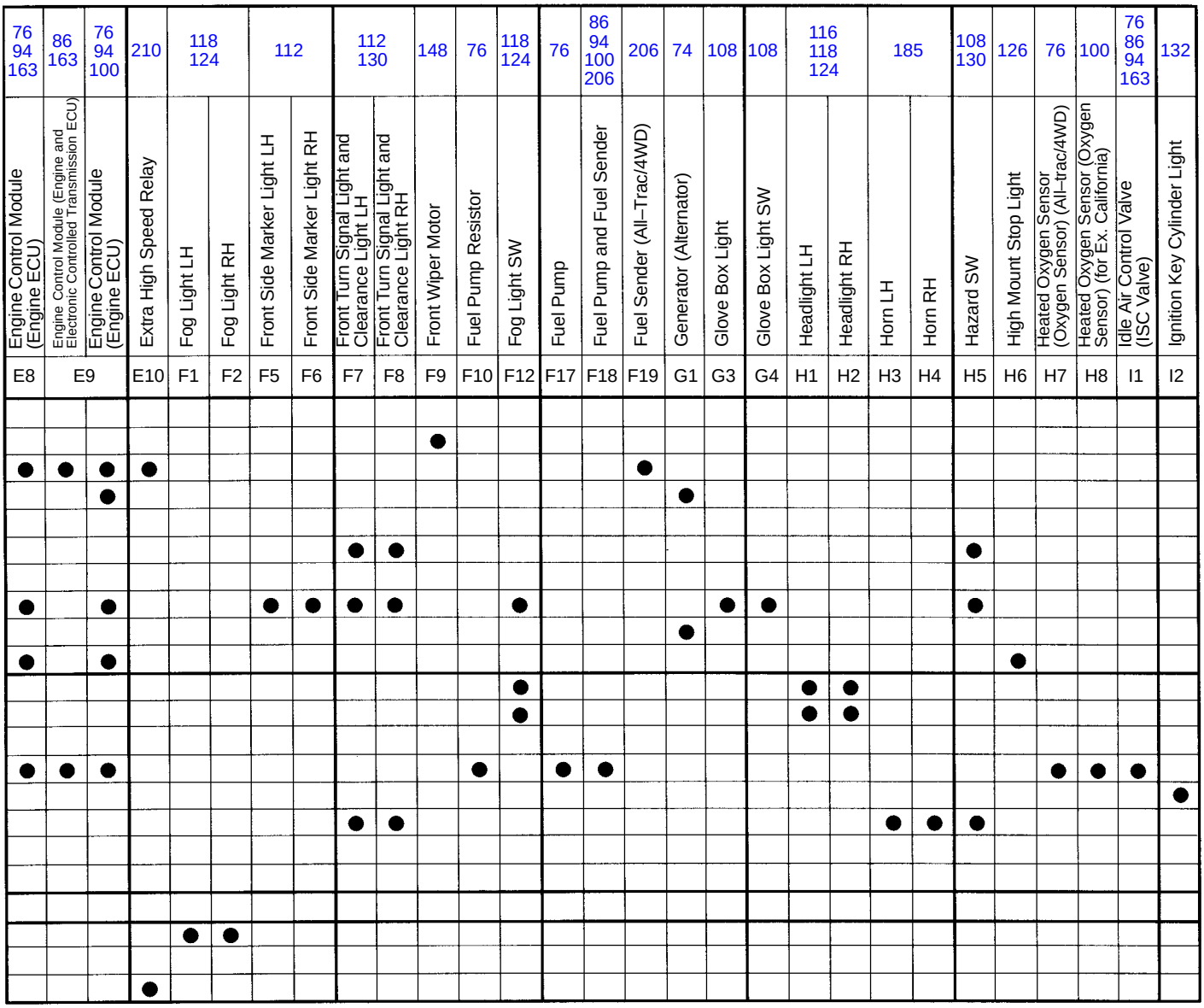
(4) : R/B No. 4 (See page 27)

POWER SOURCE (Current Flow Chart)

Location	CB or Fuse		*Page Nos. of Related Systems	146	146	174	180	174	76 86 100 191	108	108	136 156 160	168	136 141	132	132			141			108 163	100	86 163	76 94
			Parts	Front Wiper and Washer SW [Comb. SW]	Rear Wiper and Washer SW [Comb. SW]	Cruise Control ECU (Motor)	Cruise Control ECU (Vacuum)	Cruise Control ECU	Data Link Connector 1 (Check Connector)	Defogger SW	Diode (for Daytime Running Light System)	Diode (for Key Off)	Diode (for O/D System)	Door Lock ECU	Diode (for Interior System)	Door Courtesy Light LH	Door Courtesy Light RH	Door Courtesy SW LH	Door Courtesy SW RH	Door Lock Motor LH	Door Lock Motor RH	Electronic Controlled Transmission Pattern Select SW	Engine Control Module (Engine ECU)	Engine Control Module (Engine and Electronic Controlled Transmission ECU)	Engine Control Module (Engine ECU)
			Code or Location	C16		C18		C19	D1	D3	D5	D6	D7	D8	D9	D10	D11	D12	D13	D16	D17	E5	E6	E7	
①	30A	DEFOGGER																							
	20A	WIPER		●	●																				
	15A	GAUGE					●	●	●	●		●	●	●								●	●		
	7.5A	IGN																							
	15A	ECU–B							●																
	10A	TURN																							
	15A	CIG & RADIO																				●			
	15A	TAIL								●	●											●			
	15A	ECU–IG				●	●								●										
	15A	STOP				●	●																		
②	15A	HEAD LH																							
	15A	HEAD RH																							
	30A	RTR																							
	15A	EFI							●														●	●	●
	20A	DOME													●	●	●	●	●						
	15A	HAZ–HORN																							
	30A	RDI FAN																							
	30A	CDS FAN																							
③	30A	POWER												●						●	●				
④	20A	FOG																							
	10A	A/C																							
	40A	HEAT																							

* These are the page numbers of the first page on which the related system is shown.
The part indicated is located somewhere in the system, not necessarily on the page indicated here.

[LOCATION] (1) : J/B No. 1 (See page 20) (2) : J/B No. 2 (See page 22) (3) R/B No. 2 (See page 26)



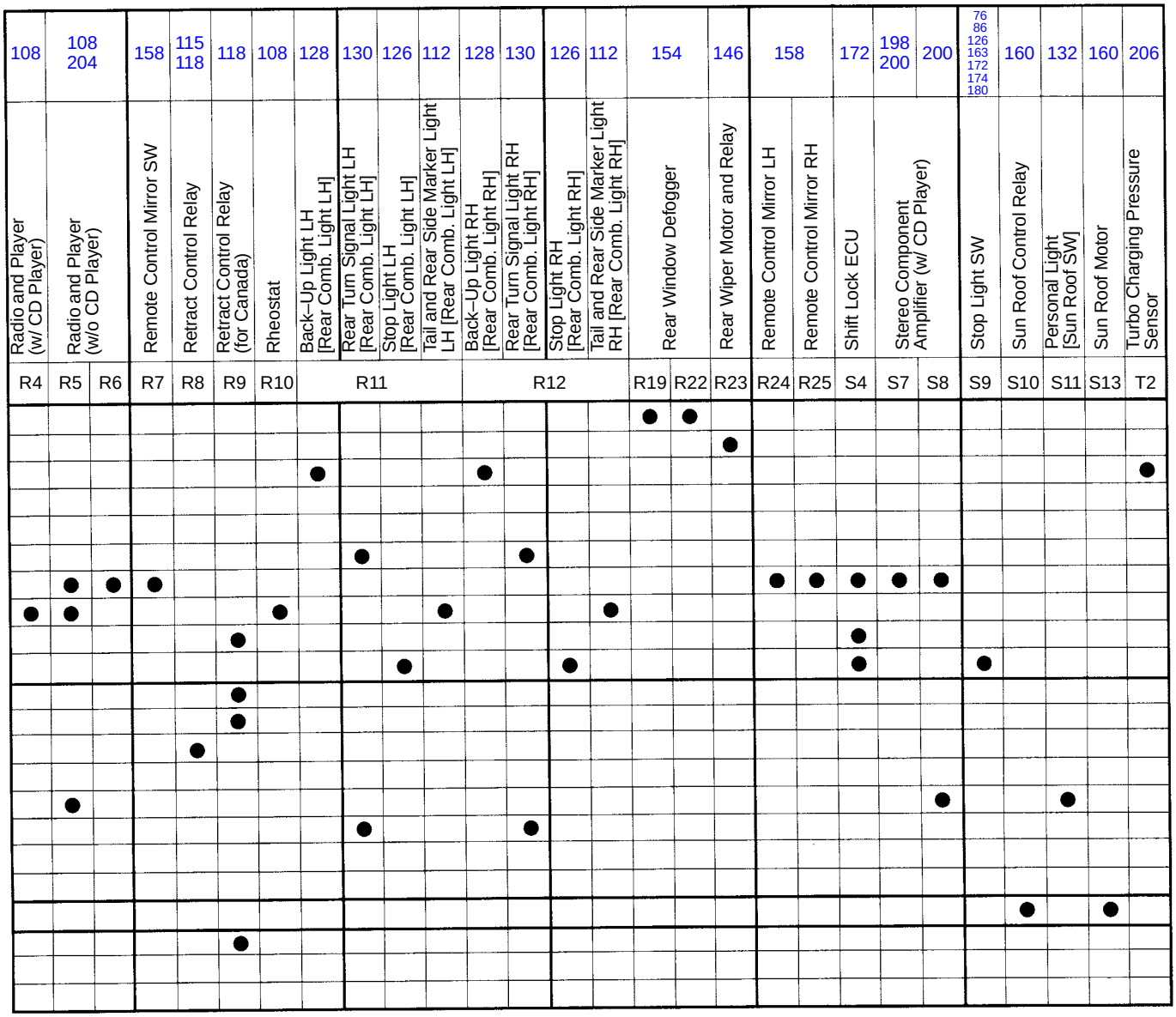
(4) : R/B No. 4 (See page 27)

POWER SOURCE (Current Flow Chart)

Location	CB or Fuse		*Page Nos. of Related Systems	132	112	132	132	132	154	168	206	163 168	108	156			136		128	128 163	210 222	115 118	115 118
			Parts	Interior Light	License Plate Light	Luggage Compartment Door Courtesy SW (C/P)	Luggage Compartment Light (C/P)	Luggage Compartment Light (L/B)	Noise Filter (for Defogger System)	O/D Solenoid	Oil Pressure SW	O/D Main SW	Panel Relay (for Daytime Running Light System)	Power Seat Motor (for Lumber Support)	Power Seat Motor (for Side Support)	Power Seat SW	Power Window Master SW	Power Window Motor LH	Power Window Motor LH	Power Window SW RH	Back–Up Light SW (A/T w/o Electronic Controlled Transmission)	Park/Neutral Position SW (Neutral Start SW), Back–Up Light SW (A/T w/ Electronic Controlled Transmission)	Radiator Fan Motor	Retract Motor LH	Retract Motor RH
			Code or Location	I14	L1	L2	L3	L4	N4	O1	O2	O7	P1	P3	P4	P5	P6	P7	P8	P9	P10	P11	R1	R2	R3
①	30A	DEFOGGER							●																
	20A	WIPER																							
	15A	GAUGE								●	●	●									●	●			
	7.5A	IGN																							
	15A	ECU–B																							
	10A	TURN																							
	15A	CIG & RADIO																							
	15A	TAIL			●							●	●												
	15A	ECU–IG																							
	15A	STOP																							
②	15A	HEAD LH																							
	15A	HEAD RH																							
	30A	RTR																						●	●
	15A	EFI																							
	20A	DOME	●		●	●	●																		
	15A	HAZ–HORN																							
	30A	RDI FAN																					●		
	30A	CDS FAN																					●		
③	30A	POWER												●	●	●	●	●	●	●					
④	20A	FOG																							
	10A	A/C																							
	40A	HEATER																				●			

* These are the page numbers of the first page on which the related system is shown.
The part indicated is located somewhere in the system, not necessarily on the page indicated here.

[LOCATION] (1) : J/B No. 1 (See page 20) (2) : J/B No. 2 (See page 22) (6) R/B No. 2 (See page 26)



(4) : R/B No. 4 (See page 27)

POWER SOURCE (Current Flow Chart)

Location	CB or Fuse		*Page Nos. of Related Systems	Parts: Turn Signal Flasher	Vehicle Speed Sensor (Speed Sensor) (for Cruise Control System)	VSV (for EGR System)	VSV (for Electrical Idle–Up System)	VSV (for T–VIS)	VSV (for Turbo Charging Pressure)	Washer Motor	Water Temp. Sender	Water Temp. SW (for Fans Control)	Defogger Relay	Diode	Integration Relay	EFI Main Relay	Radiator Fan Relay No. 1	Power Main Relay	Heater Relay	Fog Light Relay	A/C Condenser Fan Relay No. 2	A/C Condenser Fan Relay No. 3	A/C Magnetic Clutch Relay	Horn Relay
				130	174 180	76 86 92 100	100	76	76	146 148	206	210 222	154	76 86 94	132 134 151	76 86 94 100 163	210 222	136 156 160	210 222	118 124	210 222			185
				T3	V2	V5	V6	V7	V8	W1	W2	W3	①			②		③	④	⑥	⑦			
①	30A	DEFOGGER											●											
	20A	WIPER								●														
	15A	GAUGE									●		●		●			●	●				●	●
	7.5A	IGN										●				●	●				●			
	15A	ECU–B																						
	10A	TURN	●												●									
	15A	CIG & RADIO													●									
	15A	TAIL												●	●									
	15A	ECU–IG		●																				
	15A	STOP																						
②	15A	HEAD LH																		●				
	15A	HEAD RH																		●				
	30A	RTR																						
	15A	EFI				●	●	●	●							●								
	20A	DOME													●									
	15A	HAZ–HORN	●																					●
	30A	RDI FAN															●							
	30A	CDS FAN																			●	●		
③	30A	POWER																●						
④	20A	FOG																		●				
	10A	A/C																						
	40A	HEATER																	●					

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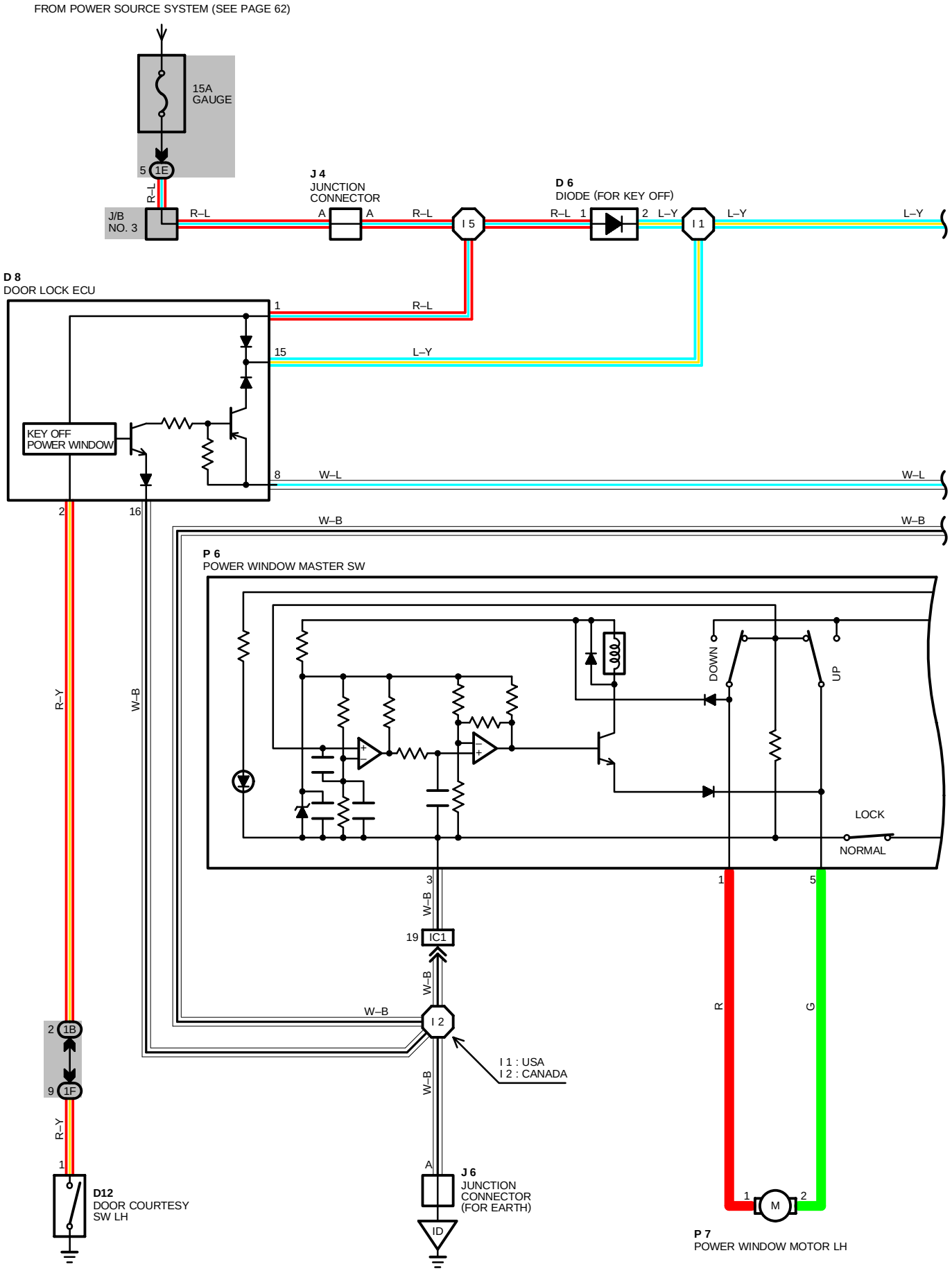
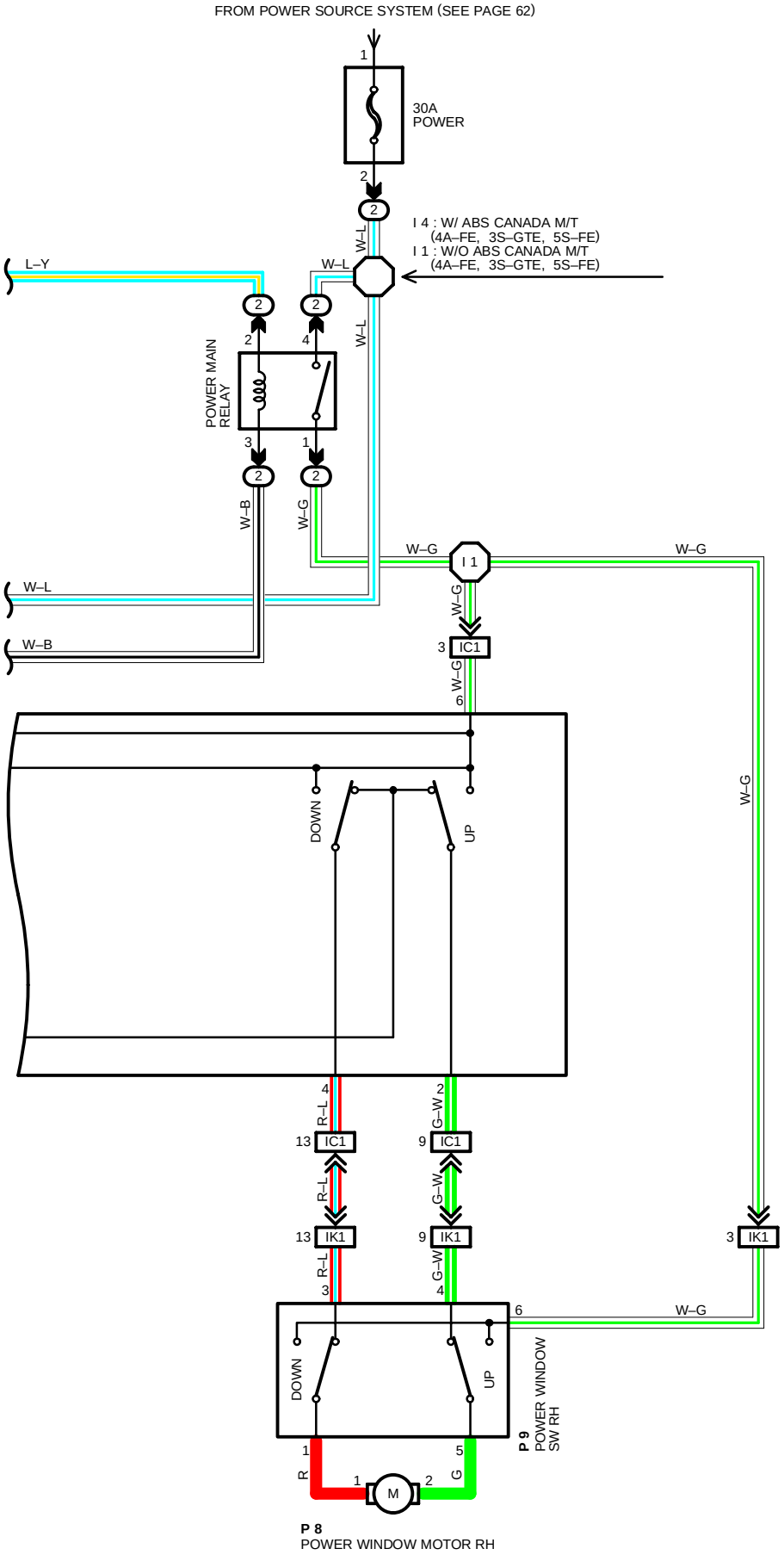
[LOCATION] (1) : J/B No. 1 (See page 20) (2) : J/B No. 2 (See page 22) (3) : R/B No. 2 (See page 26)
(4) : R/B No. 4 (See page 27) (6) : R/B No. 3 (See page 26) (7) : R/B No. 5 (See page 27)


76
Fuel Pump Control Relay
⑦

POWER WINDOW




FROM POWER SOURCE SYSTEM (SEE PAGE 62)
30A
POWER
I 4 : W/ ABS CANADA M/T
(4A–FE, 3S–GTE, 5S–FE)
I 1 : W/O ABS CANADA M/T
(4A–FE, 3S–GTE, 5S–FE)
L–Y
W–L
W–B
W–G
POWER MAIN
RELAY
I 1
IC1
IK1
DOWN
UP
R–L
G–W
M
P 8
POWER WINDOW MOTOR RH
P 9
POWER WINDOW
SW RH

POWER WINDOW

SYSTEM OUTLINE

CURRENT ALWAYS FLOWS **TERMINAL 4** OF THE POWER MAIN RELAY THROUGH THE POWER FUSE. WITH THE IGNITION SW TURNED ON, CURRENT FLOWS THROUGH THE GAUGE FUSE TO **TERMINAL 2** OF THE POWER MAIN RELAY → **TERMINAL 3** → TO **GROUND**. THIS ACTIVATES THE RELAY AND CURRENT FLOWING TO **TERMINAL 1** OF THE POWER MAIN RELAY → TO **TERMINAL (A)6** OF THE POWER WINDOW MASTER SW AND **TERMINAL 6** OF THE POWER WINDOW SW RH (PASSENGER'S).

1. MANUAL OPERATION (DRIVER'S WINDOW)

WITH THE IGNITION SW TURNED ON AND WITH THE POWER WINDOW MASTER SW IN **UP** POSITION, THE CURRENT FLOWING TO **TERMINAL (A)6** OF THE POWER WINDOW MASTER SW FLOWS TO **TERMINAL (A)5** OF THE MASTER SW → **TERMINAL 2** OF THE POWER WINDOW MOTOR (DRIVER'S) → MOTOR → **TERMINAL 1** → **TERMINAL (A)1** OF THE MASTER SW → **TERMINAL (A)3** → TO **GROUND** AND CAUSES THE POWER WINDOW MOTOR TO ROTATE IN THE UP DIRECTION. THE WINDOW ASCENDS ONLY WHILE THE SW IS BEING PUSHED. IN DOWN OPERATION, THE FLOW OF CURRENT FROM **TERMINAL (A)6** OF THE POWER WINDOW MASTER SW TO **TERMINAL (A)1** OF THE MASTER SW CAUSES THE FLOW OF CURRENT FROM **TERMINAL 1** OF THE MOTOR → MOTOR → **TERMINAL 2** → **TERMINAL (A)5** OF THE MASTER SW → **TERMINAL (A)3** → TO **GROUND**, FLOWING IN THE OPPOSITE DIRECTION TO MANUAL UP OPERATION AND CAUSING THE MOTOR TO ROTATE IN REVERSE, LOWERING THE WINDOW.

2. AUTO DOWN OPERATION

WITH THE IGNITION SW ON AND WITH THE DRIVER'S SW OF THE POWER WINDOW MASTER SW IN **DOWN** POSITION, CURRENT FLOWING TO **TERMINAL (A)6** OF THE MASTER SW FLOWS TO **TERMINAL (A)1** OF THE MASTER SW → **TERMINAL 1** OF THE POWER WINDOW MOTOR → MOTOR → **TERMINAL 2** → **TERMINAL (A)5** OF THE MASTER SW → **TERMINAL 3** → TO **GROUND**, CAUSING THE MOTOR TO ROTATE TOWARDS THE DOWN SIDE. THEN THE SOLENOID IN THE MASTER SW IS ACTIVATED AND IT LOCKS THE DRIVER'S SW BEING PUSHED, CAUSING THE MOTOR TO CONTINUE TO ROTATE IN AUTO DOWN OPERATION.

WHEN THE WINDOW HAS COMPLETELY DESCENDED, THE CURRENT FLOW BETWEEN **TERMINAL (A)5** OF THE MASTER SW AND **TERMINAL (A)3** INCREASES. AS A RESULT, THE SOLENOID STOPS OPERATING, THE DRIVER'S SW TURNS OFF AND FLOW FROM **TERMINAL (A)6** OF THE MASTER SW TO **TERMINAL (A)1** IS CUT OFF, STOPPING THE MOTOR SO THAT AUTO STOP OCCURS.

3. STOPPING OF AUTO DOWN AT DRIVER'S WINDOW

WHEN THE DRIVER'S SW IS PUSHED TO THE UP SIDE DURING AUTO DOWN OPERATION, A GROUND CIRCUIT OPENS IN THE MASTER SW AND CURRENT DOES NOT FLOW FROM **TERMINAL (A)5** OF THE MASTER SW → TO **TERMINAL (A)3**, SO THE MOTOR STOPS, CAUSING AUTO DOWN OPERATION TO STOP. IF THE DRIVER'S SW IS PUSHED CONTINUOUSLY, THE MOTOR ROTATES IN THE UP DIRECTION IN MANUAL UP OPERATION.

4. MANUAL OPERATION BY POWER WINDOW SW (PASSENGER'S WINDOW)

WITH POWER WINDOW SW (PASSENGER'S) PUSHED TO THE UP SIDE, CURRENT FLOWING FROM **TERMINAL 6** OF THE POWER WINDOW SW FLOWS TO **TERMINAL 5** OF THE POWER WINDOW SW → **TERMINAL 2** OF THE WINDOW MOTOR → MOTOR → **TERMINAL 1** → **TERMINAL 1** OF THE POWER WINDOW SW → **TERMINAL 3** → **TERMINAL (A)4** OF THE MASTER SW → **TERMINAL (A)3** → TO **GROUND** AND CAUSES THE POWER WINDOW MOTOR (PASSENGER'S) TO ROTATE IN THE UP DIRECTION. UP OPERATION CONTINUES ONLY WHILE THE POWER WINDOW SW IS PUSHED TO THE UP SIDE. WHEN THE WINDOW DESCENDS, THE CURRENT FLOWING TO THE MOTOR FLOWS IN THE OPPOSITE DIRECTION, FLOM **TERMINAL 1** → MOTOR → TO **TERMINAL 2**, AND THE MOTOR ROTATES IN REVERSE. WHEN THE WINDOW LOCK SW IS PUSHED TO THE LOCK SIDE, THE GROUND CIRCUIT TO THE PASSENGER'S WINDOW BECOMES OPEN.

AS A RESULT, EVEN IF OPEN/CLOSE OPERATION OF THE PASSENGER'S WINDOW IS TRIED, THE CURRENT FROM **TERMINAL (A)6** OF THE POWER WINDOW MASTER SW IS NOT GROUNDED AND THE MOTOR DOES NOT ROTATE, SO THE PASSENGER'S WINDOW CAN NOT BE OPERATED AND WINDOW LOCK OCCURS.

5. KEY OFF POWER WINDOW OPERATION

WITH THE IGNITION SW TURNED FROM ON TO OFF, THE DOOR LOCK ECU OPERATES AND CURRENT FLOWS FROM POWER FUSE → **TERMINAL 8** OF THE DOOR LOCK ECU → **TERMINAL 15** → **TERMINAL 2** OF THE POWER MAIN RELAY → **TERMINAL 3** → TO **GROUND** FOR ABOUT **60** SECONDS. THE SAME AS NORMAL OPERATION, THE CURRENT FLOWS FROM POWER FUSE → **TERMINAL 4** OF THE POWER MAIN RELAY → **TERMINAL 1** → **TERMINAL (A)6** OF THE POWER WINDOW MASTER SW AND **TERMINAL 6** OF POWER WINDOW SW RH (PASSENGER'S). AS A RESULT, FOR ABOUT **60** SECONDS AFTER THE IGNITION SW IS TURNED OFF, IT IS POSSIBLE TO RAISE AND LOWER THE POWER WINDOW BY THE FUNCTIONING OF THIS RELAY. ALSO, BY OPENING THE DOOR (DOOR COURTESY SW ON) WITHIN ABOUT **60** SECONDS AFTER TURNING THE IGNITION SW TO OFF. A SIGNAL IS INPUT TO **TERMINAL 2** OF DOOR LOCK ECU. AS A RESULT, THE ECU TURNS OFF AND UP AND DOWN OF THE MOVEMENT OF THE WINDOW STOPS.

SERVICE HINTS

D 8 DOOR LOCK ECU

8–GROUND : ALWAYS APPROX. **12** VOLTS
16–GROUND: ALWAYS CONTINUITY
1–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
2–GROUND : CONTINUITY WITH DOOR OPENED
15–GROUND: APPROX. **12** VOLTS WITH IGNITION SW ON AND STAYS AT **12** VOLTS FOR **60** SECONDS AFTER THE IGNITION SW IS TURNED OFF, BUT IF THE DOOR IS OPENED IN THIS **60** SECONDS PERIOD, VOLTAGE WILL DROP TO **0** VOLTS

D12 DOOR COURTESY SW

1–GROUND: CONTINUITY WITH DOOR OPEN

P 8 POWER WINDOW SW (PASSENGER'S)

6–GROUND: APPROX. **12** VOLTS WITH IGNITION SW ON AND STAYS AT **12** VOLTS FOR **60** SECONDS AFTER THE IGNITION SW IS TURNED OFF, BUT IF A DOOR IS OPENED IN THIS **60** SECONDS PERIOD, VOLTAGE WILL DROP TO **0** VOLTS

P 5 POWER WINDOW MASTER SW

(A)3–GROUND: ALWAYS CONTINUITY
(**A)**6–GROUND: APPROX. **12** VOLTS WITH IGNITION SW ON AND STAYS AT **12** VOLTS FOR **60** SECONDS AFTER THE IGNITION SW IS TURNED OFF, BUT IF A DOOR IS OPENED IN THIS **60** SECONDS PERIOD, VOLTAGE WILL DROP TO **0** VOLTS
(**A)**5–GROUND: APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION AND MASTER SW AT **UP** POSITION
(**A)**1–GROUND: APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION AND MASTER SW AT **DOWN** OR **AUTO DOWN** POSITION

WINDOW LOCK SW

OPEN WITH WINDOW LOCK SW AT **LOCK** POSITION

POWER WINDOW

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
D 6	32	**J 4**	33	**P 7**	34 (L/B), 35 (C/P)
D 8	32	**J 6**	33	**P 8**	34 (L/B), 35 (C/P)
D12	34 (L/B), 35 (C/P)	**P 6** A	34 (L/B), 35 (C/P)	**P 9**	34 (L/B), 35 (C/P)

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
2	26	R/B NO. 2 (LEFT KICK PANEL)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1B	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
1F	20	FLOOR WIRE AND J/B NO. 1 (LEFT KICK PANEL)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

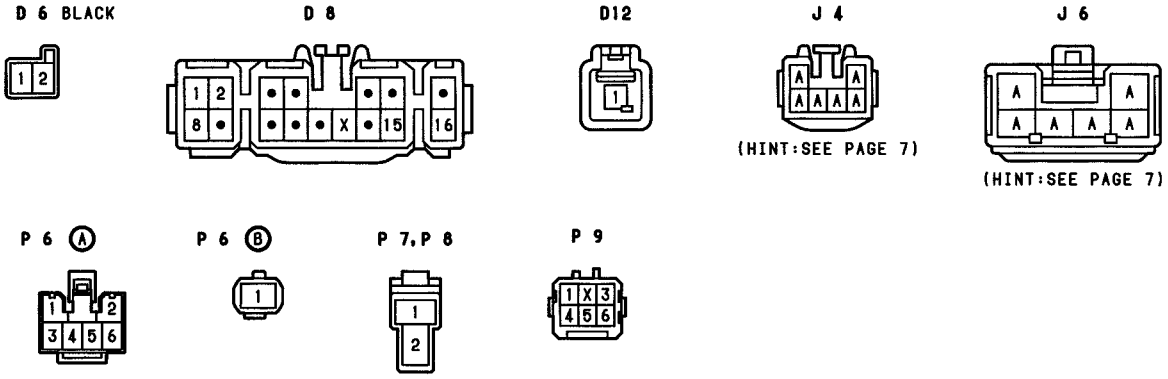
CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IC1	42	FRONT DOOR LH WIRE AND COWL WIRE (LEFT KICK PANEL)
IK1	44	FRONT DOOR RH WIRE AND COWL WIRE (RIGHT KICK PANEL)

: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL

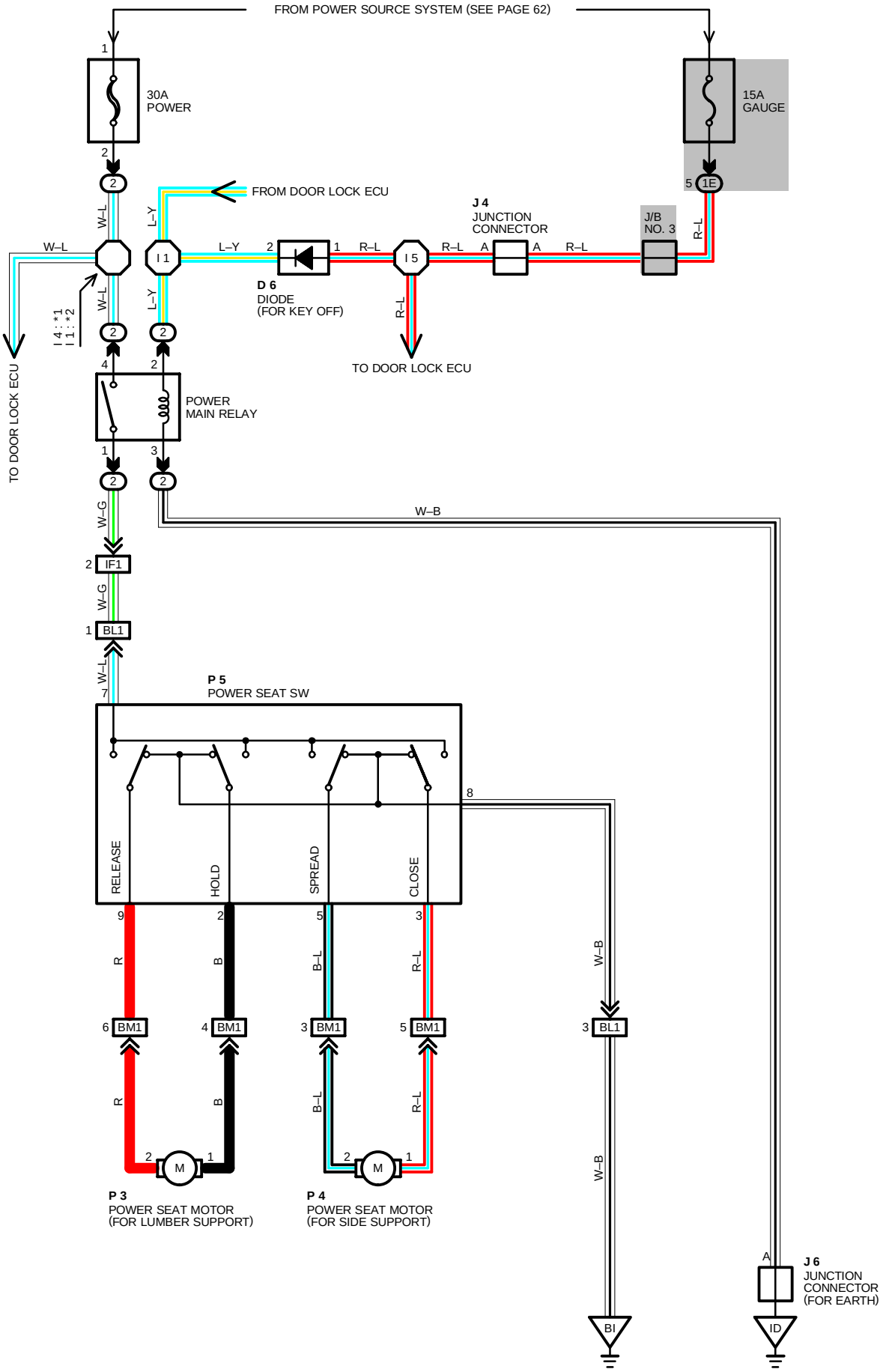
: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 1	44	COWL WIRE	**I 5**	44	COWL WIRE
I 2					



POWER SEAT

*1 : W/ ABS CANADA M/T (3S–GTE, 5S–FE, 4A–FE)
*2 : W/O ABS CANADA M/T (3S–GTE, 5S–FE, 4A–FE)



SERVICE HINTS

POWER MAIN RELAY

(2) 1–**(2)** 4 : CLOSED WITH IGNITION SW AT **ON** POSITION

P 5 POWER SEAT SW

7– GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION

8– GROUND : ALWAYS CONTINUITY

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
D 6	32	**J 6**	33	**P 4**	34 (L/B), 35 (C/P)
J 4	33	**P 3**	34 (L/B), 35 (C/P)	**P 5**	34 (L/B), 35 (C/P)

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
2	26	R/B NO. 2 (LEFT KICK PANEL)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1E	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IF1	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
BL1	46 (L/B) 48 (C/P)	FLOOR WIRE AND FRAME WIRE (LEFT SIDE OF FRONT FLOOR PANEL)
BM1	46 (L/B) 48 (C/P)	FRAME WIRE AND SEAT WIRE (UNDER THE DRIVER'S SEAT)

: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL
BI	46 (L/B) 48 (C/P)	UNDER THE LEFT CENTER PILLAR

: SPLICE POINTS

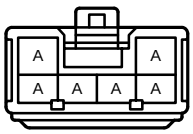
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 1	44	COWL WIRE	**I 5**	44	COWL WIRE
I 4					

D 6 BLACK

J 4

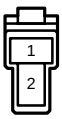
(HINT : SEE PAGE 7)

J 6

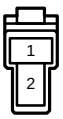


(HINT : SEE PAGE 7)

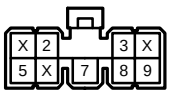
P 3



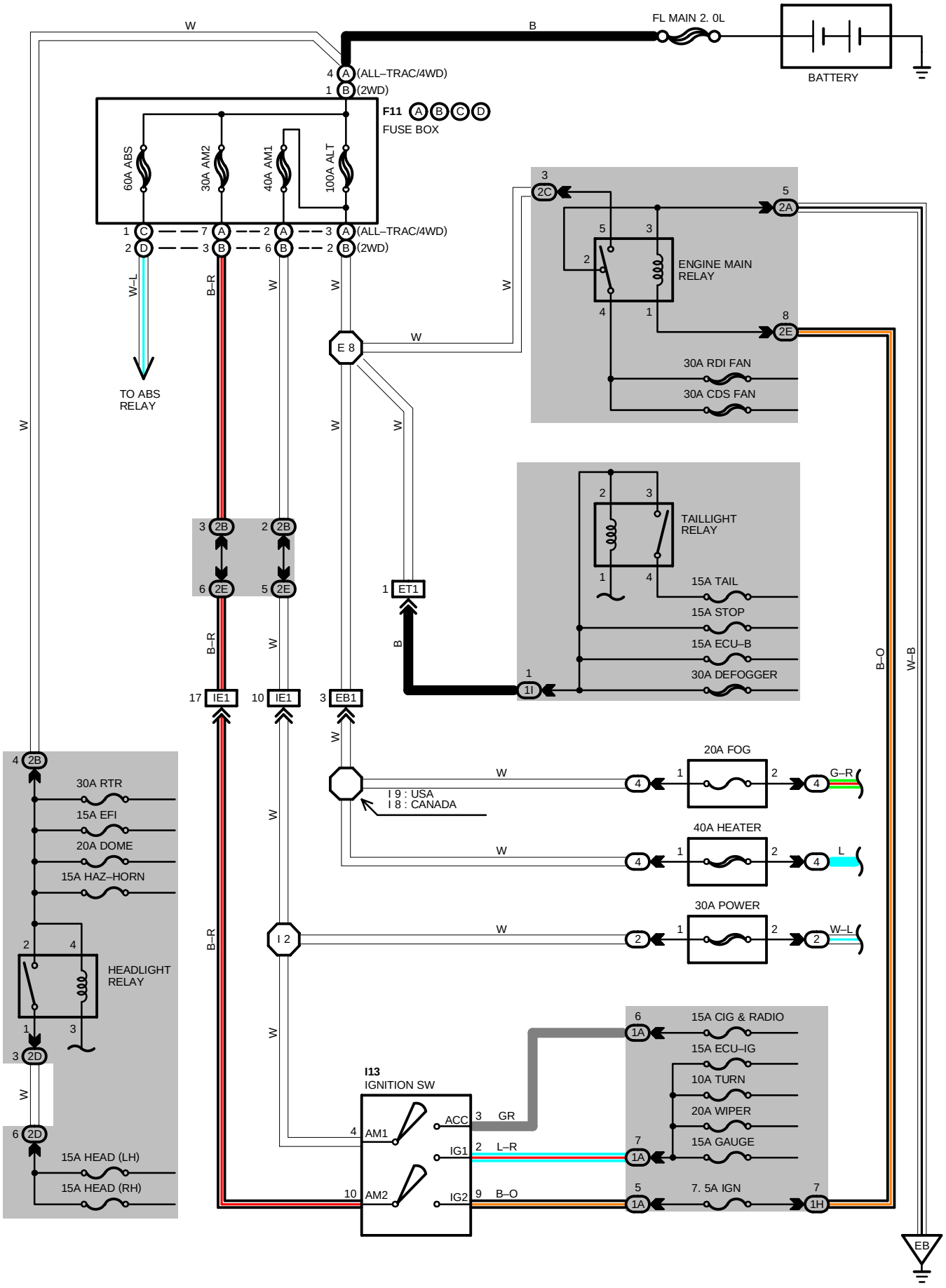
P 4 BLUE



P 5



POWER SOURCE



SERVICE HINTS

TAILLIGHT RELAY

3–4 : CLOSED WITH LIGHT CONTROL SW AT **TAIL** OR **HEAD** POSITION
CLOSED WITH ENGINE RUNNING AND PARKING BRAKE LEVER RELEASED (CANADA)

ENGINE MAIN RELAY

4–5 : CLOSED WITH IGNITION SW AT **ON** OR **ST** POSITION

HEADLIGHT RELAY

1–2 : CLOSED WITH LIGHT CONTROL SW AT **HEAD** POSITION OR DIMMER SW AT **FLASH** POSITION

I13 IGNITION SW

4–3 : CLOSED WITH IGNITION KEY AT **ACC** OR **ON** POSITION
9–10 : CLOSED WITH IGNITION KEY AT **ON** OR **ST** POSITION

: PARTS LOCATION

CODE		SEE PAGE	CODE		SEE PAGE	CODE	SEE PAGE
F11	A	28 (3S–GTE)	**F11**	C	28 (3S–GTE)	**I13**	33
	B	30 (5S–FE), 31 (4A–FE)		D	30 (5S–FE), 31 (4A–FE)		

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
2	26	R/B NO. 2 (LEFT KICK PANEL)
4	27	R/B NO. 4 (RIGHT KICK PANEL)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1I		
2A	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	
2B	22 (2WD)	ENGINE WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	
2C	22 (2WD)	
	23 (ALL–TRAC/4WD)	
2D	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	
2E	22 (2WD)	
	23 (ALL–TRAC/4WD)	

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EB1	36 (3S–GTE)	ENGINE WIRE AND COWL WIRE (REAR SIDE OF RIGHT FRONT FENDER)
	38 (5S–FE)	
	40 (4A–FE)	
ET1	36 (3S–GTE)	ENGINE ROOM MAIN WIRE AND ENGINE WIRE (NEAR THE J/B NO. 2)
	38 (5S–FE)	
	40 (4A–FE)	
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)

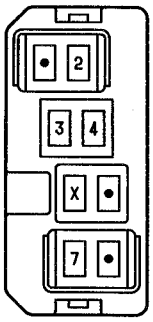
: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
EB	36 (3S–GTE)	FRONT LEFT FENDER
	38 (5S–FE)	
	40 (4A–FE)	

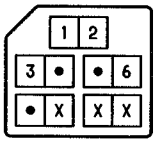
: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 8	36 (3S–GTE)	ENGINE WIRE	**I 2**	44	COWL WIRE
	38 (5S–FE)		**I 8**		
	40 (3S–GTE)		**I 9**		

(ALL-TRAC/4WD) F11 Ⓐ BLACK



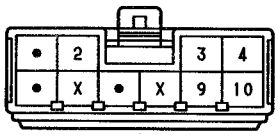
(2WD) F11 Ⓑ BLACK



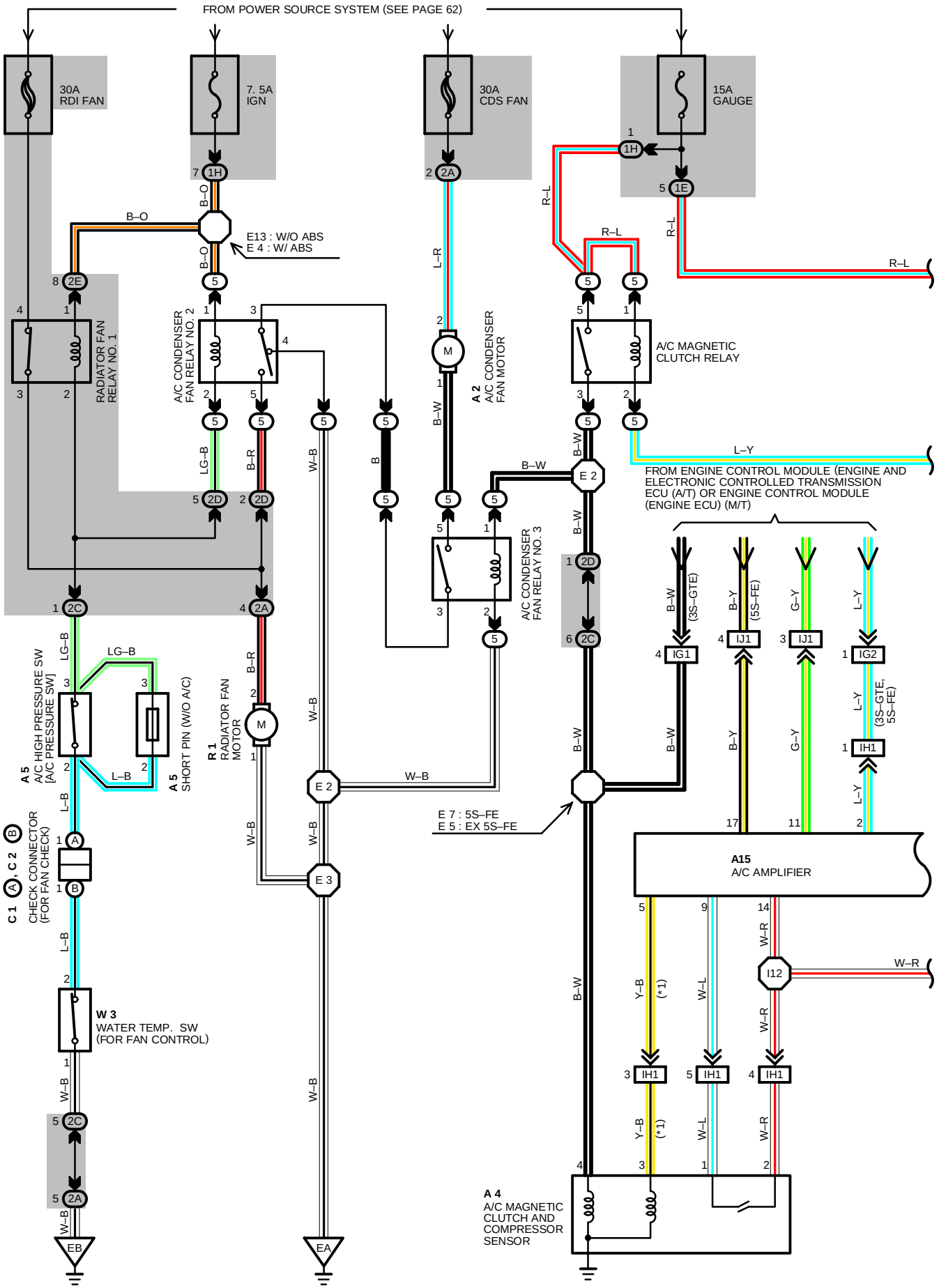
(ALL-TRAC/4WD) F11 Ⓒ BLACK

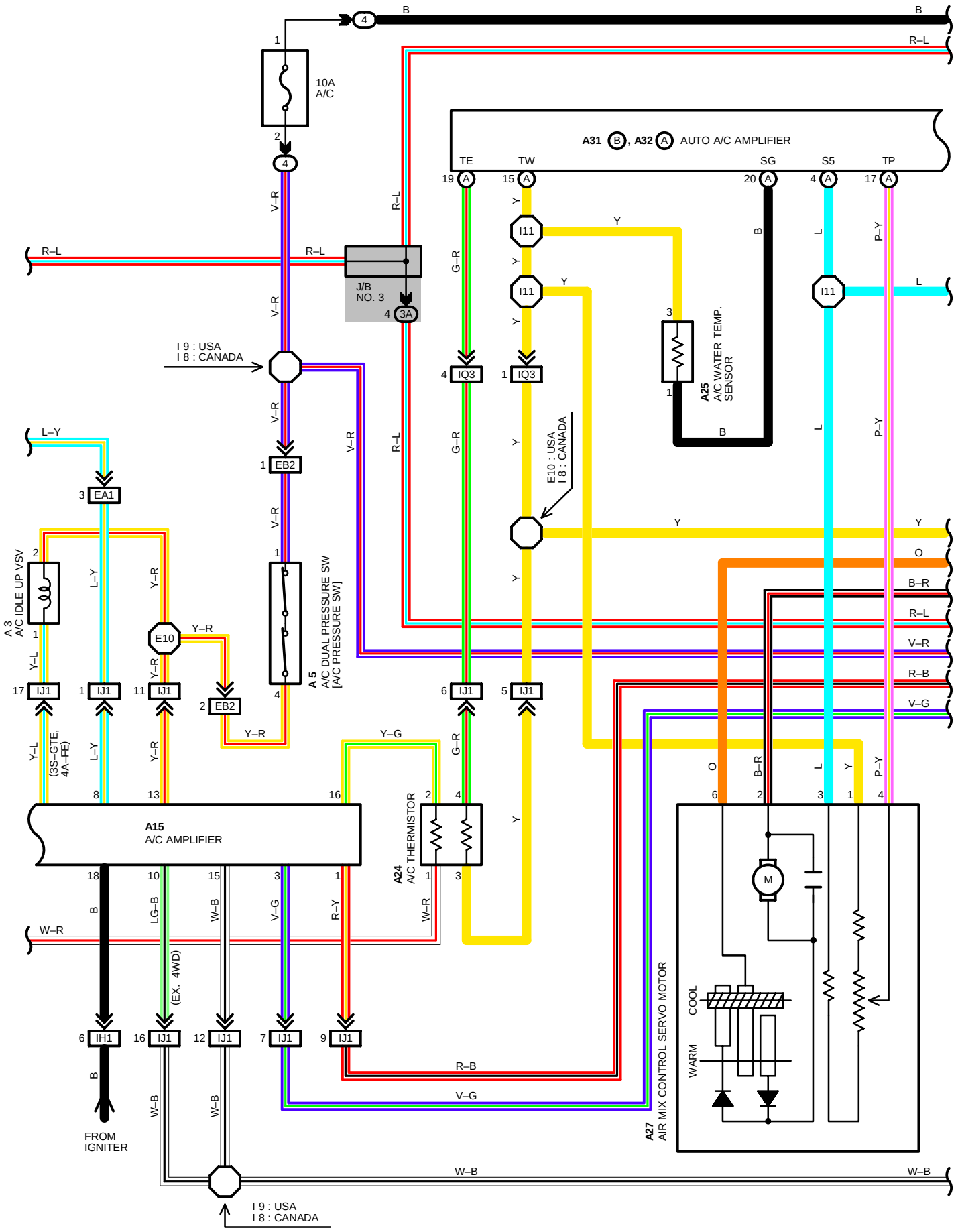
(2WD) F11 Ⓓ BLACK

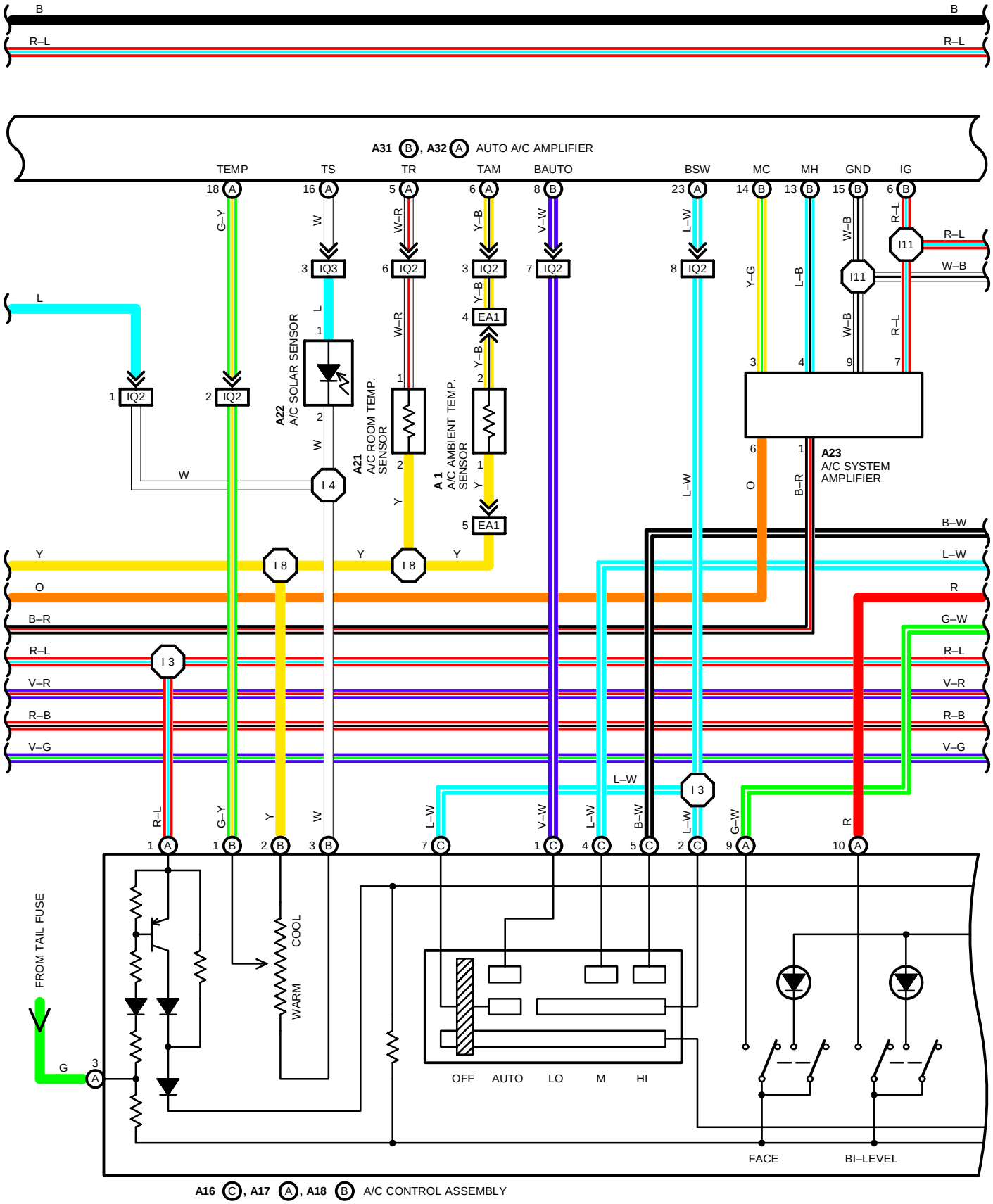
I13 BLACK

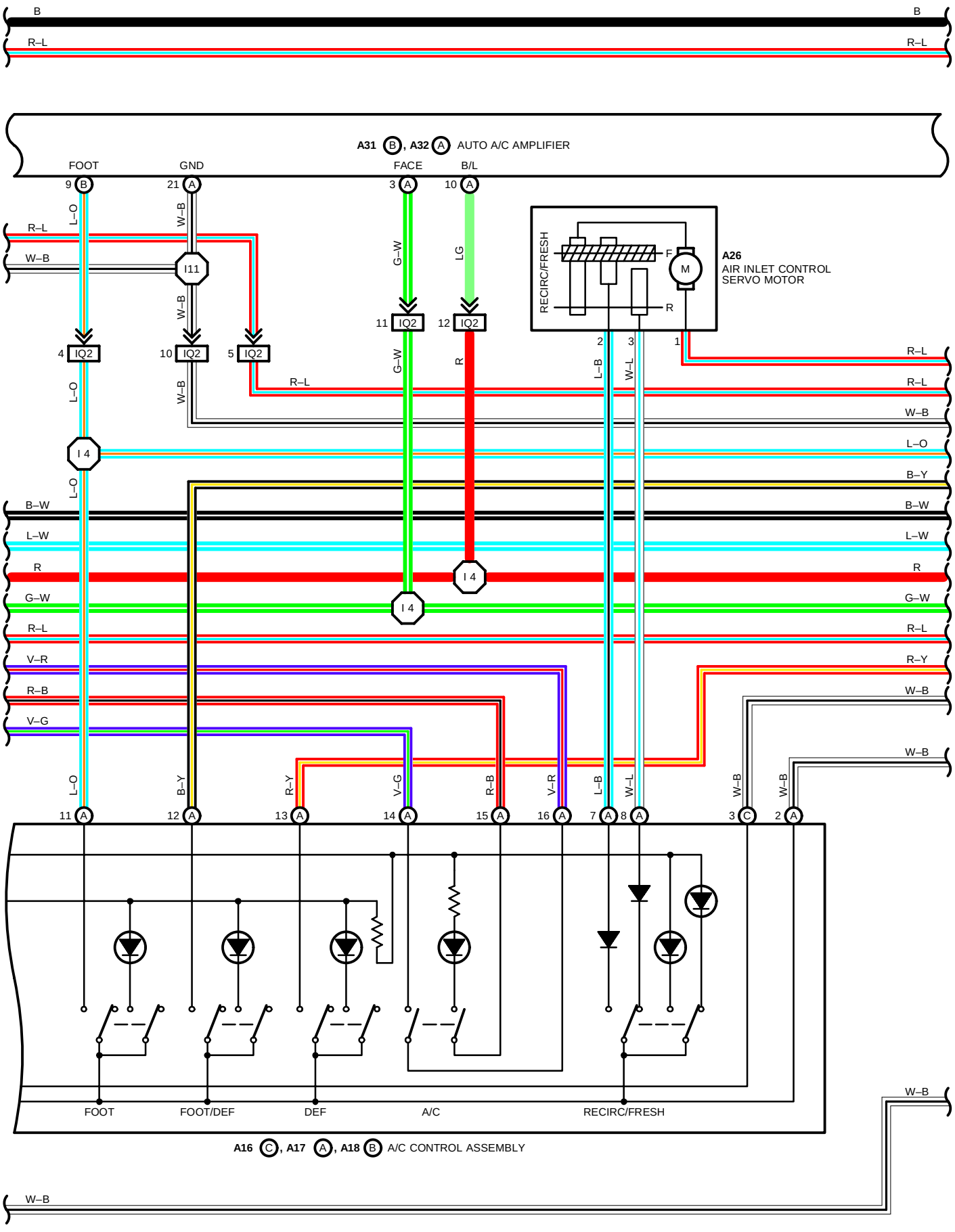


RADIATOR FAN AND AIR CONDITIONING (AUTOMATIC AIR CONDITIONING)

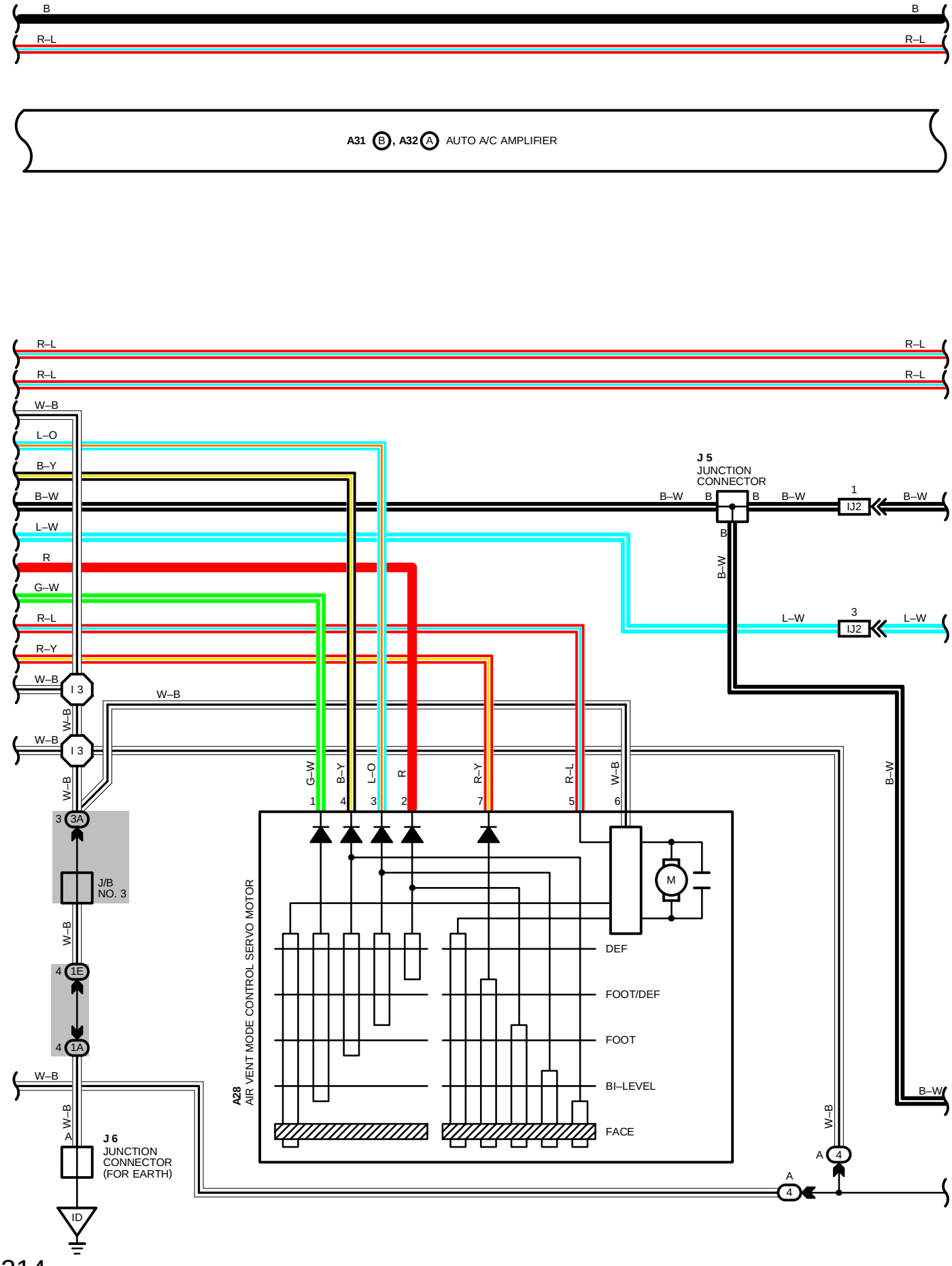


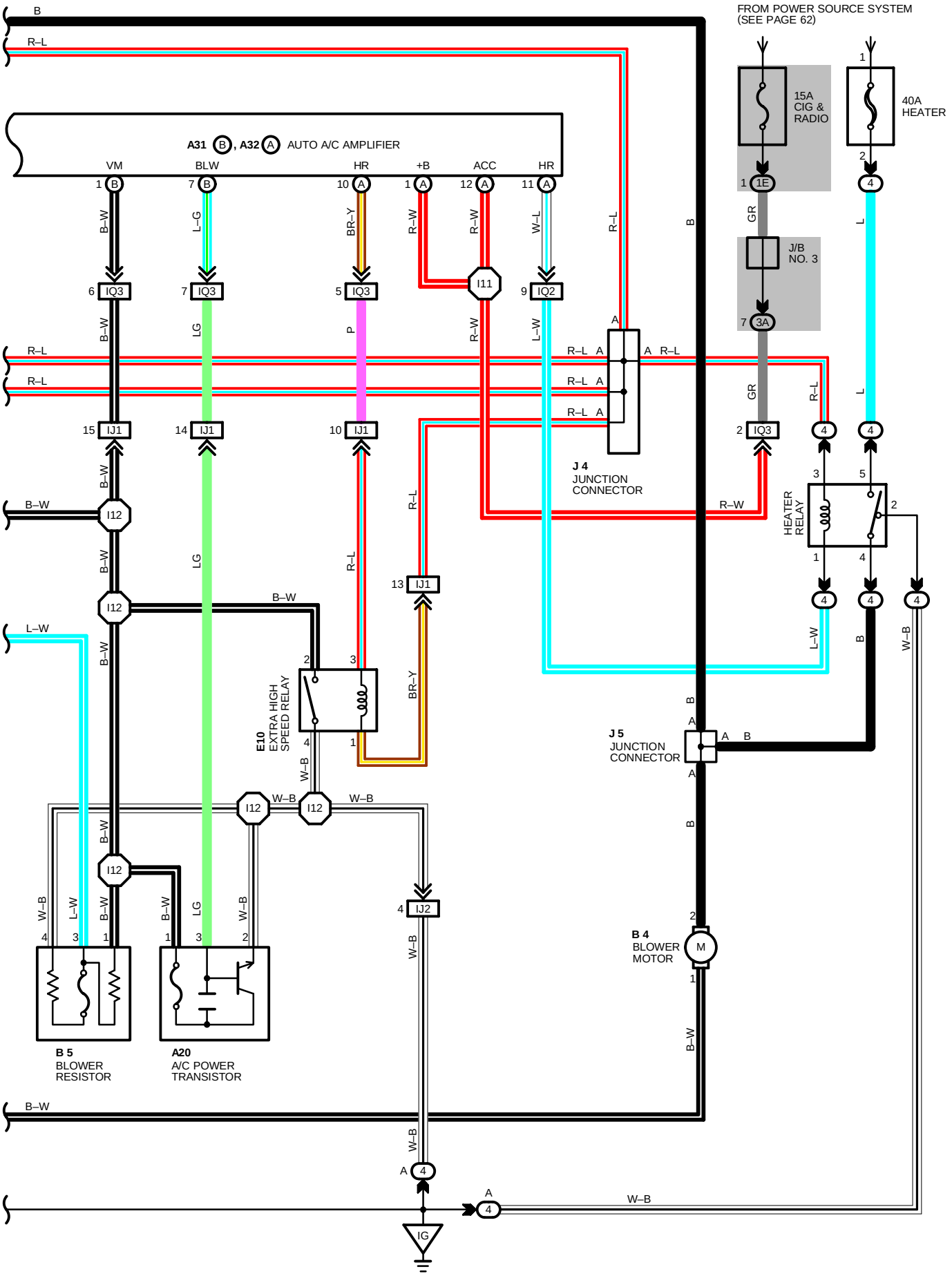

10A
A/C
A31 B, A32 A AUTO A/C AMPLIFIER
TE
TW
SG
S5
TP
J/B
NO. 3
I 9 : USA
I 8 : CANADA
A25
A/C WATER TEMP.
SENSOR
E10 : USA
I 8 : CANADA
A 3
A/C IDLE UP VSV
A 5
A/C DUAL PRESSURE SW
[A/C PRESSURE SW]
A15
A/C AMPLIFIER
A24
A/C THERMISTOR
A27
AIR MIX CONTROL SERVO MOTOR
COOL
WARM
(3S–GTE,
4A–FE)
(EX. 4WD)
FROM
IGNITER
I 9 : USA
I 8 : CANADA


B
R–L
A31 B, A32 A AUTO A/C AMPLIFIER
TEMP
TS
TR
TAM
BAUTO
BSW
MC
MH
GND
IG
A22 A/C SOLAR SENSOR
A21 A/C ROOM TEMP. SENSOR
A 1 A/C AMBIENT TEMP. SENSOR
A23 A/C SYSTEM AMPLIFIER
FROM TAIL FUSE
COOL
WARM
OFF
AUTO
LO
M
HI
FACE
BI–LEVEL
A16 C, A17 A, A18 B A/C CONTROL ASSEMBLY
W–B


B
R–L
A31 B, A32 A AUTO A/C AMPLIFIER
FOOT
GND
FACE
B/L
A26
AIR INLET CONTROL SERVO MOTOR
RECIRC/FRESH
M
F
R
I11
I 4
IQ2
L–O
W–B
G–W
LG
R
L–B
W–L
B–Y
B–W
L–W
V–R
R–B
V–G
R–Y
W–L
A16 C, A17 A, A18 B A/C CONTROL ASSEMBLY
FOOT
FOOT/DEF
DEF
A/C
RECIRC/FRESH

RADIATOR FAN AND AIR CONDITIONING (AUTOMATIC AIR CONDITIONING)




FROM POWER SOURCE SYSTEM
(SEE PAGE 62)
A31 B, A32 A AUTO A/C AMPLIFIER
VM
BLW
HR
+B
ACC
HR
15A
CIG &
RADIO
40A
HEATER
J/B
NO. 3
J 4
JUNCTION
CONNECTOR
J 5
JUNCTION
CONNECTOR
HEATER
RELAY
E10
EXTRA HIGH
SPEED RELAY
B 4
BLOWER
MOTOR
B 5
BLOWER
RESISTOR
A20
A/C POWER
TRANSISTOR
IG

SYSTEM OUTLINE

1. COOLING FAN OPERATION

WHEN THE IGNITION SW IS TURNED ON, THE CURRENT FROM IGN FUSE FLOWS TO **TERMINAL 1** OF RADIATOR FAN RELAY NO. 1 → **TERMINAL 2** → **TERMINAL 3** OF THE A/C PRESSURE SW → **TERMINAL 2** → **TERMINAL 2** OF WATER TEMP. SW (FOR FANS CONTROL) → **TERMINAL 1** → **GROUND,** FROM **TERMINAL 1** OF A/C FAN RELAY NO. 2 → **TERMINAL 2** → **TERMINAL 3** OF A/C PRESSURE SW → → **TERMINAL 2** → **TERMINAL 2** OF WATER TEMP. SW (FOR FANS CONTROL) → **TERMINAL 1** → **GROUND,** CAUSING RELAY NO. 1 AND RELAY NO. 2 OF EACH FAN TO TURN ON.

***** OPERATION AT LOW SPEED

WHEN THE A/C SW (A/C CONTROL ASSEMBLY) IS TURNED ON AND THE A/C OPERATES, THE CURRENT FLOWS FROM GAUGE FUSE FLOWS TO **TERMINAL 1** OF A/C MAGNETIC CLUTCH RELAY → **TERMINAL 2** → **TERMINAL 8** OF A/C AMPLIFIER CAUSING A/C MAGNETIC CLUTCH RELAY TO TURN ON.

AT THAT TIME, THE CURRENT FROM GAUGE FUSE FLOWS TO **TERMINAL 5** OF A/C MAGNETIC CLUTCH RELAY → **TERMINAL 3** → **TERMINAL 4** OF A/C MAGNETIC CLUTCH → **GROUND**, AND FROM **TERMINAL 3** OF A/C MAGNETIC CLUTCH RELAY **TERMINAL 1** OF A/C FAN RELAY NO. 3 → **TERMINAL 2** → **GROUND**.

AS A RESULT, A/C MAGNETIC CLUTCH AND A/C FAN RELAY NO. 3 TURNS ON AND THE CURRENT FLOWS FROM CDS FAN FUSE → **TERMINAL 2** OF A/C CONDENSER FAN MOTOR → **TERMINAL 1** → **TERMINAL 5** OF A/C FAN RELAY NO. 3 → **TERMINAL 3** → **TERMINAL 3** OF A/C FAN RELAY NO. 2 → **TERMINAL 5** → **TERMINAL 2** OF RADIATOR FAN MOTOR → **TERMINAL 1** → **GROUND**, FLOWING TO EACH FAN MOTOR IN SERIES, CAUSING THE COOLING FAN TO ROTATE AT LOW SPEED.

***** OPERATION AT HIGH SPEED

DURING A/C OPERATION, WHEN THE PRESSURE OF A/C COMPRESSOR BECOMES HIGHER THAN NORMAL PRESSURE (MORE THAN **14.3** KG/CM^2 **1401** KPA, **203** PSI), THE A/C PRESSURE SW TURNS OFF.

AS A RESULT, FAN RELAY NO. 1 AND NO. 2 TURNS OFF AND THE CURRENT FLOWS FROM RDI FAN FUSE TO → **TERMINAL 4** OF RADIATOR FAN RELAY NO. 1 → **TERMINAL 3** → **TERMINAL 2** OF RADIATOR FAN MOTOR → **TERMINAL 1** → **GROUND,** AND FROM CDS FAN FUSE → **TERMINAL 2** OF A/C CONDENSER FAN MOTOR → **TERMINAL 1** → **TERMINAL 5** OF A/C FAN RELAY NO. 3 → **TERMINAL 3** → **TERMINAL 1** OF A/C FAN RELAY NO. 2 → **TERMINAL 3** → **GROUND**, FLOWING TO EACH FAN MOTOR IN PARALLEL CAUSING THE COOLING FAN TO ROTATE AT HIGH SPEED. WHEN THE ENGINE COOLANT TEMPERATURE BECOMES MORE THAN ABOUT **90**˚ (**194**˚F), THE WATER TEMP. SW TURNS OFF AND THE SAME OPERATION AS ABOVE IS PERFORMED.

2. HEATER BLOWER MOTOR OPERATION (DIAL TYPE BLOWER CONTROL SW (W/ AUTO A/C)

CURRENT IS APPLIED AT ALL TIMES THROUGH THE HEATER FUSE TO **TERMINAL 5** OF HEATER RELAY. WHEN THE IGNITION SW IS TURNED ON, CURRENT FLOWS THROUGH GAUGE FUSE TO **TERMINAL 3** OF HEATER RELAY → **TERMINAL 1** → **TERMINAL HR** OF AUTO A/C AMPLIFIER. AT THE SAME TIME, CURRENT ALSO FLOWS FROM GAUGE FUSE TO **TERMINAL IG** OF AUTO A/C AMPLIFIER, AND **TERMINAL (A) 1** OF A/C CONTROL ASSEMBLY.

***** LOW SPEED OPERATION (OPERATION AT MANUAL)

CURRENT TO **TERMINAL 3** OF HEATER RELAY FLOWING TO **TERMINAL 1** OF HEATER RELAY → **TERMINAL HR** → **TERMINAL BSW** → **TERMINAL (C) 2** OF A/C CONTROL ASSEMBLY → **TERMINAL (C) 3** → **GROUND** AND TURNS THE HEATER RELAY ON. THIS CAUSES THE CURRENT TO **TERMINAL 5** OF THE HEATER RELAY TO FLOW TO **TERMINAL 4** → **TERMINAL 2** OF BLOWER MOTOR → MOTOR → **TERMINAL 1** → **TERMINAL 1** OF BLOWER RESISTOR → **TERMINAL 4** → **GROUND**, CAUSING THE BLOWER MOTOR TO ROTATE AT LOW SPEED.

***** HIGH SPEED OPERATION (OPERATION AT MANUAL)

CURRENT TO **TERMINAL 3** OF HEATER RELAY FLOWS TO **TERMINAL 1** → **TERMINAL HR** OF THE AUTO A/C AMPLIFIER → **TERMINAL BSW** → **TERMINAL (C) 2** OF A/C CONTROL ASSEMBLY → **TERMINAL (C) 3** → **GROUND**, TURNING THE HEATER RELAY ON.

AT THE SAME TIME, CURRENT FLOW TO **TERMINAL 5** OF THE HEATER RELAY → **TERMINAL 4** → **TERMINAL 2** OF BLOWER MOTOR → **TERMINAL 1** → **TERMINAL (C) 5** OF A/C CONTROL ASSEMBLY → **TERMINAL (C) 3** → **GROUND,** CAUSING THE BLOWER MOTOR TO ROTATE AT HIGH SPEED.

***** MEDIUM SPEED OPERATION (OPERATION AT MANUAL M1, M2)

THE CURRENT TO **TERMINAL 3** OF HEATER RELAY → **TERMINAL 1** → **TERMINAL HR** OF THE A/C AMPLIFIER → **TERMINAL BSW** → **TERMINAL (C) 2** OF A/C CONTROL ASSEMBLY → **TERMINAL (C) 3** → **GROUND**, AND TURNS THE HEATER RELAY ON.

AS A RESULT, THE CURRENT TO **TERMINAL 5** OF HEATER RELAY → **TERMINAL 4** → **TERMINAL 2** OF BLOWER MOTOR → **TERMINAL 1** → **TERMINAL 1** OF BLOWER RESISTOR → **TERMINAL 3** → **TERMINAL (C) 4** OF A/C CONTROL ASSEMBLY → **TERMINAL (C) 3** → **GROUND,** AND CAUSES THE BLOWER MOTOR TO ROTATE AT MEDIUM SPEED.

∗ AUTO FUNCTION

WHEN THE AUTO SW (A/C CONTROL ASSEMBLY) IS TURNED ON, SIGNALS ARE INPUT TO **TERMINAL BSW** AND **TERMINAL BAUTO** OF AUTO A/C AMPLIFIER CONTROLLING THE CURRENT FLOW FROM **TERMINAL BLW** OF THE AUTO A/C AMPLIFIER TO **TERMINAL 3** OF POWER TRANSISTOR → **TERMINAL 2** → **GROUND**, THE AUTO A/C AMPLIFIER CONTROLS THE BLOWER MOTOR STEPLESSLY.

3. OPERATION OF AIR INLET CONTROL SERVO MOTOR

(SWITCHING FROM FRESH TO RECIRC)

WITH IGNITION SW TURNED ON, THE CURRENT FLOWS FROM GAUGE FUSE TO **TERMINAL 1** OF AIR INLET SERVO MOTOR. WHEN THE RECIRC/FRESH SW IS SWITCHED TO THE RECIRC SIDE, TO CURRENT FLOWS FROM **TERMINAL 1** OF AIR INLET CONTROL SERVO MOTOR → **TERMINAL 2** → **TERMINAL (A) 7** OF A/C CONTROL ASSEMBLY → **TERMINAL (A) 2** → **GROUND**. THE MOTOR ROTATES AND THE DAMPER MOVES TO THE RECIRC SIDE.

WHEN IT IS IN THE **RECIRC** POSITION, THE CURRENT IS CUT INSIDE THE SERVO MOTOR AND THE DAMPER STOPS AT THAT POSITION.

(SWITCHING FROM RECIRC TO FRESH)

WITH IGNITION SW ON, WHEN THE RECIRC/FRESH SW IS SWITCHED TO THE FRESH SIDE, THE CURRENT FLOWS FROM **TERMINAL 1** OF AIR INLET CONTROL SERVO MOTOR → **TERMINAL 3** → **TERMINAL (A) 8** OF A/C CONTROL ASSEMBLY → **TERMINAL (A) 2** → **GROUND,** THE MOTOR ROTATES AND THE DAMPER MOVES TO THE FRESH SIDE. WHEN IT IS IN THE **FRESH** POSITION, THE CURRENT IS CUT INSIDE THE SERVO MOTOR AND THE DAMPER STOPS AT THAT POSITION.

4. OPERATION OF AIR VENT MODE CONTROL SERVO MOTOR

WITH IGNITION SW TURNED ON, THE CURRENT FLOWS FROM GAUGE FUSE TO **TERMINAL 5** OF AIR VENT MODE CONTROL SERVO MOTOR → **TERMINAL 6** → **GROUND,** AND THE DAMPER MOVES TO THE POSITION OF THE MODE SELECTION SW OF THE CONTROL ASSEMBLY SWITCH IS ON. WHEN THE MODE SELECTION SW OF A/C CONTROL ASSEMBLY IS MOVED TO **DEF** POSITION FROM THE DAMPER IN THE **FACE** POSITION, THE CURRENT FLOWS FROM **TERMINAL 7** OF AIR VENT MODE CONTROL SERVO MOTOR TO **TERMINAL (A) 13** OF A/C CONTROL ASSEMBLY → **TERMINAL (A) 2** → **GROUND.** AS A RESULT, THE SERVO MOTOR OPERATES UNTIL THE DAMPER REACHES **DEF** POSITION.

WHEN THIS OCCURS THE CURRENT TO THE A/C CONTROL ASSEMBLY IS SHUT OFF AND ROTATION OF THE MOTOR STOPS. SWITCHING TO OTHER MODES IS CONTROLLED BY THE SERVO MOTOR ACCORDING THE FLOWING CURRENT:

1. **FOOT/DEF** POSITION: THE CURRENT FLOWS FROM **TERMINAL 4** OF SERVO MOTOR TO **TERMINAL (A) 12** OF A/C CONTROL ASSEMBLY.
2. **FOOT** POSITION: THE CURRENT FLOWS FROM **TERMINAL 3** OF SERVO MOTOR TO **TERMINAL (A) 11** OF A/C CONTROL ASSEMBLY.
3. **BI–LEVEL** POSITION: THE CURRENT FLOWS FROM **TERMINAL 2** OF SERVO MOTOR TO **TERMINAL (A) 10** OF A/C CONTROL ASSEMBLY.

5. OPERATION OF AIR MIX CONTROL SERVO MOTOR

WHEN THE TEMPERATURE CONTROL VOLUME IS TURNED TO THE COOL SIDE, A SIGNAL IS INPUT TO **TERMINAL TEST** OF AUTO A/C FAMPLIFIER FROM **TERMINAL (B) 1** OF A/C CONTROL ASSEMBLY.

AS A RESULT, A SIGNAL IS OUTPUT FROM **TERMINAL AMH** OF AUTO A/C AMPLIFIER TO **TERMINAL 3** OF A/C SYSTEM AMPLIFIER AND THE CURRENT FLOWING TO **TERMINAL 7** OF A/C SYSTEM AMPLIFIER FROM THE GAUGE FUSE FLOWS FROM **TERMINAL 1** OF A/C SYSTEM AMPLIFIER → **TERMINAL 2** OF AIR MIX CONTROL SERVO MOTOR → **TERMINAL 6** → IF /AC SYSTEM AMPLIFIER → **TERMINAL 9** → **GROUND**. CAUSING THE AIR MIX CONTROL SERVO MOTOR TO ROTATE.

AT THIS TIME IS INPUT THE DAMPER OPENING ANGLE FROM **TERMINAL 4** OF SERVO MOTOR TO **TERMINAL TP** OF AUTO A/C AMPLIFIER THIS IS USED TO DETERMIN THE DAMPER **STOP** POSITION AND MAINTAIN THE SET TEMPERATURE.

WHEN THE TEMPERATURE CONTROL VOLUME IS TURNED TO THE WARM SIDE, IN A/C SYSTEM AMPLIFIER THE CURRENT FLOWS FROM SERVO MOTOR → **TERMINAL 6** OF A/C SYSTEM AMPLIFIER → **TERMINAL 6** OF AIR MIX CONTROL SERVO MOTOR → MOTOR → **TERMINAL 2** → **TERMINAL 1** OF A/C SYSTEM AMPLIFIER → **TERMINAL 9** → **GROUND**, ROTATING THE MOTOR IN REVERSE AND SWITCHING THE DAMPER FROM COOL TO WARM SIDE.

SYSTEM OUTLINE

6. AIR CONDITIONING OPERATION

THE A/C AMPLIFIER RECEIVES VARIOUS SIGNALS, THE ENGINE RPM SIGNAL FROM THE IGNITER, OUTLET TEMPERATURE SIGNAL FROM THE A/C THERMISTER, COOLANT TEMPERATURE FROM THE ENGINE COOLANT TEMP. SENSOR (EFI WATER TEMP. SENSOR), AND THE LOCK SIGNAL FROM THE A/C COMPRESSOR, ETC.

WHEN THE ENGINE IS STARTED AND THE A/C SW (A/C CONTROL ASSEMBLY) IS TURNED ON, THE CURRENT FLOWS FROM A/C FUSE TO **TERMINAL 3** OF A/C AMPLIFIER.

AS A RESULT, THE CURRENT FLOWING FROM **TERMINAL 2** OF A/C MAGNETIC CLUTCH RELAY TO **TERMINAL 8** OF A/C AMPLIFIER FLOWS FROM **TERMINAL 15** OF A/C AMPLIFIER TO **GROUND** AND TURNS IN THE MAGNETIC CLUTCH RELAY.

BECAUSE THE MAGNETIC CLUTCH IS ON, THE A/C COMPRESSOR OPERATES, CAUSING THE CURRENT FLOWING FROM A/C IDLE–UP VSV TO **TERMINAL 6** OF A/C AMPLIFIER TO FLOW TO **TERMINAL 15** OF A/C AMPLIFIER → **GROUND**, AND TURNS ON THE VSV TO AVOID LOWERING THE ENGINE RPM DURING AIR CONDITIONER OPERATION.

WHEN ANY OF THE FOLLOWING SIGNALS ARE INPUT TO THE A/C AMPLIFIER, THE AMPLIFIER OPERATES TO TURN OFF THE A/C:

* ENGINE HIGH RPM SIGNAL
* COOLANT TEMP. SIGNAL IS HIGH.
* A SIGNAL THAT THE TEMPERATURE AT THE AIR OUTLET IS LOW.
* A SIGNAL THAT THERE IS A LARGE DIFFERENCE BETWEEN ENGINE RPM AND COMPRESSOR RPM
* A SIGNAL THAT THE REFRIGERANT PRESSURE IS ABNORMALLY HIGH OR LOW.

SERVICE HINTS

A 4 A/C MAGNETIC CLUTCH
4–GROUND : APPROX. **3.7** Ω

A 5 A/C PRESSURE SW
3–2 : OPEN ABOVE APPROX. **13.5** KG/CM^2 (**192** PSI, **1323** KPA)
CLOSED BELOW APPROX. **10** KG/CM^2 (**142** PSI, **980** KPA)
1–4 : OPEN WITH PRESSURE LESS THAN **2.1** KG/CM^2 (**30** PSI, **206** KPA) OR ABOVE **27** KG/CM^2 (**384** PSI, **2648** KPA)

A15 A/C AMPLIFIER
8–15 : CONTINUITY WITH A/C SW (A/C CONTROL ASSEMBLY) ON AND IGNITION SW **ON** POSITION
14–15 : ALWAYS CONTINUITY
14–GROUND: ALWAYS CONTINUITY
15–GROUND: ALWAYS CONTINUITY
13–GROUND: APPROX. **12** VOLTS WITH IGNITION SW ON

A21 A/C ROOM TEMP. SENSOR
1–2 : APPROX. **1.7** KΩ AT **25**˚C (**77**˚F)

A24 A/C THERMISTOR
1–2, 3–4 : APPROX. **4852** Ω AT **0**˚C (**59**˚F)
APPROX. **2341** Ω AT **15**˚C (**59**˚F)
APPROX. **1500** Ω AT **25**˚C (**77**˚F)

A27 AIR MIX CONTROL SERVO MOTOR
2–GROUND : APPROX. **12** VOLTS WITH TEMPERATURE CONTROL VOLUME AT **WARM** TO **COOL** POSITION
6–GROUND : APPROX. **12** VOLTS WITH TEMPERATURE CONTROL VOLUME AT **COOL** TO **WARM** POSITION
1–3 : ALWAYS APPROX. **6** KΩ

A31(B), A32(A) AUTO A/C AMPLIFIER
B–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ACC** OR **ON** POSITION
IG–GROUND : APPROX. **12** VOLTS WITH IGNITION SW **ON** POSITION
HR–GROUND : CONTINUITY WITH BLOWER SW (A/C CONTROL ASSEMBLY) ON OR AUTO SW (A/C CONTROL ASSEMBLY) ON
S5–GROUND : APPROX. **5** VOLTS WITH IGNITION SW ON
SG–GROUND : ALWAYS CONTINUITY
REC–GROUND : APPROX. **12** VOLTS WITH A/C CONTROL ASSEMBLY AT **RECIRC** POSITION
FRS–GROUND : APPROX. **12** VOLTS WITH A/C CONTROL ASSEMBLY AT **FRESH** POSITION
GND–GROUND: ALWAYS CONTINUITY

B 5 BLOWER RESISTOR
1–3 : APPROX. **0.84** Ω
3–4 : APPROX. **1.48** Ω

W 3 WATER TEMP. SW (FOR FANS CONTROL)
1–2 : OPEN ABOVE APPROX. **90**˚C (**194**˚F)
CLOSED BELOW APPROX. **83**˚C (**181.4**˚F)

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
A 1	28 (3S–GTE), 30 (5S–FE)	**A21**	32	**B 4**	32
A 2	28 (3S–GTE), 30 (5S–FE)	**A22**	32	**B 5**	32
A 3	28 (3S–GTE), 30 (5S–FE)	**A23**	32	**C 1** A	28 (3S–GTE), 30 (5S–FE)
A 4	28 (3S–GTE), 30 (5S–FE)	**A24**	32	**C 2** B	28 (3S–GTE), 30 (5S–FE)
A 5	28 (3S–GTE), 30 (5S–FE)	**A25**	32	**E10**	33
A15	32	**A26**	32	**J 4**	33
A16 C	32	**A27**	32	**J 5**	33
A17 A	32	**A28**	32	**J 6**	33
A18 B	32	**A31** B	32	**R 1**	28 (3S–GTE), 30 (5S–FE)
A20	32	**A32** A	32	**W 3**	28 (3S–GTE), 30 (5S–FE)

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
4	27	R/B NO. 4 (RIGHT KICK PANEL)
5	27	R/B NO. 5 (ENGINE COMPARTMENT FRONT RIGHT)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2A	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2C	22 (2WD)	ENGINE WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2D	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2E		
3A	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EA1	36 (3S–GTE)	COWL WIRE AND ENGINE ROOM MAIN WIRE (FRONT SIDE OF RIGHT FRONT FENDER)
	38 (5S–FE)	
EB2	36 (3S–GTE)	ENGINE WIRE AND COWL WIRE (REAR SIDE OF RIGHT FRONT FENDER)
	38 (5S–FE)	
IG1	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE CONTROL MODULE (ECU))
IG2		
IH1	42	ENGINE WIRE AND A/C NO. 1 WIRE (BEHIND THE GLOVE BOX)
IJ1	44	COWL WIRE AND A/C NO. 1 WIRE (BEHIND THE GLOVE BOX)
IJ2		
IQ2	44	COWL WIRE AND A/C NO. 2 WIRE (BESIDE HEATER UNIT)
IQ3		

: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
EA	38 (5S–FE)	FRONT RIGHT FENDER
EB	38 (5S–FE)	FRONT LEFT FENDER
ID	42	LEFT KICK PANEL
IG	42	R/B NO. 4 SET BOLT

: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 2	36 (3S–GTE)	ENGINE ROOM MAIN WIRE	**E10**	38 (5S–FE)	ENGINE WIRE
	38 (5S–FE)		**E13**	38	ENGINE ROOM MAIN WIRE
E 3	36 (3S–GTE)		**I 3**	44	COWL WIRE
	38 (5S–FE)		**I 4**		
E 4	36 (3S–GTE)		**I 8**		
	38 (5S–FE)		**I 9**		
E 5	36 (3S–GTE)		**I11**	44	A/C NO. 2 WIRE
E 7	38 (5S–FE)		**I12**	44	A/C NO. 1 WIRE
E10	36 (3S–GTE)	ENGINE WIRE			

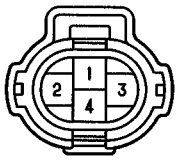
A 1

A 2 BLACK

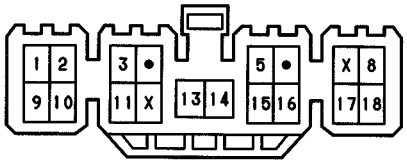
A 3 BLACK

A 4 GRAY

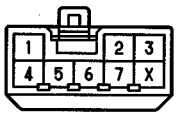
A 5 BLACK



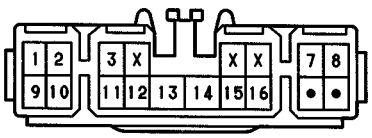
A15



A16 (C)

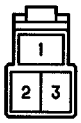


A17 (A)



A18 (B)

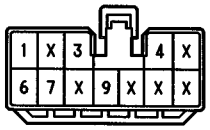
A20 BLACK



A21 BLACK

A22

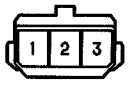
A23



A24

A25

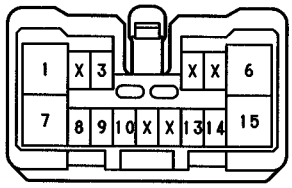
A26



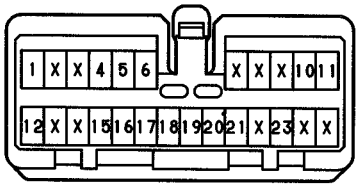
A27

A28 GRAY

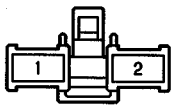
A31 (B)



A32 (A)

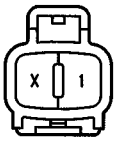


B 4 (A) BLACK

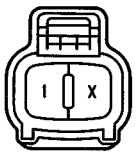


B 5 BLACK

C 1 (A) DARK GRAY



C 2 (B) DARK GRAY

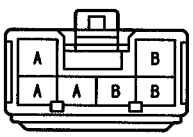


E10 BLACK

J 4

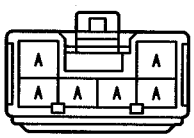
(HINT:SEE PAGE 7)

J 5



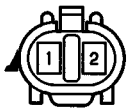
(HINT:SEE PAGE 7)

J 6

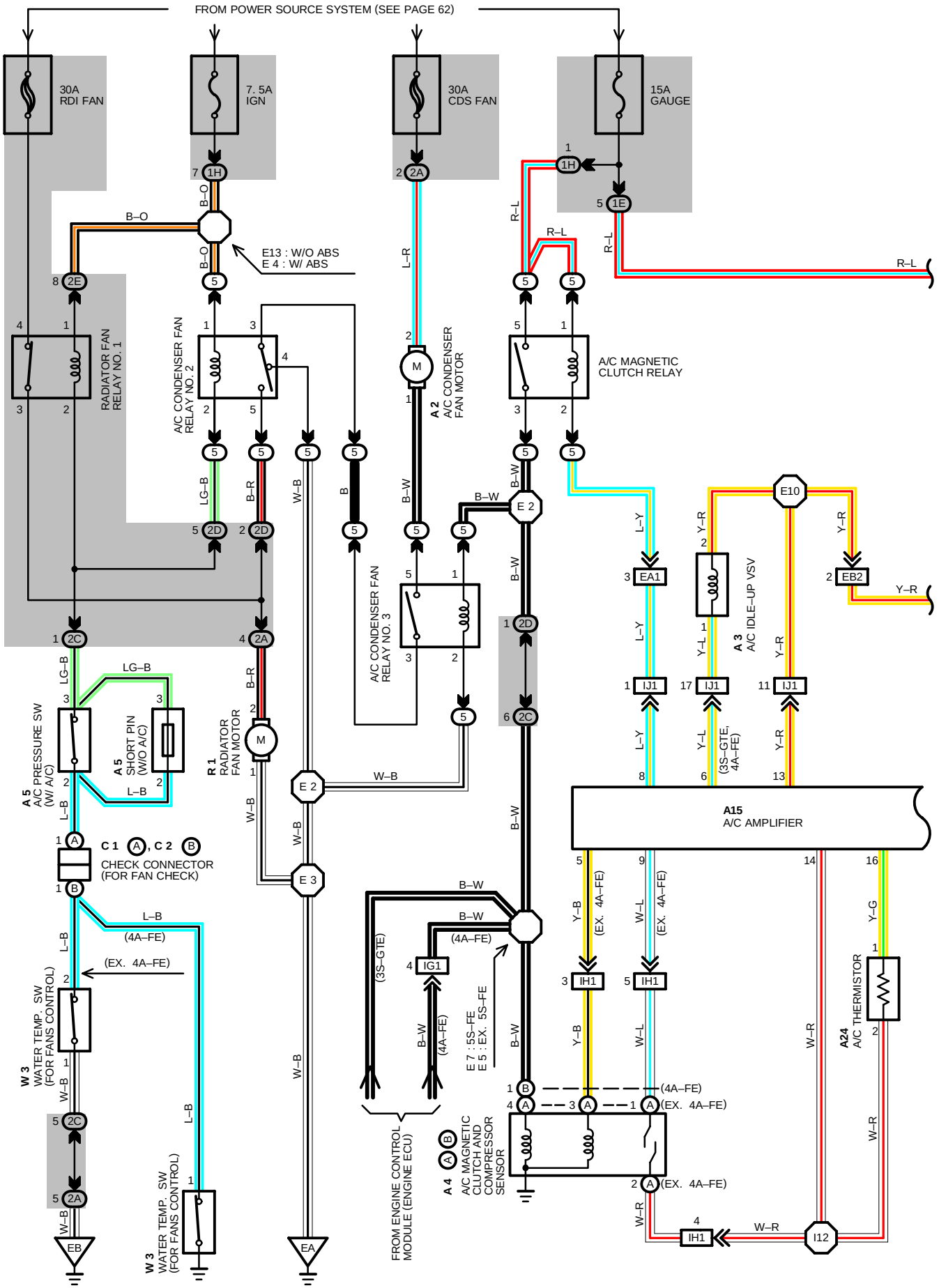


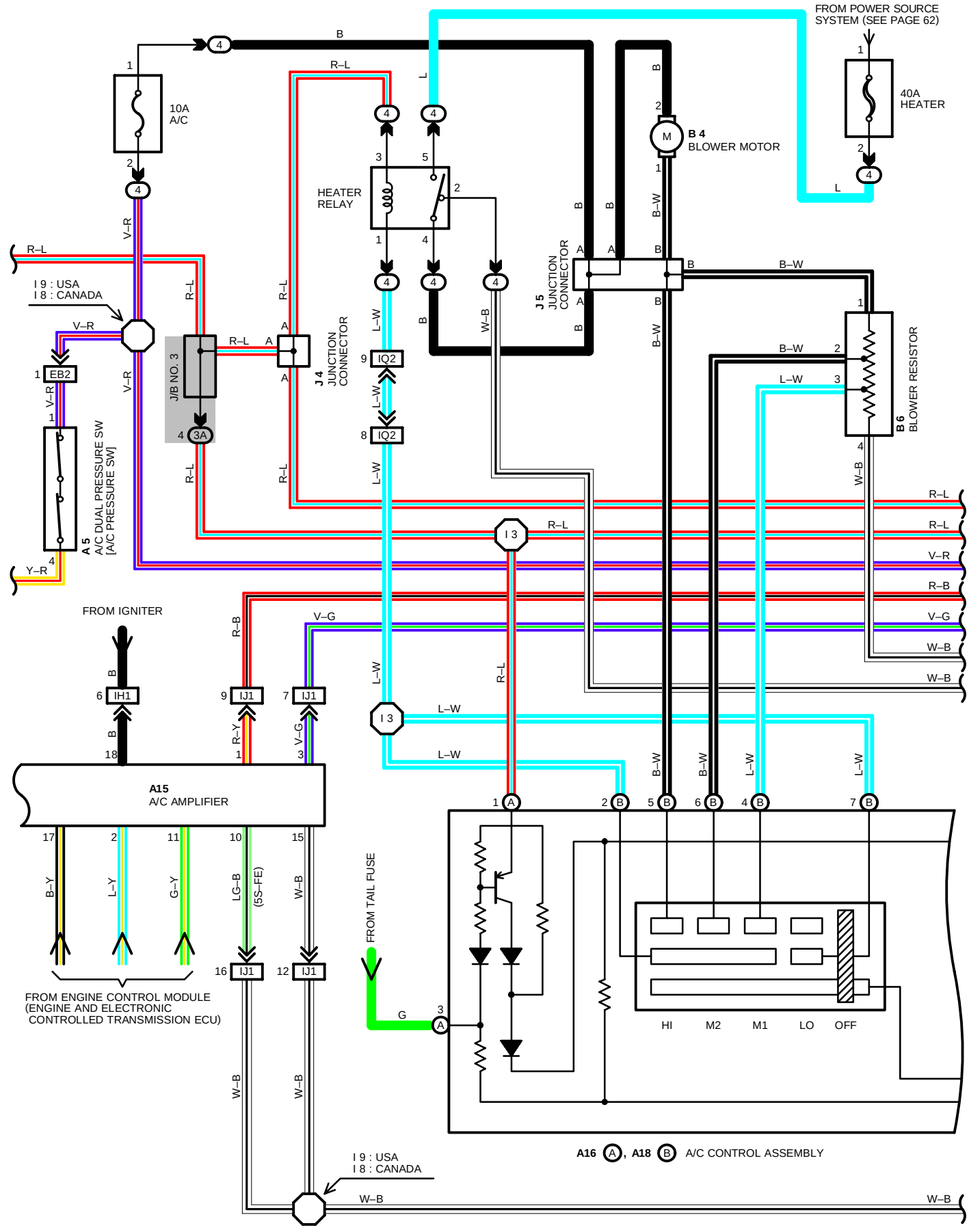
(HINT:SEE PAGE 7)

R 1 GRAY

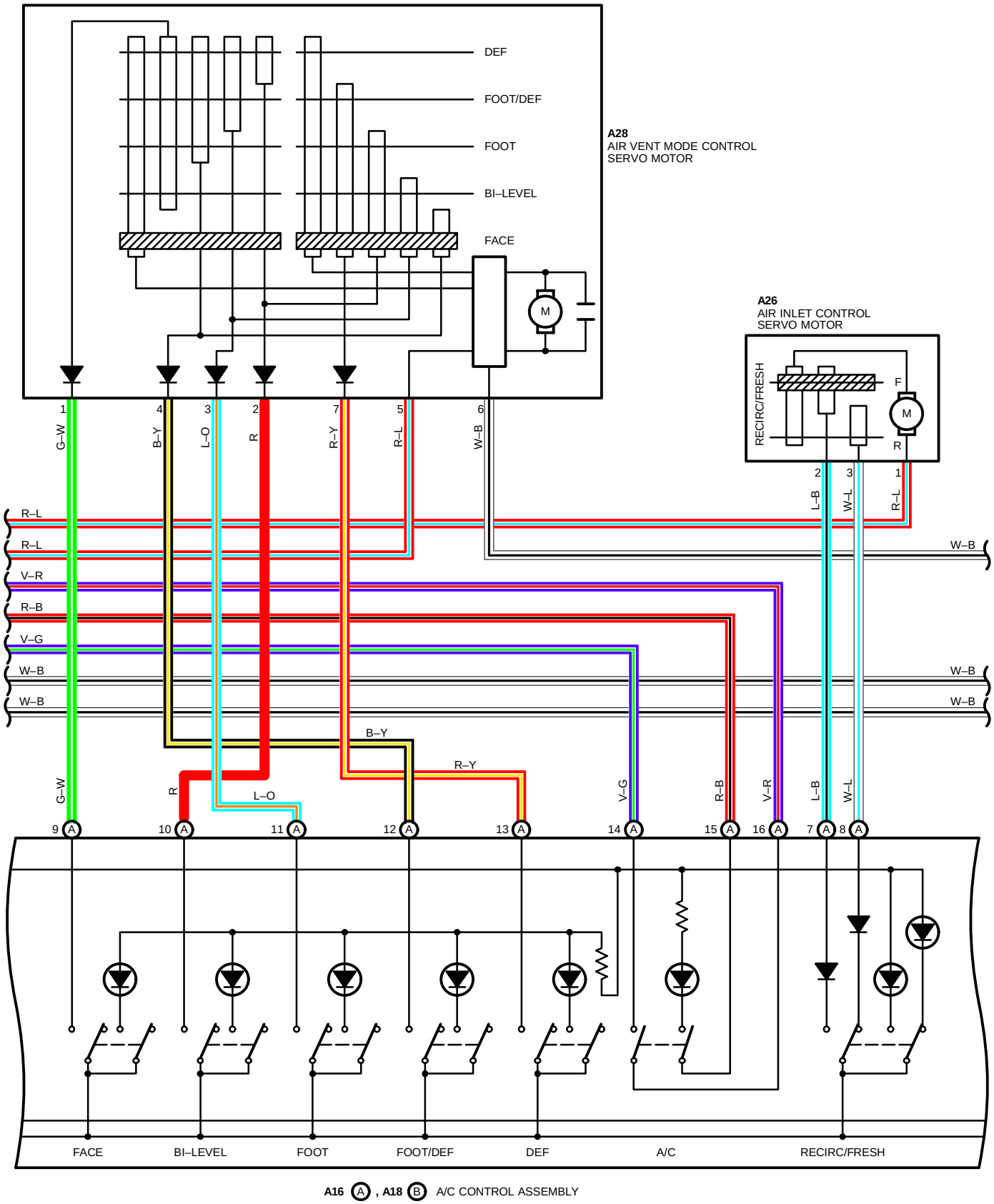


W 3 GRAY


FROM POWER SOURCE SYSTEM (SEE PAGE 62)
30A RDI FAN
7. 5A IGN
30A CDS FAN
15A GAUGE
E13 : W/O ABS
E 4 : W/ ABS
RADIATOR FAN RELAY NO. 1
A/C CONDENSER FAN RELAY NO. 2
A/C CONDENSER FAN RELAY NO. 3
A/C MAGNETIC CLUTCH RELAY
A 2 A/C CONDENSER FAN MOTOR
R 1 RADIATOR FAN MOTOR
A 5 A/C PRESSURE SW (W/ A/C)
A 5 SHORT PIN (W/O A/C)
C 1 , C 2
CHECK CONNECTOR (FOR FAN CHECK)
W 3 WATER TEMP. SW (FOR FANS CONTROL)
W 3 WATER TEMP. SW (FOR FANS CONTROL)
A 3 A/C IDLE–UP VSV
A15 A/C AMPLIFIER
A24 A/C THERMISTOR
A 4 A/C MAGNETIC CLUTCH AND COMPRESSOR SENSOR
FROM ENGINE CONTROL MODULE (ENGINE ECU)
(3S–GTE)
(4A–FE)
(EX. 4A–FE)
E 7 : 5S–FE
E 5 : EX. 5S–FE
(3S–GTE, 4A–FE)

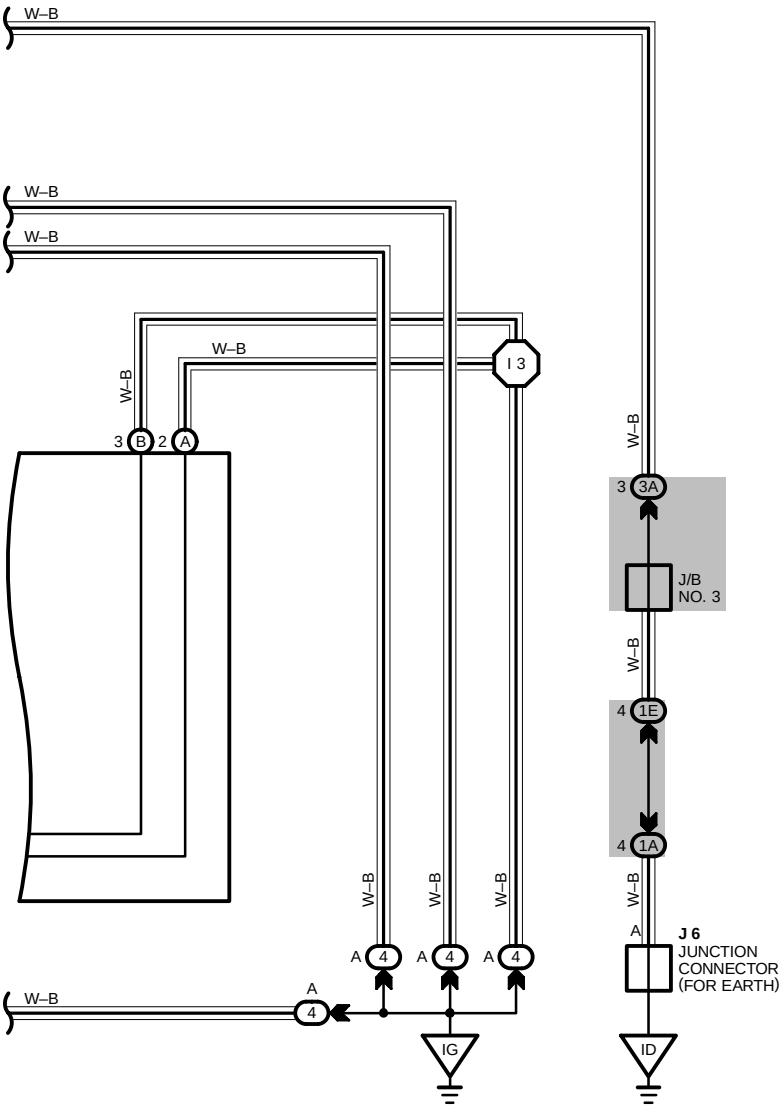

FROM POWER SOURCE SYSTEM (SEE PAGE 62)
40A HEATER
10A A/C
HEATER RELAY
B 4 BLOWER MOTOR
J 5 JUNCTION CONNECTOR
J 4 JUNCTION CONNECTOR
J/B NO. 3
B 6 BLOWER RESISTOR
I 9 : USA
I 8 : CANADA
A 5 A/C DUAL PRESSURE SW [A/C PRESSURE SW]
FROM IGNITER
A15 A/C AMPLIFIER
FROM ENGINE CONTROL MODULE (ENGINE AND ELECTRONIC CONTROLLED TRANSMISSION ECU)
FROM TAIL FUSE
HI
M2
M1
LO
OFF
A16 A, A18 B A/C CONTROL ASSEMBLY

RADIATOR FAN AND AIR CONDITIONING (MANUAL AIR CONDITIONING)



A16 Ⓐ **, A18** Ⓑ A/C CONTROL ASSEMBLY

W–B W–B


W–B
W–B
W–B
W–B
W–B
I 3
3 B 2 A
W–B
3 3A
J/B
NO. 3
W–B
4 1E
4 1A
W–B
A
J 6
JUNCTION
CONNECTOR
(FOR EARTH)
ID
W–B
W–B
W–B
A 4
A 4
A 4
W–B
A
4
IG

SYSTEM OUTLINE

1. COOLING FAN OPERATION

WHEN THE IGNITION SW IS TURNED ON, THE CURRENT FROM IGN FUSE FLOWS TO **TERMINAL 1** OF RADIATOR FAN RELAY NO. 1 → **TERMINAL 2** → **TERMINAL 3** OF THE A/C PRESSURE SW → **TERMINAL 2** → **TERMINAL 1** (4S–FE) OR **TERMINAL 2** (EX. 4A–FE) OF THE WATER TEMP. SW → **TERMINAL 1** (EX. 4A–FE) → **GROUND,** FROM **TERMINAL 1** OF A/C FAN RELAY NO. 2 → **TERMINAL 2** → **TERMINAL 3** OF A/C PRESSURE SW → **TERMINAL 2** → **TERMINAL 1** (4A–FE) OR **TERMINAL 2** (EX. 4A–FE) OF THE WATER TEMP. SW → **TERMINAL 1** (EX. 4A–FE) → **GROUND,** CAUSING RELAY NO. 1 AND RELAY NO. 2 OF EACH FAN TO TURN ON.

***** OPERATION AT LOW SPEED

WHEN THE A/C SW (A/C CONTROL ASSEMBLY) IS TURNED ON AND THE A/C OPERATES, THE CURRENT FLOWS FROM GAUGE FUSE FLOWS TO **TERMINAL 1** OF A/C MAGNETIC CLUTCH RELAY → **TERMINAL 2** → **TERMINAL 8** OF A/C AMPLIFIER CAUSING A/C MAGNETIC CLUTCH RELAY TO TURN ON.

AT THAT TIME, THE CURRENT FROM GAUGE FUSE FLOWS TO **TERMINAL 5** OF A/C MAGNETIC CLUTCH RELAY → **TERMINAL 3** → **TERMINAL 4** (5S–FE), **1** (4A–FE) OF A/C MAGNETIC CLUTCH → **GROUND**, AND FROM **TERMINAL 3** OF A/C MAGNETIC CLUTCH RELAY → **TERMINAL 2** OF A/C FAN RELAY NO. 3 → **TERMINAL 2** → **GROUND**.

AS A RESULT, A/C MAGNETIC CLUTCH AND A/C FAN RELAY NO. 3 TURNS ON AND THE CURRENT FLOWS FROM CDS FAN FUSE → **TERMINAL 2** OF A/C CONDENSER FAN MOTOR → **TERMINAL 1** → **TERMINAL 5** OF A/C FAN RELAY NO. 3 → **TERMINAL 3** → **TERMINAL 3** OF A/C FAN RELAY NO. 2 → **TERMINAL 5** → **TERMINAL 2** OF A/C CONDENSER FAN MOTOR → **TERMINAL 1** → **GROUND**, FLOWING TO EACH FAN MOTOR IN SERIES, CAUSING THE COOLING FAN TO ROTATE AT LOW SPEED.

***** OPERATION AT HIGH SPEED

DURING A/C OPERATION, WHEN THE PRESSURE OF A/C COMPRESSOR BECOMES HIGHER THAN NORMAL PRESSURE (MORE THAN **14.3** KG/CM^2 **1401** KPA, **203** PSI), THE A/C PRESSURE SW TURNS OFF.

AS A RESULT, FAN RELAY NO. 1 AND NO. 2 TURNS OFF AND THE CURRENT FLOWS FROM RDI FAN FUSE → **TERMINAL 4** OF RADIATOR FAN RELAY NO. 1 → **TERMINAL 3** → **TERMINAL 2** OF RADIATOR FAN MOTOR → **TERMINAL 1** → **GROUND,** AND FROM CDS FAN FUSE → **TERMINAL 2** OF A/C CONDENSER FAN MOTOR → **TERMINAL 1** → **TERMINAL 5** OF A/C FAN RELAY NO. 3 → **TERMINAL 3** → **TERMINAL 3** OF A/C FAN RELAY NO. 2 → **TERMINAL 4** → **GROUND**, FLOWING TO EACH FAN MOTOR IN PARALLEL CAUSING THE COOLING FAN TO ROTATE AT HIGH SPEED. WHEN THE ENGINE COOLANT TEMPERATURE BECOMES MORE THAN ABOUT **90**˚C (**194**˚F), THE WATER TEMP. SW TURNS OFF AND THE SAME OPERATION AS ABOVE IS PERFORMED.

2. HEATER BLOWER MOTOR OPERATION (DIAL TYPE BLOWER (W/O AUTO A/C))

CURRENT IS APPLIED AT ALL TIMES THROUGH THE HEATER FUSE TO **TERMINAL 5** OF HEATER RELAY. WHEN THE IGNITION SW IS TURNED ON, CURRENT FLOWS THROUGH GAUGE FUSE TO **TERMINAL 3** OF HEATER RELAY → **TERMINAL 1** → **TERMINAL (B) 2** AND **TERMINAL (B) 7** OF A/C CONTROL ASSEMBLY.

***** LOW SPEED OPERATION

WHEN THE BLOWER SW (A/C CONTROL ASSEMBLY) IS MOVED TO **LO** POSITION. THE CURRENT FLOWS TO **TERMINAL (B) 7** OF A/C CONTROL ASSEMBLY → **TERMINAL (B) 3** → **GROUND** AND TURNS THE HEATER RELAY ON.

AS A RESULT, THE CURRENT TO **TERMINAL 5** OF THE HEATER RELAY → **TERMINAL 4** → **TERMINAL 2** OF BLOWER MOTOR → MOTOR → **TERMINAL 1** → **TERMINAL 1** OF BLOWER RESISTOR → **TERMINAL 4** → **GROUND**, CAUSING THE BLOWER MOTOR TO ROTATE AT LOW SPEED.

***** HIGH SPEED OPERATION

WHEN THE BLOWER SW (A/C CONTROL ASSEMBLY) IS MOVED TO **HI** POSITION. THE CURRENT TO **TERMINAL (B) 2** OF A/C CONTROL ASSEMBLY → **TERMINAL (B) 3** → **GROUND** AND TURNS THE HEATER RELAY ON.

AS A RESULT, THE CURRENT TO **TERMINAL 5** OF HEATER RELAY → **TERMINAL 4** → **TERMINAL 2** OF BLOWER MOTOR → **TERMINAL 1** → **TERMINAL (B) 5** OF A/C CONTROL ASSEMBLY → **TERMINAL (B) 3** → **GROUND,** AND CAUSES THE BLOWER MOTOR TO ROTATE AT HIGH SPEED.

***** MEDIUM SPEED OPERATION (OPERATION AT MANUAL M1, M2)

WHEN THE BLOWER SW (A/C CONTROL ASSEMBLY) IS MOVED TO **M1** POSITION. THE CURRENT FLOWING TO **TERMINAL 3** OF HEATER RELAY FLOWS TO **TERMINAL 1** → **TERMINAL (B) 2** OF A/C CONTROL ASSEMBLY → **TERMINAL (B) 3** → **GROUND** AND TURNS THE HEATER RELAY ON.

AS A RESULT, CURRENT FROM THE HEATER FUSE TO **TERMINAL 5** OF HEATER RELAY FLOW TO **TERMINAL 4** → **TERMINAL 2** OF BLOWER MOTOR → **TERMINAL 1** OF BLOWER RESISTOR → **TERMINAL 3**→ **TERMINAL (B) 4** OF A/C CONTROL ASSEMBLY → **TERMINAL (B) 3** → **GROUND,** CAUSING THE BLOWER MOTOR TO ROTATE AT MEDIUM LOW SPEED.

WHEN THE BLOWER SW (A/C CONTROL ASSEMBLY) IS MOVED TO **M2** POSITION. THE CURRENT TO **TERMINAL 5** OF HEATER RELAY FLOWS TO **TERMINAL 4** → **TERMINAL 2** OF BLOWER MOTOR → **TERMINAL 1** → **TERMINAL 1** OF BLOWER RESISTOR → **TERMINAL 2**→ **TERMINAL (B) 6** OF A/C CONTROL ASSEMBLY → **TERMINAL (B) 3** → **GROUND.**

AS THE CURRENT FLOW FROM BLOWER MOTOR TO GROUND IS GREATER THAN FOR M1. THE BLOWER MOTOR ROTATES AT HIGH SPEED.

3. OPERATION OF AIR INLET CONTROL SERVO MOTOR

(SWITCHING FROM FRESH TO RECIRC)

WITH IGNITION SW TURNED ON, THE CURRENT FLOWS FROM GAUGE FUSE TO **TERMINAL 1** OF AIR INLET CONTROL SERVO MOTOR. WHEN THE RECIRC/FRESH SW IS SWITCHED TO THE RECIRC SIDE, TO CURRENT FLOWS FROM **TERMINAL 1** OF AIR INLET CONTROL SERVO MOTOR → **TERMINAL 2** → **TERMINAL (A) 7** OF AIR INLET CONTROL SERVO MOTOR → **TERMINAL (A) 2** → **GROUND**, THE MOTOR ROTATES AND THE DAMPER MOVES TO THE RECIRC SIDE.

WHEN IT IS IN THE **RECIRC** POSITION, THE CURRENT IS CUT INSIDE THE SERVO MOTOR AND THE DAMPER STOPS AT THAT POSITION.

(SWITCHING FROM RECIRC TO FRESH)

WITH IGNITION SW ON, WHEN THE RECIRC/FRESH SW IS SWITCHED TO THE FRESH SIDE, THE CURRENT FLOWS FROM **TERMINAL 1** OF AIR INLET CONTROL SERVO MOTOR → **TERMINAL 3** → **TERMINAL (A) 8** OF A/C CONTROL ASSEMBLY → **TERMINAL (A) 2** → **GROUND,** THE MOTOR ROTATES AND THE DAMPER MOVES TO THE FRESH SIDE. WHEN IT IS IN THE **FRESH** POSITION, THE CURRENT IS CUT INSIDE THE SERVO MOTOR AND THE DAMPER STOPS AT THAT POSITION.

4. OPERATION OF AIR VENT MODE CONTROL SERVO MOTOR

WITH IGNITION SW TURNED ON, THE CURRENT FLOWS FROM GAUGE FUSE TO **TERMINAL 5** OF AIR VENT MODE CONTROL SERVO MOTOR → **TERMINAL 6** → **GROUND,** AND THE DAMPER MOVES TO THE POSITION OF THE MODE SELECTION SW OF THE CONTROL ASSEMBLY SWITCH IS ON.

WHEN THE MODE SELECTION SW OF A/C CONTROL ASSEMBLY IS MOVED TO **DEF** POSITION FROM THE DAMPER IN THE **FACE** POSITION, THE CURRENT FLOWS FROM **TERMINAL 7** OF AIR VENT MODE CONTROL SERVO MOTOR TO **TERMINAL (A) 13** OF A/C CONTROL ASSEMBLY → **TERMINAL (A) 2** → **GROUND.**

AS A RESULT, TO SERVO MOTOR OPERATES UNTIL THE DAMPER REACHES **DEF** POSITION.

WHEN THIS OCCURS THE CURRENT TO THE A/C CONTROL ASSEMBLY IS SHUT OFF AND ROTATION OF THE MOTOR STOPS. SWITCHING TO OTHER MODES IS CONTROLLED BY THE SERVO MOTOR ACCORDING THE FLOWING CURRENT:

1. **FOOT/DEF** POSITION: THE CURRENT FLOWS FROM **TERMINAL 4** OF SERVO MOTOR TO **TERMINAL (A) 12** OF A/C CONTROL ASSEMBLY.
2. **FOOT** POSITION: THE CURRENT FLOWS FROM **TERMINAL 3** OF SERVO MOTOR TO **TERMINAL (A) 11** OF A/C CONTROL ASSEMBLY.
3. **BI–LEVEL** POSITION: THE CURRENT FLOWS FROM **TERMINAL 2** OF SERVO MOTOR TO **TERMINAL (A) 10** OF A/C CONTROL ASSEMBLY.

5. AIR CONDITIONING OPERATION

THE A/C AMPLIFIER RECEIVES VARIOUS SIGNALS, THE ENGINE RPM SIGNAL FROM THE IGNITER, OUTLET TEMPERATURE SIGNAL FROM THE A/C THERMISTOR, COOLANT TEMPERATURE FROM THE ENGINE COOLANT TEMP. SENSOR (EFI WATER TEMP. SENSOR), AND THE LOCK SIGNAL FROM THE A/C COMPRESSOR, ETC.

WHEN THE ENGINE IS STARTED AND THE A/C SW (A/C CONTROL ASSEMBLY) IS TURNED ON, THE CURRENT FLOWS FROM A/C FUSE TO **TERMINAL 13** OF A/C AMPLIFIER.

AS A RESULT, THE CURRENT FLOWING FROM **TERMINAL 2** OF A/C MAGNETIC CLUTCH RELAY TO **TERMINAL 8** OF A/C AMPLIFIER FLOWS FROM **TERMIAL 15** OF A/C AMPLIFIER TO **GROUND** AND TURNS IN THE MAGNETIC CLUTCH RELAY.

BECAUSE THE MAGNETIC CLUTCH IS ON, THE A/C COMPRESSOR OPERATES, CAUSING THE CURRENT FLOWING FROM A/C IDLE–UP VSV TO **TERMINAL 6** OF A/C AMPLIFIER TO FROM TO **TERMINAL 15** OF A/C AMPLIFIER → **GROUND**, AND TURNS ON THE VSV TO AVOID LOWERING THE ENGINE RPM DURING A/C OPERATION.

WHEN ANY OF THE FOLLOWING SIGNALS ARE INPUT TO THE A/C AMPLIFIER, THE AMPLIFIER OPERATES TO TURN OFF THE A/C:

- ENGINE HIGH RPM SIGNAL
- COOLANT TEMP. SIGNAL IS HIGH
- A SIGNAL THAT THE TEMPERATURE AT THE AIR OUTLET IS LOW
- A SIGNAL THAT THERE IS A LARGE DIFFERENCE BETWEEN ENGINE RPM AND COMPRESSOR RPM
- A SIGNAL THAT THE REFRIGERANT PRESSURE IS ABNORMALLY HIGH OR LOW

RADIATOR FAN AND AIR CONDITIONING (MANUAL AIR CONDITIONING)

SERVICE HINTS

A 4 (A)(B) A/C MAGNETIC CLUTCH
(A)4, **(B)**1–GROUND : APPROX. **3.7** Ω

A 5 A/C PRESSURE SW
3–2 : OPEN ABOVE APPROX. **13.5** KG/CM^2 (**192** PSI, **1323** KPA)
CLOSED BELOW APPROX. **10** KG/CM^2 (**142** PSI, **980** KPA)
1–4 : OPEN WITH PRESSURE LESS THAN **2.1** KG/CM^2 (**30** PSI, **206** KPA) OR ABOVE **27** KG/CM^2 (**384** PSI, **2648** KPA)

A15 A/C AMPLIFIER
8–15 : CONTINUITY WITH A/C SW (A/C CONTROL ASSEMBLY) ON AND IGNITION SW AT **ON** POSITION
14–15 : ALWAYS CONTINUITY
14–GROUND: ALWAYS CONTINUITY
15–GROUND: ALWAYS CONTINUITY
13–GROUND: APPROX. **12** VOLTS WITH IGNITION SW ON

A24 A/C THERMISTOR
1–2 : APPROX. **4852** Ω AT **0**˚C (**32**˚F)
APPROX. **2341** Ω AT **15**˚C (**39**˚F)
APPROX. **1500** Ω AT **25**˚C (**77**˚F)

B 6 BLOWER RESISTOR
1–3 : APPROX. **0.48** Ω
3–2 : APPROX. **0.94** Ω
2–4 : APPROX. **0.91** Ω

W 3 WATER TEMP. SW (FOR FANS CONTROL)
1–2 : OPEN ABOVE APPROX. **90**˚C (**194**˚F)
CLOSED BELOW APPROX. **83**˚C (**181.4**˚F)

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
A 2	28 (3S–GTE), 30 (5S–FE), 31 (4A–FE)	**A18** A	32	**C 2** B	28 (3S–GTE), 30 (5S–FE), 31 (4A–FE)
A 3	28 (3S–GTE), 30 (5S–FE), 31 (4A–FE)	**A24**	32	**J 4**	33
A 4 A	28 (3S–GTE), 31 (4A–FE)	**A26**	32	**J 5**	33
A 4 B	28 (3S–GTE), 30 (5S–FE), 31 (4A–FE)	**A28**	32	**J 6**	33
A 5	28 (3S–GTE), 30 (5S–FE), 31 (4A–FE)	**B 4**	32	**R 1**	28 (3S–GTE), 30 (5S–FE), 31 (4A–FE)
A15	32	**B 6**	32	**W 3**	28 (3S–GTE), 30 (5S–FE), 31 (4A–FE)
A16 A	32	**C 1** A	28 (3S–GTE), 30 (5S–FE), 31 (4A–FE)		

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
4	27	R/B NO. 4 (RIGHT KICK PANEL)
5	27	R/B NO. 5 (ENGINE COMPARTMENT FRONT RIGHT)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2A	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2C	22 (2WD)	ENGINE WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2D	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
2E		
3A	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

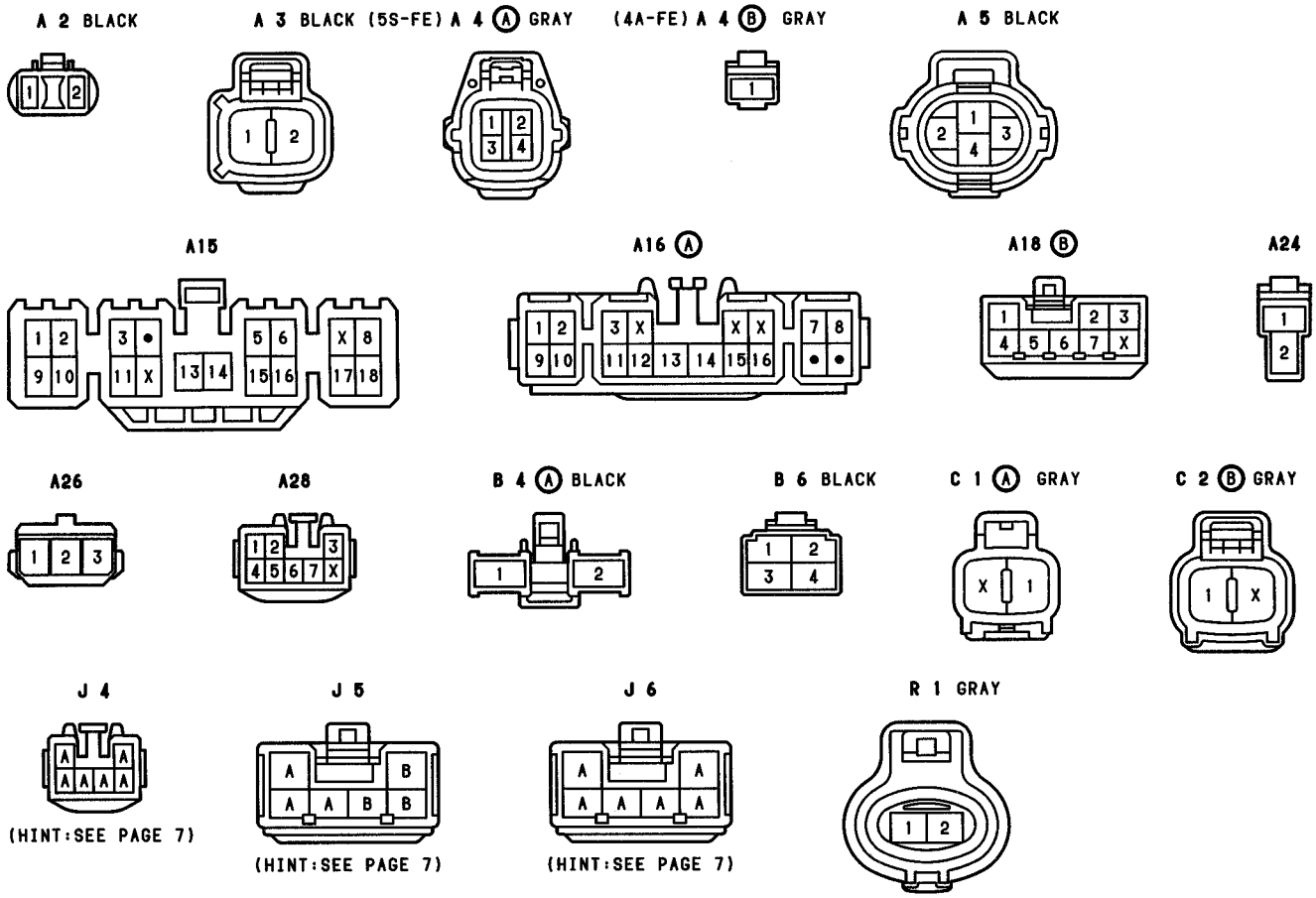
CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EA1	36 (3S–GTE)	COWL WIRE AND ENGINE ROOM MAIN WIRE (FRONT SIDE OF RIGHT FRONT FENDER)
	38 (5S–FE)	
	40 (4A–FE)	
EB2	36 (3S–GTE)	ENGINE WIRE AND COWL WIRE (REAR SIDE OF RIGHT FRONT FENDER)
	38 (5S–FE)	
	40 (4A–FE)	
IG1	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE CONTROL MODULE (ENGINE ECU))
IH1	42	ENGINE WIRE AND A/C NO. 1 WIRE (BEHIND THE GLOVE BOX)
IJ1	44	COWL WIRE AND A/C NO. 1 WIRE (BEHIND THE GLOVE BOX)
IQ2	44	COWL WIRE AND A/C NO. 2 WIRE (BESIDE HEATER UNIT)

: GROUND POINTS

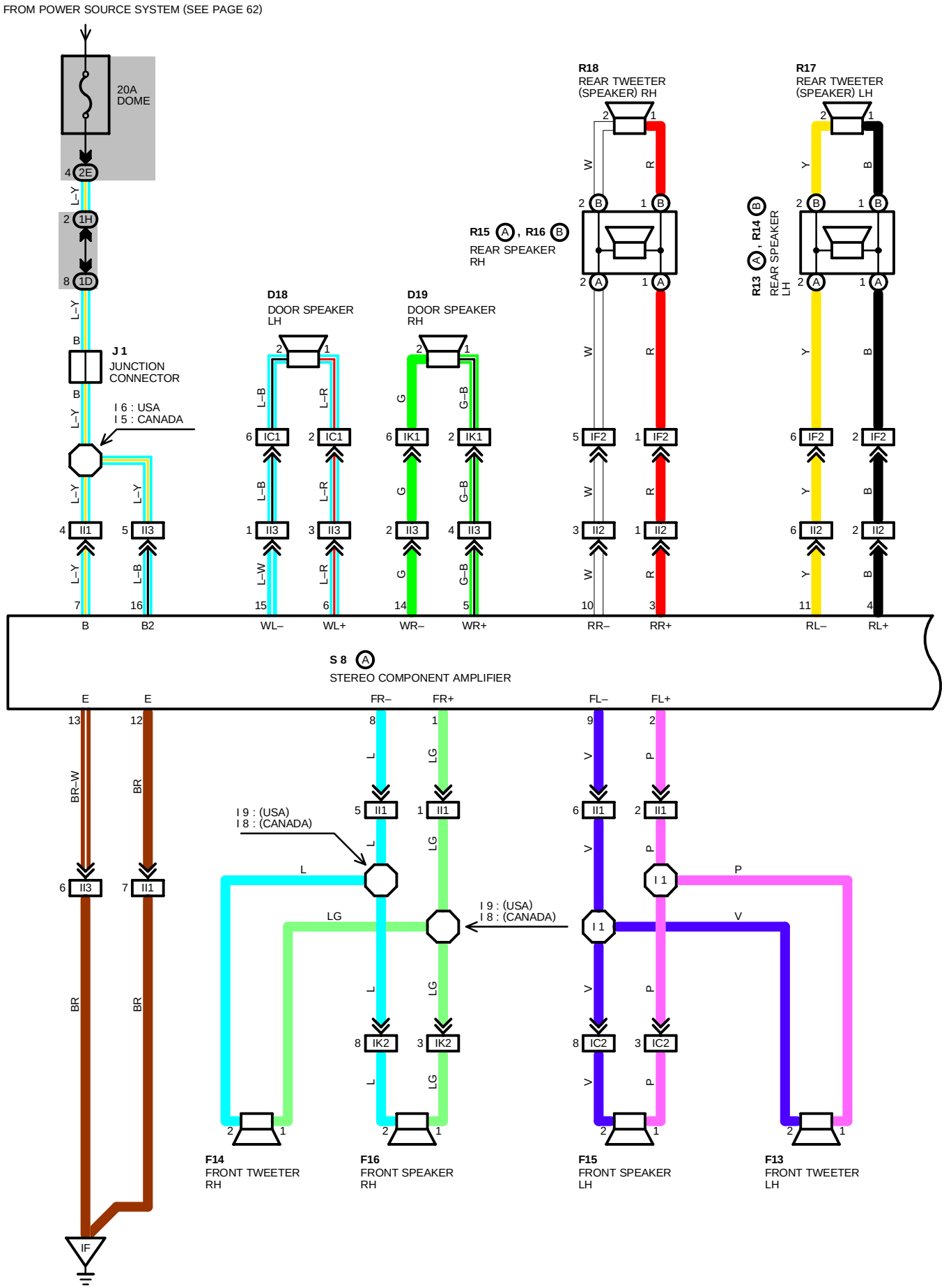
CODE	SEE PAGE	GROUND POINTS LOCATION
EA	36 (3S–GTE)	FRONT RIGHT FENDER
	38 (5S–FE)	
	40 (4A–FE)	
EB	36 (3S–GTE)	FRONT LEFT FENDER
	38 (5S–FE)	
ID	42	LEFT KICK PANEL
IG	42	R/B NO. 4 SET BOLT

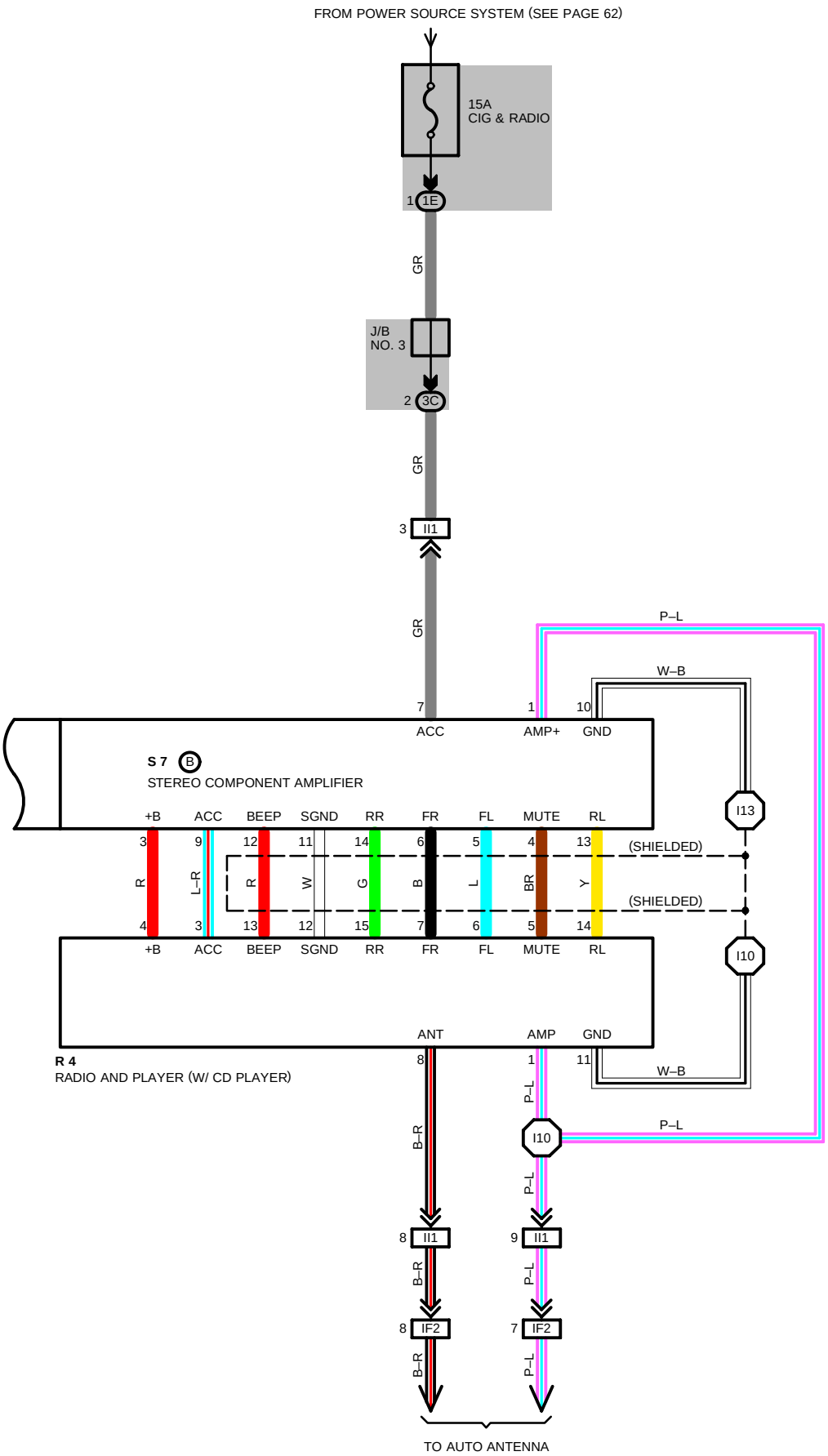
: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 2	36 (3S–GTE)	ENGINE ROOM MAIN WIRE	E 7	38 (5S–FE)	ENGINE ROOM MAIN WIRE
	38 (5S–FE)		E10	36 (3S–GTE)	COWL WIRE
	40 (4A–FE)			38 (5S–FE)	
E 3	36 (3S–GTE)			40 (4A–FE)	
	38 (5S–FE)		E13	36 (3S–GTE)	ENGINE ROOM MAIN WIRE
	40 (4A–FE)			38 (5S–FE)	
E 4	36 (3S–GTE)			40 (4A–FE)	
	38 (5S–FE)		I 3		COWL WIRE
E 5	36 (3S–GTE)	ENGINE WIRE	I 8	44	
	38 (5S–FE)		I 9		
	40 (4A–FE)		I12	44	A/C NO. 1 WIRE



RADIO AND PLAYER (w/ CD PLAYER)




FROM POWER SOURCE SYSTEM (SEE PAGE 62)
15A
CIG & RADIO
1 1E
GR
J/B
NO. 3
2 3C
GR
3 II1
GR
P–L
W–B
7
1
10
ACC
AMP+
GND
S 7 B
STEREO COMPONENT AMPLIFIER
I13
+B ACC BEEP SGND RR FR FL MUTE RL
3 9 12 11 14 6 5 4 13
R L–R R W G B L BR Y
(SHIELDED)
(SHIELDED)
4 3 13 12 15 7 6 5 14
+B ACC BEEP SGND RR FR FL MUTE RL
I10
ANT AMP GND
8 1 11
R 4
RADIO AND PLAYER (W/ CD PLAYER)
W–B
P–L
B–R
I10
P–L
P–L
8 II1
9 II1
B–R
P–L
8 IF2
7 IF2
B–R
P–L
TO AUTO ANTENNA

RADIO AND PLAYER (w/ CD PLAYER)

SERVICE HINTS

S 7 (B), S 8 (A) STEREO COMPONENT AMPLIFIER
(A) 7, **(A)**16–GROUND : ALWAYS APPROX. **12** VOLTS
(B) 7–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** OR **ACC** POSITION
(A)12, **(A)**13–GROUND : ALWAYS CONTINUITY

○ : PARTS LOCATION

CODE	SEE PAGE	CODE		SEE PAGE	CODE		SEE PAGE
D18	34 (L/B), 35 (C/P)	**J 1**		33	**R17**		34 (L/B), 35 (C/P)
D19	34 (L/B), 35 (C/P)	**R 4**		33	**R18**		34 (L/B), 35 (C/P)
F13	33	**R13**	A	34 (L/B), 35 (C/P)	**S 7**	B	33
F14	33	**R14**	B	34 (L/B), 35 (C/P)	**S 8**	A	33
F15	34 (L/B), 35 (C/P)	**R15**	A	34 (L/B), 35 (C/P)			
F16	34 (L/B), 35 (C/P)	**R16**	B	34 (L/B), 35 (C/P)			

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1D	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO.1 (LEFT KICK PANEL)
2E	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO.2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	
3C	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IC1	42	FRONT DOOR LH WIRE AND COWL WIRE (LEFT KICK PANEL)
IC2		
IF2	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
II1	44	COWL WIRE AND CONSOLE BOX WIRE (INSTRUMENT PANEL CENTER)
II2		
II3	44	COWL WIRE AND CONSOLE BOX WIRE (RIGHT KICK PANEL OF ALL–TRAC/4WD)
	44	COWL WIRE AND CONSOLE BOX WIRE (RIGHT KICK PANEL OF 2WD)
IK1	44	FRONT DOOR RH WIRE AND COWL WIRE (RIGHT KICK PANEL)
IK2		

▽ : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
IF	42	INSTRUMENT PANEL BRACE RH

⬡ : SPLICE POINTS

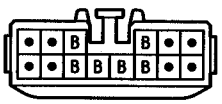
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 1	44	COWL WIRE	**I 9**	44	COWL WIRE
I 5			**I10**	44	CONSOLE BOX WIRE (2WD)
I 6			**I13**	44	CONSOLE BOX WIRE
I 8					

D18, D19 GRAY

F13, F14

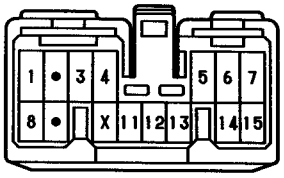
F15, F16

J 1



(HINT:SEE PAGE 7)

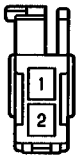
R 4



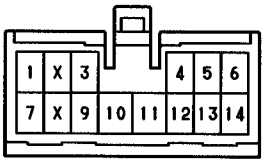
R13 (A), R15 (A)

R14 (B), R16 (B)

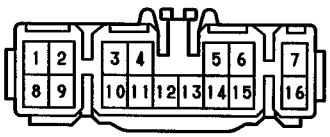
R17, R18



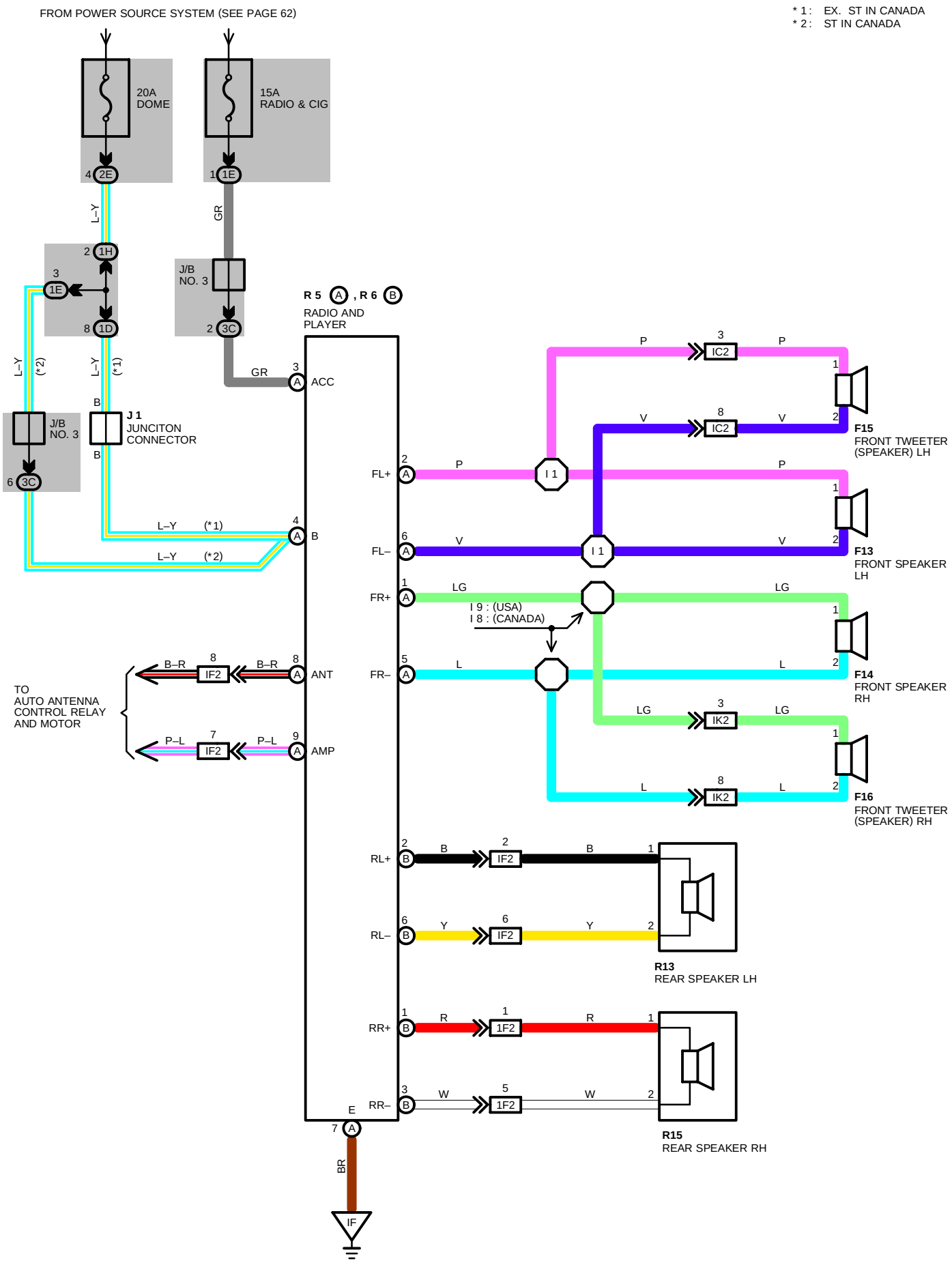
S 7 (B)



S 8 (A)



RADIO AND PLAYER (w/o CD PLAYER)



SERVICE HINTS

R 5(A), R 6(B) RADIO AND PLAYER
(A) 4–GROUND : ALWAYS APPROX. **12** VOLTS
(A) 3–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** OR **ACC** POSITION
(A) 7–GROUND : ALWAYS CONTINUITY

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
F13	33	**F16**	34 (L/B), 35 (C/P)	**R 6** B	33
F14	33	**J 1**	33	**R13**	34 (L/B), 35 (C/P)
F15	34 (L/B), 35 (C/P)	**R 5** A	34 (L/B), 35 (C/P)	**R15**	34 (L/B), 35 (C/P)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1D	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2E	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	
3C	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IC2	42	FRONT DOOR LH WIRE AND COWL WIRE (LEFT KICK PANEL)
IF1	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
IF2	42	
IK2	44	FRONT DOOR RH WIRE AND COWL WIRE (RIGHT KICK PANEL)

: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
IF	42	INSTRUMENT PANEL BRACE RH

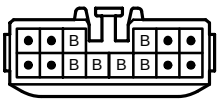
: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 1	44	COWL WIRE	**I 9**	44	COWL WIRE
I 8					

F13, F14

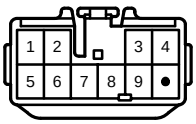
F15, F16

J 1

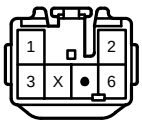


(HINT : SEE PAGE 7)

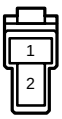
R 5 (A)



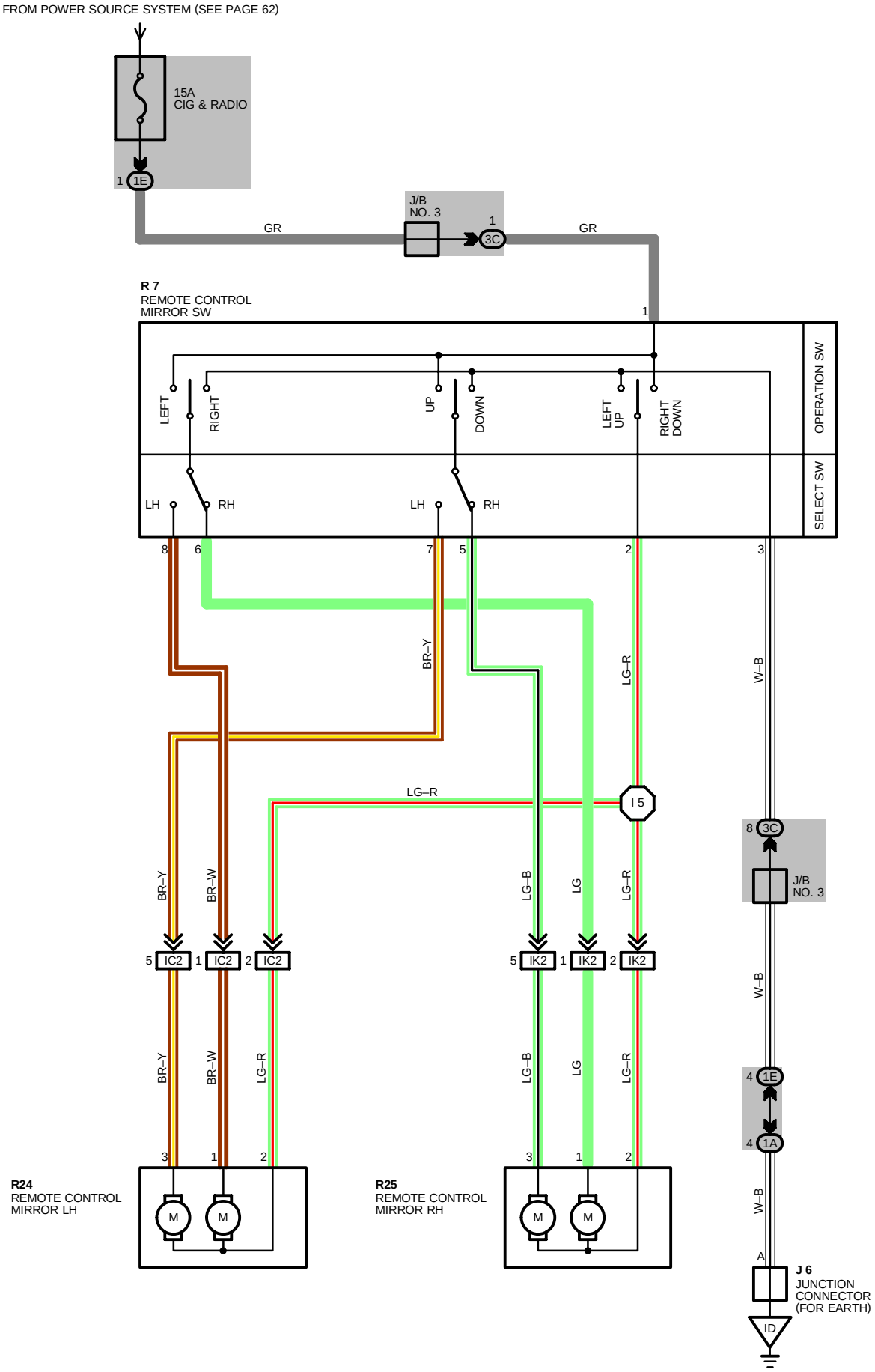
R 6 (B)



R13, R15



REMOTE CONTROL MIRROR



SERVICE HINTS

R 7 REMOTE CONTROL MIRROR SW

1–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ACC** OR **ON** POSITION
2–3 : CONTINUITY WITH OPERATION SW AT **UP** OR **LEFT** POSITION
1–2 : CONTINUITY WITH OPERATION SW AT **DOWN** OR **RIGHT** POSITION

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
J 6	33	**R24**	34 (L/B), 35 (C/P)		
R 7	33	**R25**	34 (L/B), 35 (C/P)		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1E		
3C	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IC2	42	FRONT DOOR LH WIRE AND COWL WIRE (LEFT KICK PANEL)
IK2	44	FRONT DOOR RH WIRE AND COWL WIRE (RIGHT KICK PANEL)

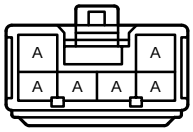
: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL

: SPLICE POINTS

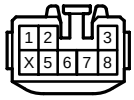
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 5	44	COWL WIRE			

J 6



(HINT : SEE PAGE 7)

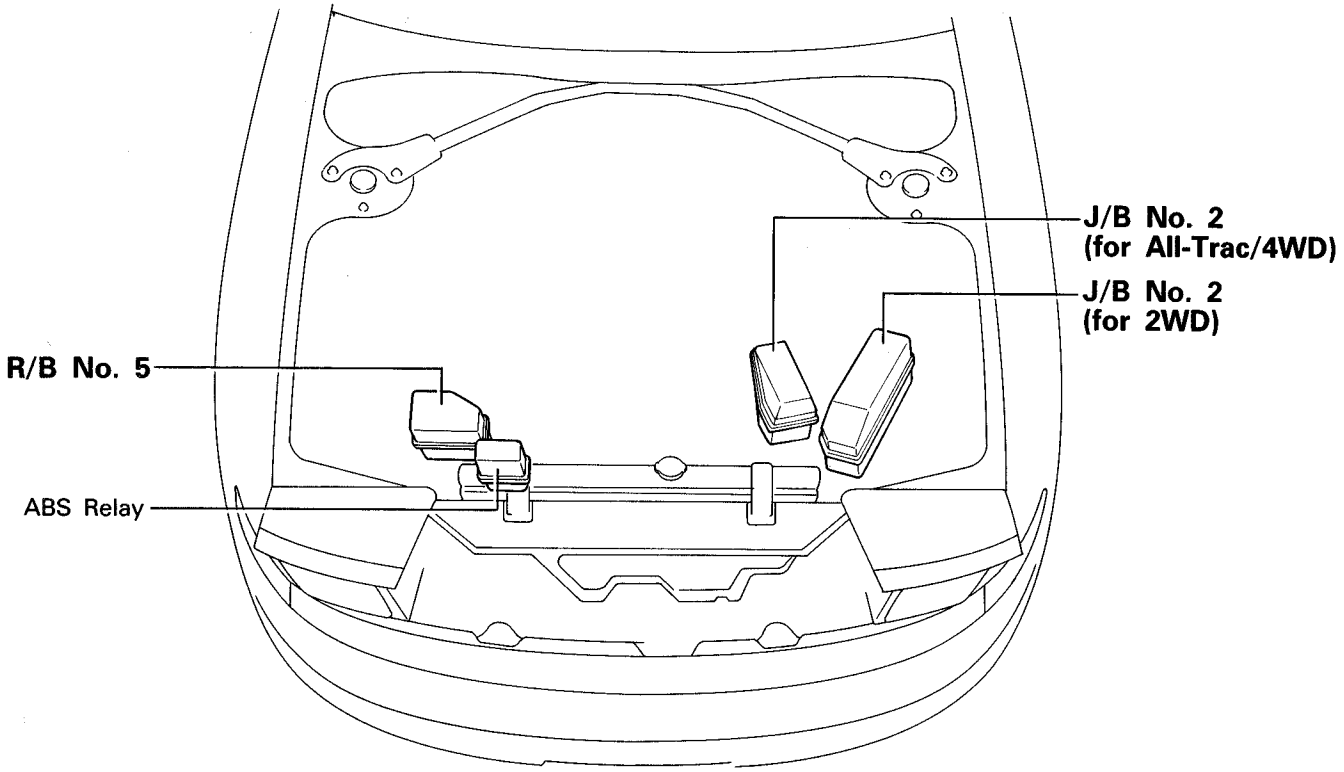
R 7



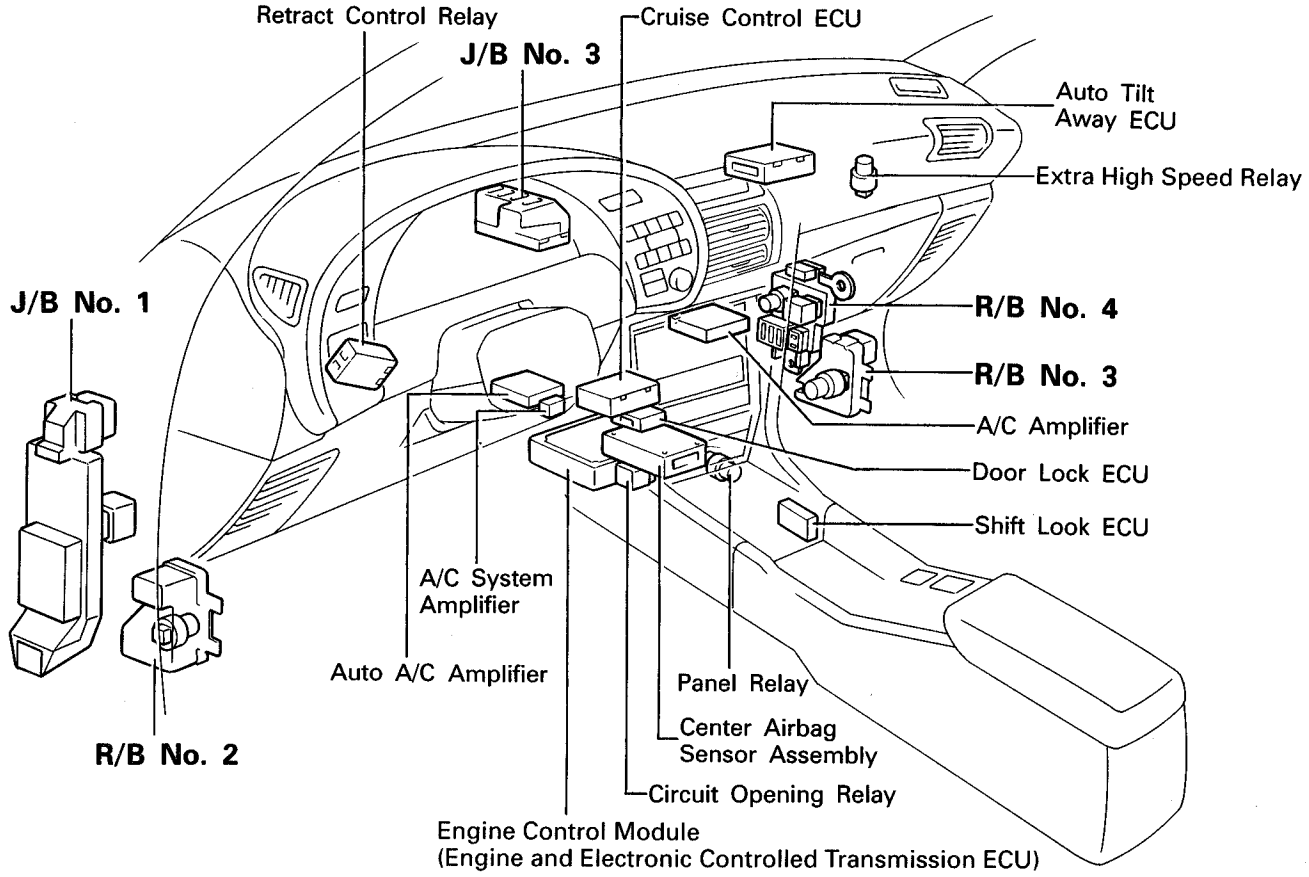
R24, R25

RELAY LOCATIONS

[Engine Compartment]

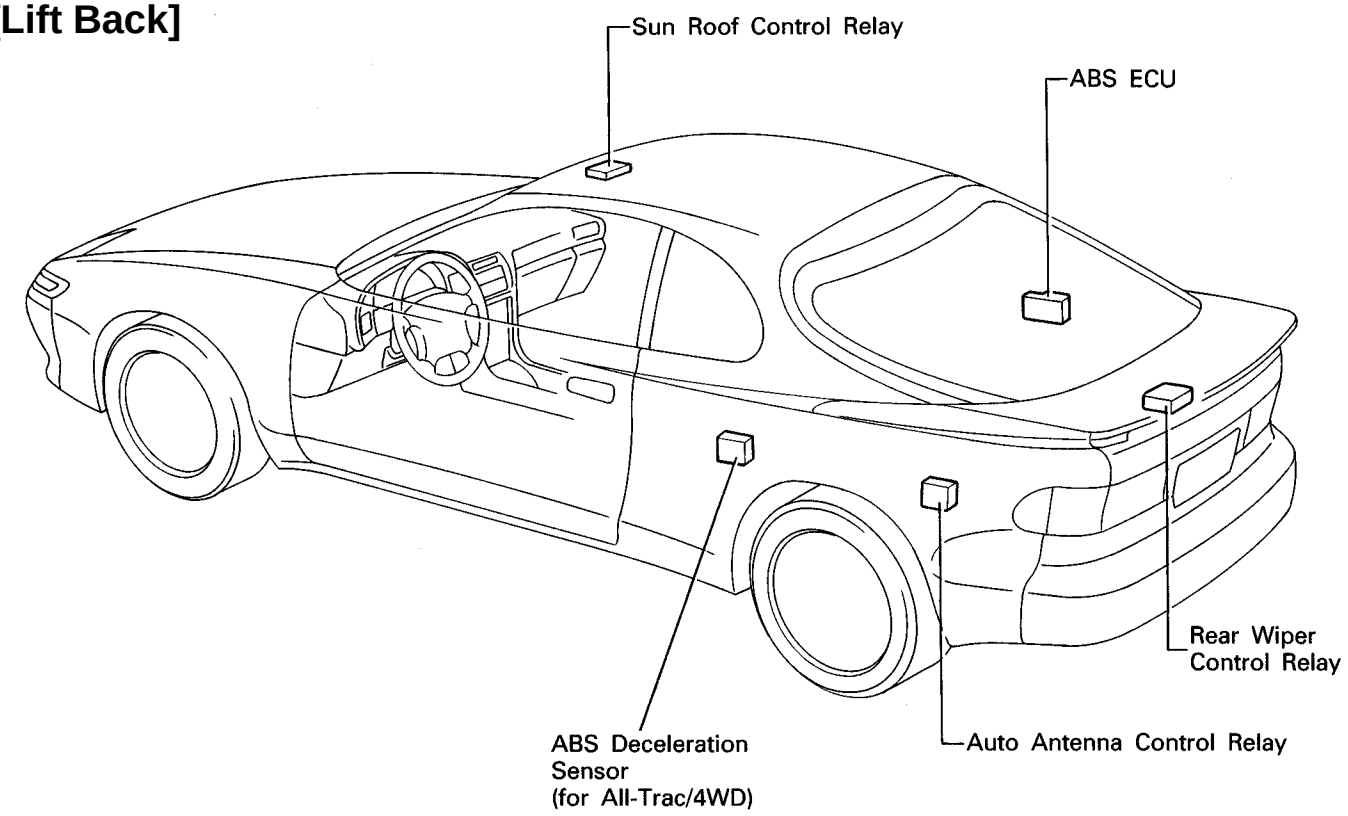


[Instrument Panel]



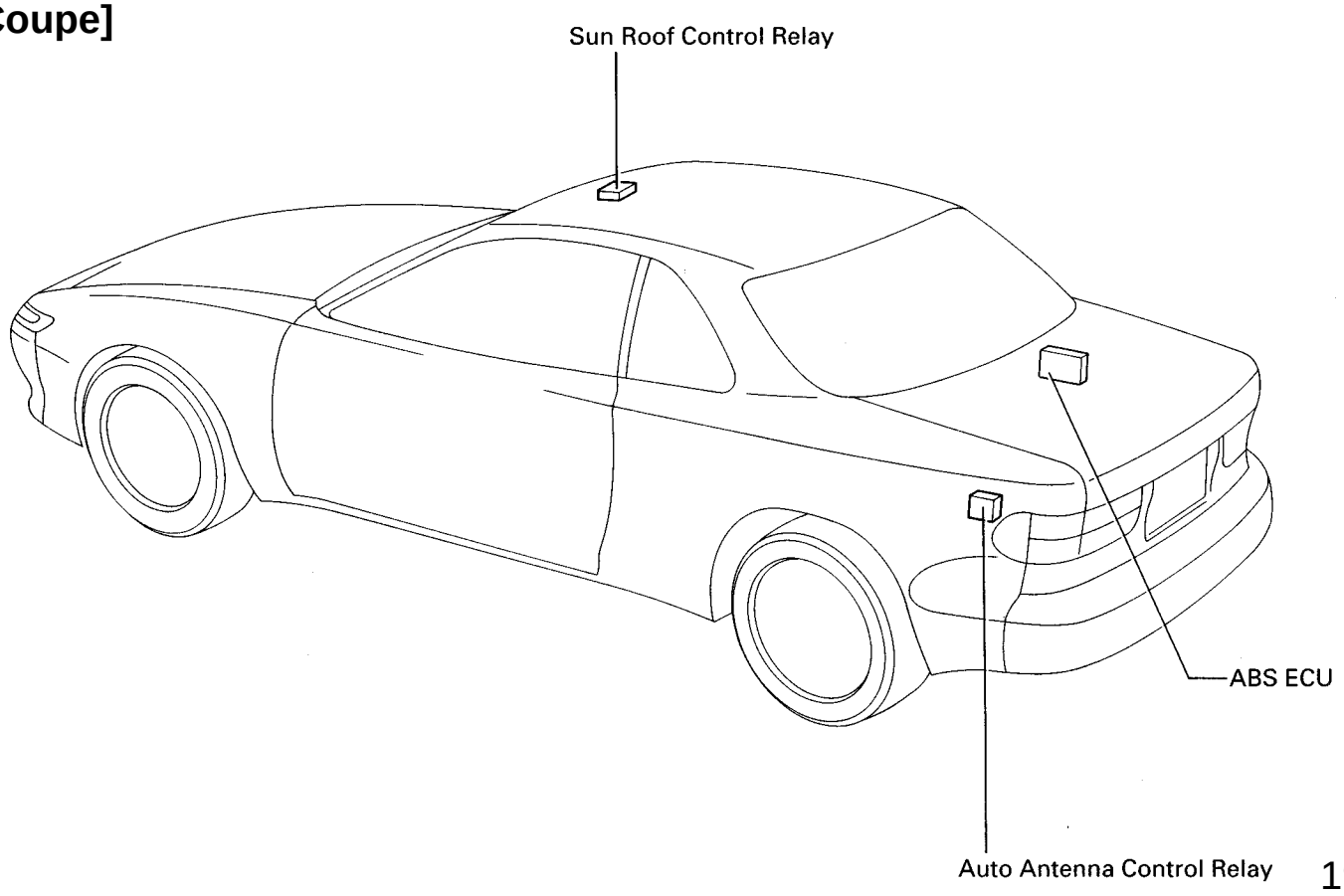
[Body]

[Lift Back]



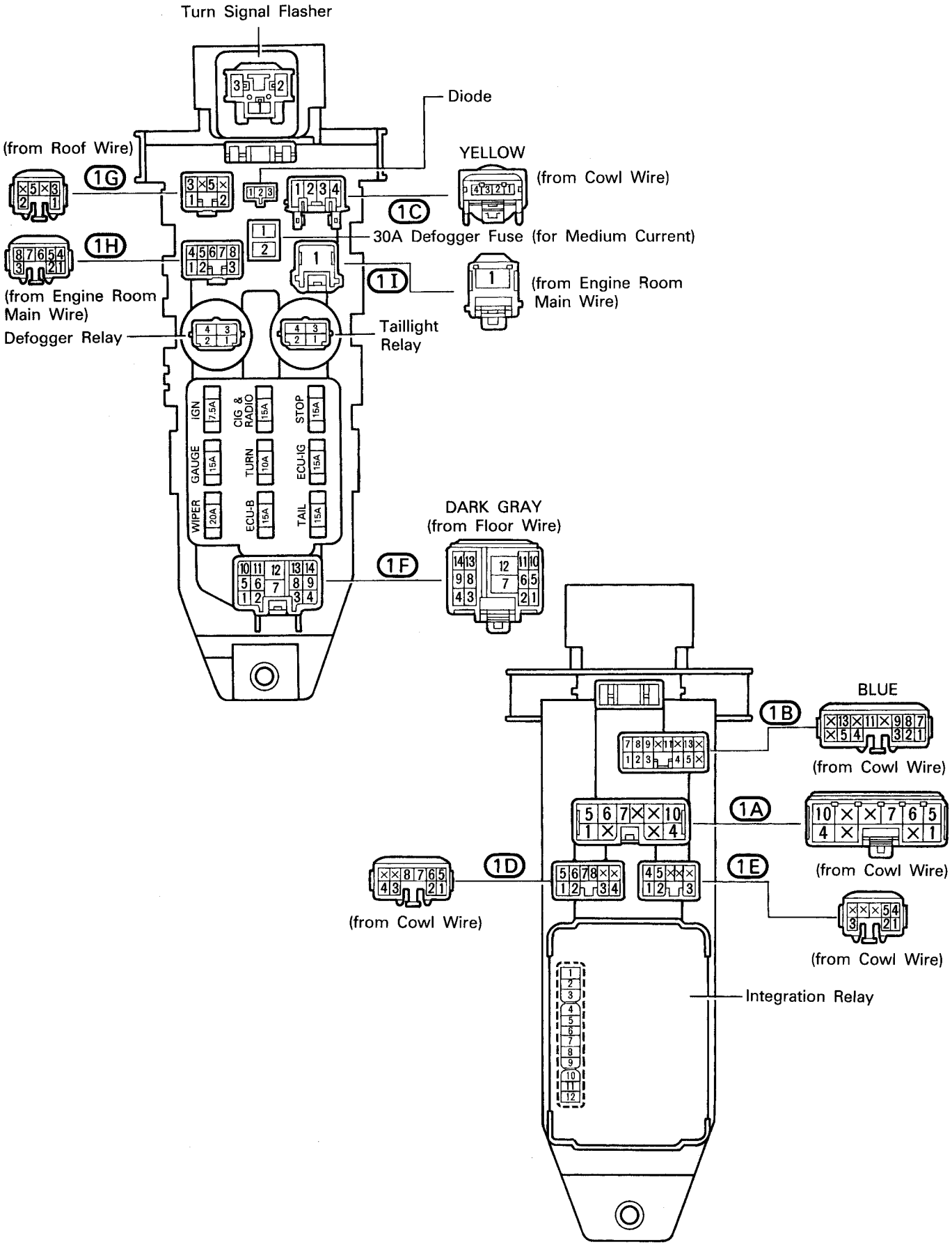
[Body]

[Coupe]

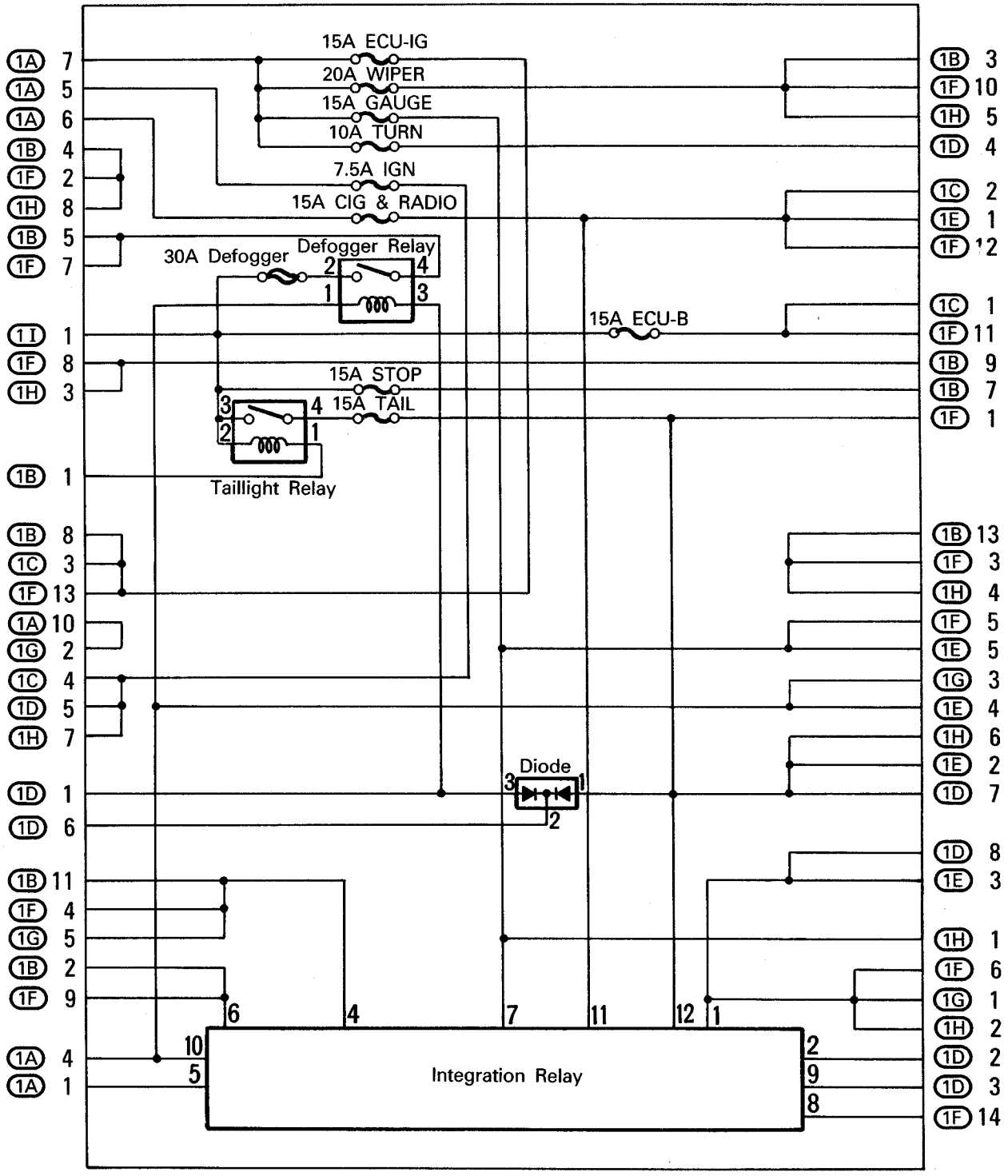


RELAY LOCATIONS

⬭ : J/B No. 1	Left Kick Panel (See Page 18)



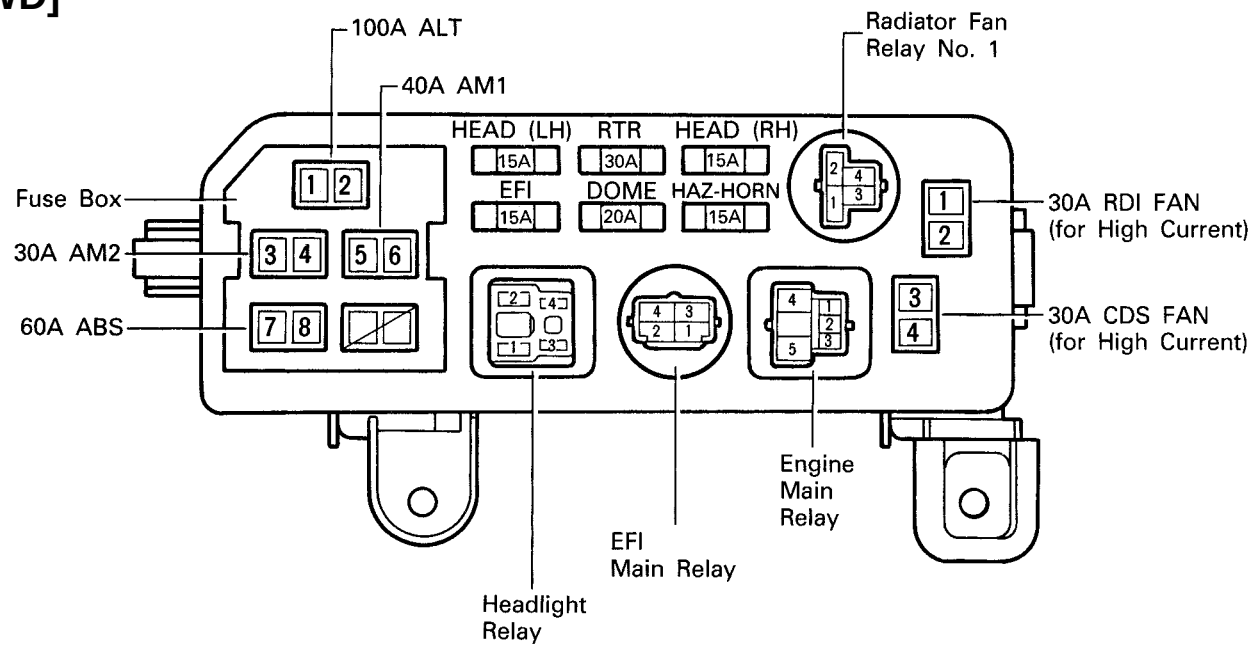
[J/B No. 1 Inner Circuit]

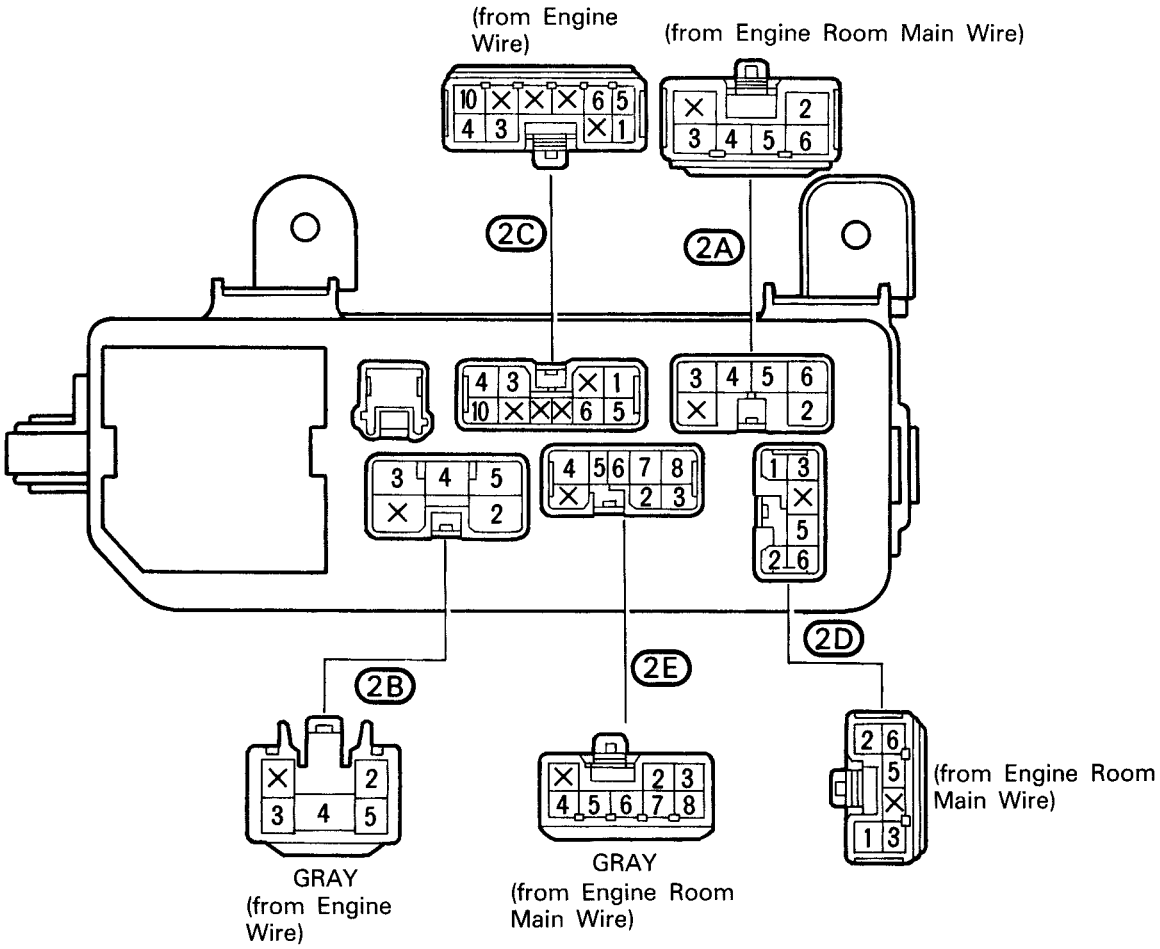


RELAY LOCATIONS

: J/B No. 2	Near the Battery	(See Page 18)

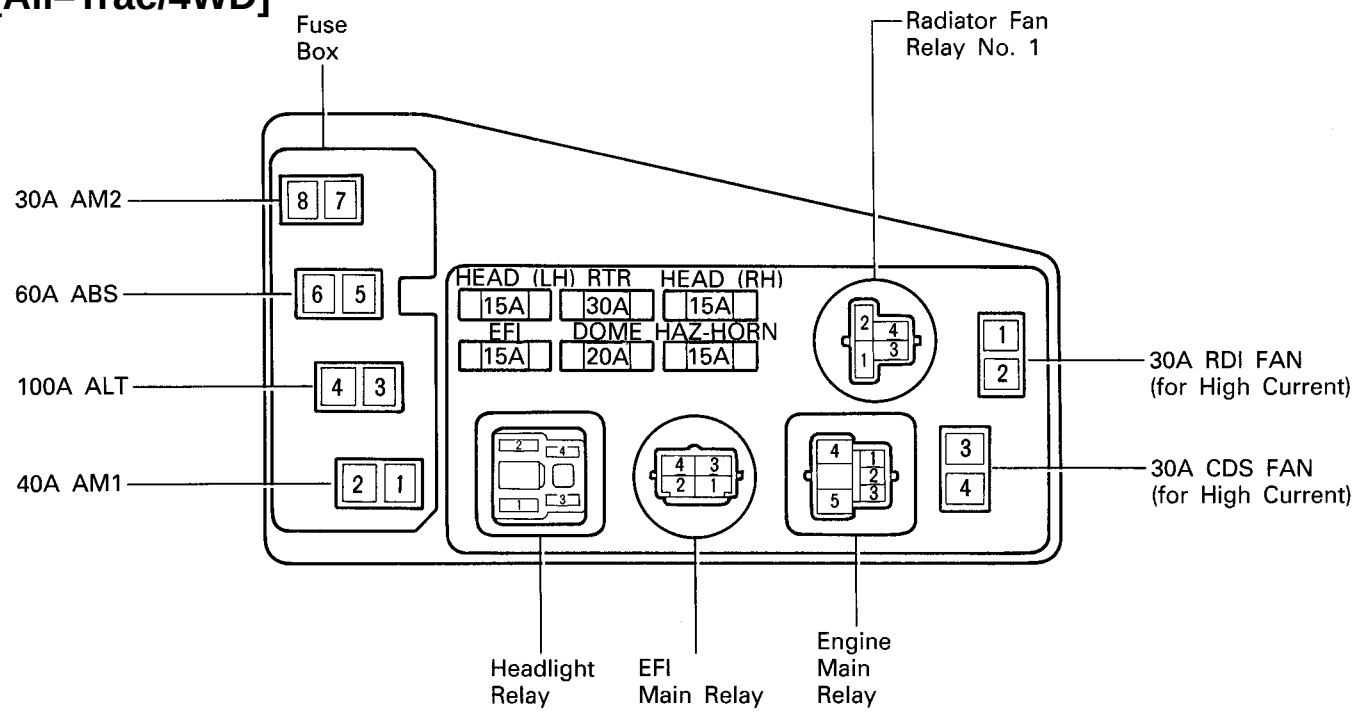
[2WD]

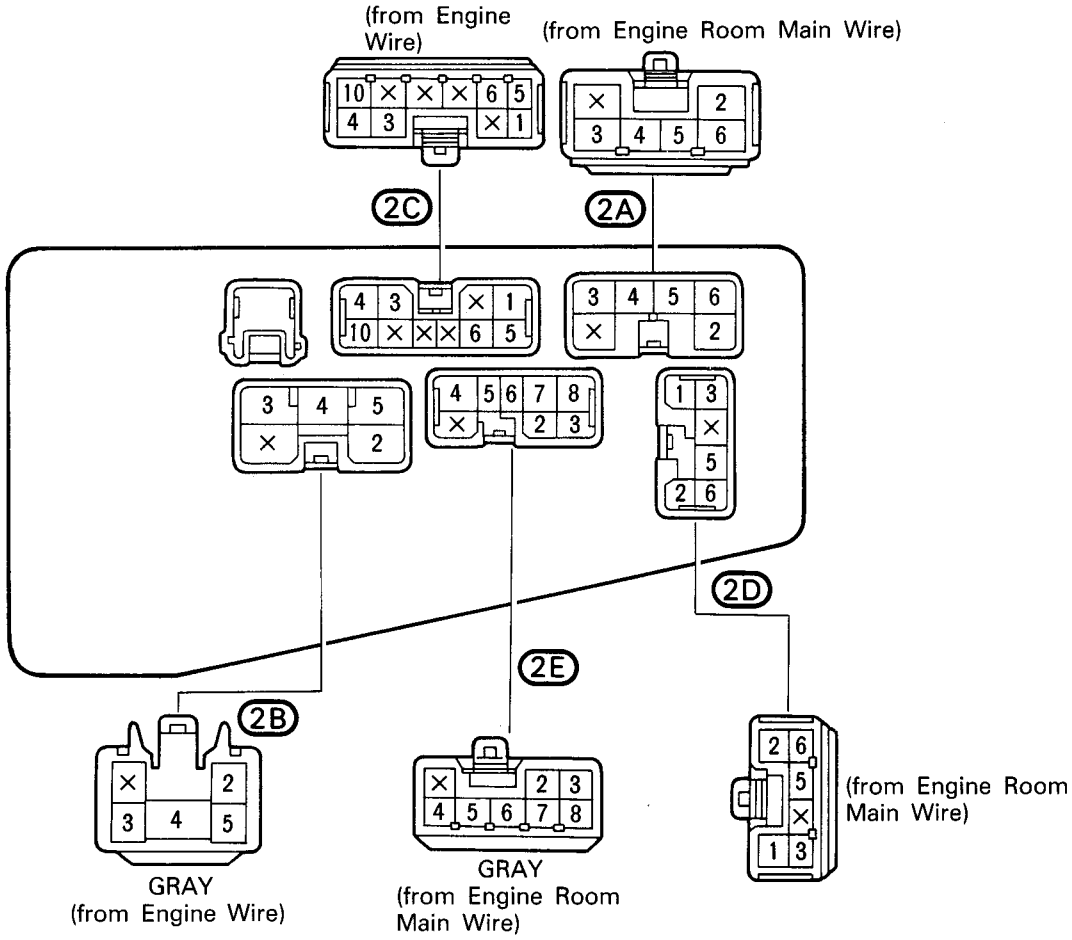




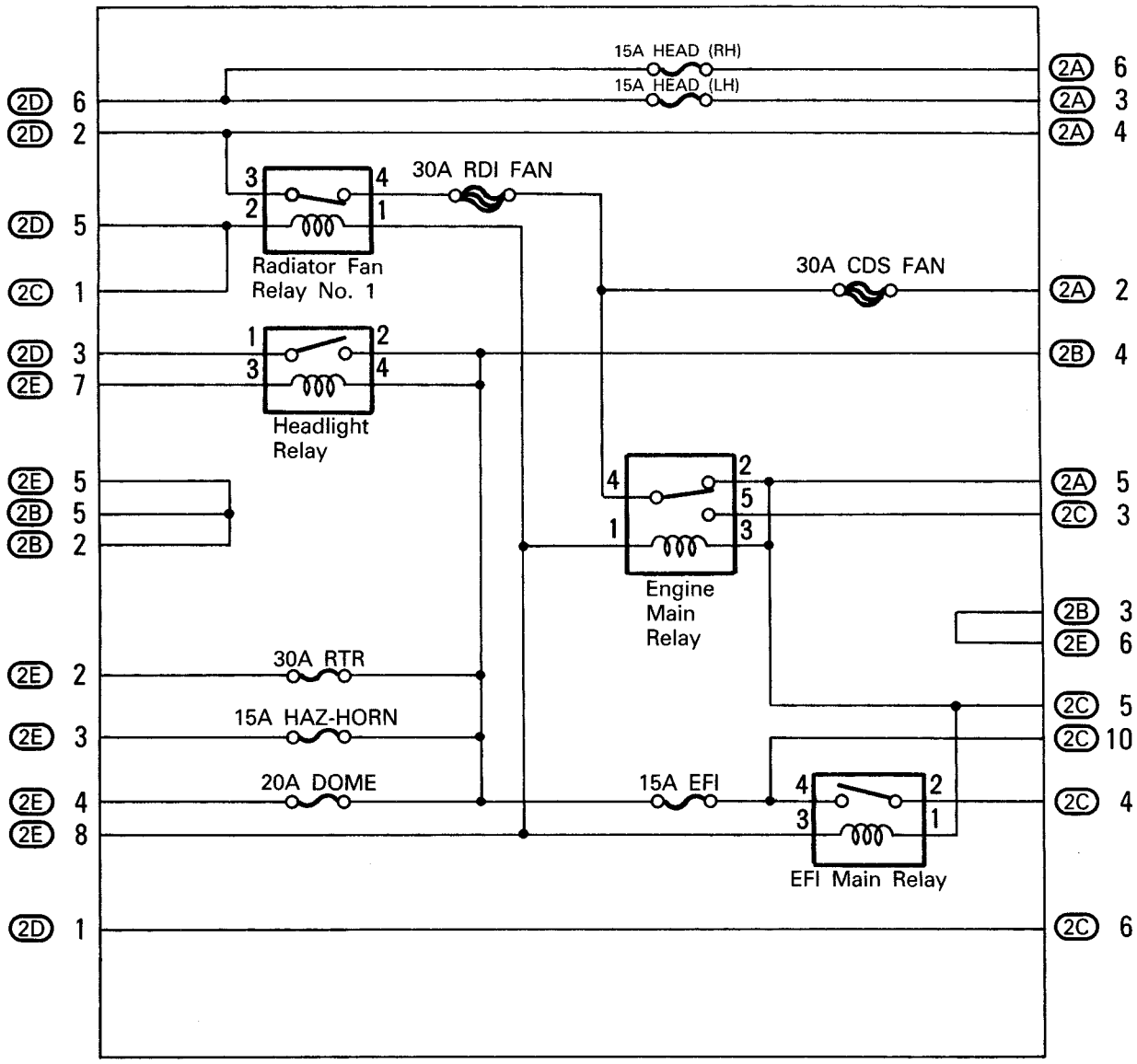
: J/B No. 2	Near the Battery	(See Page 18)

[All–Trac/4WD]

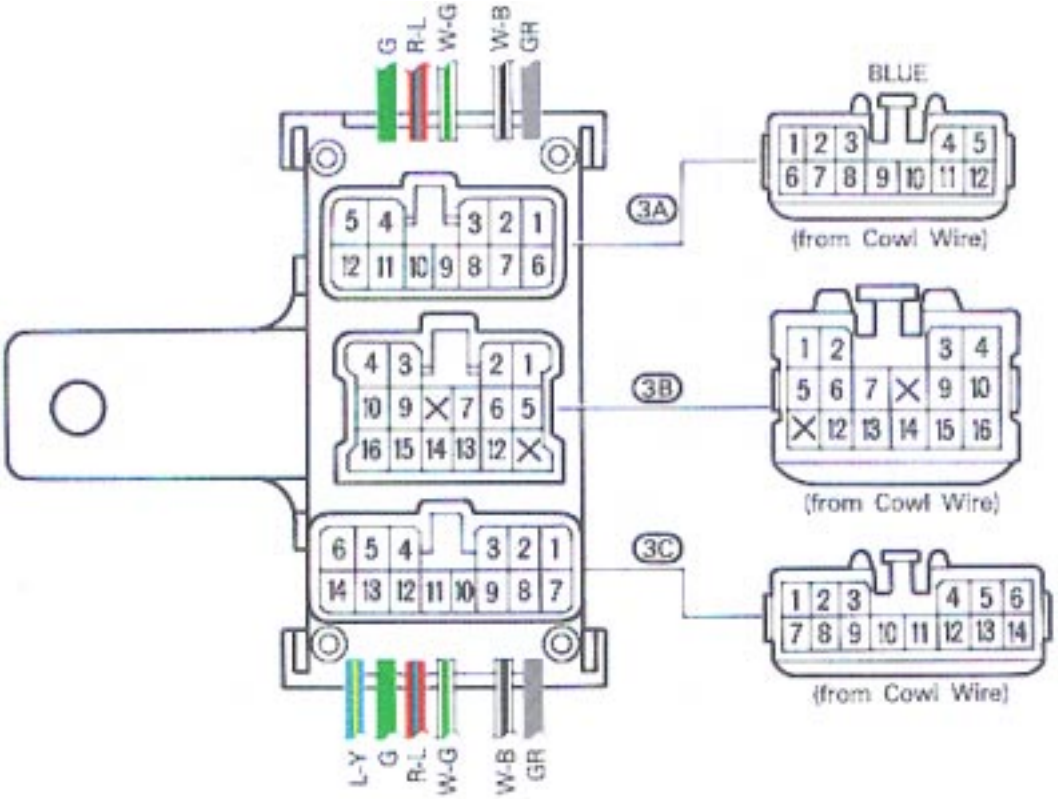




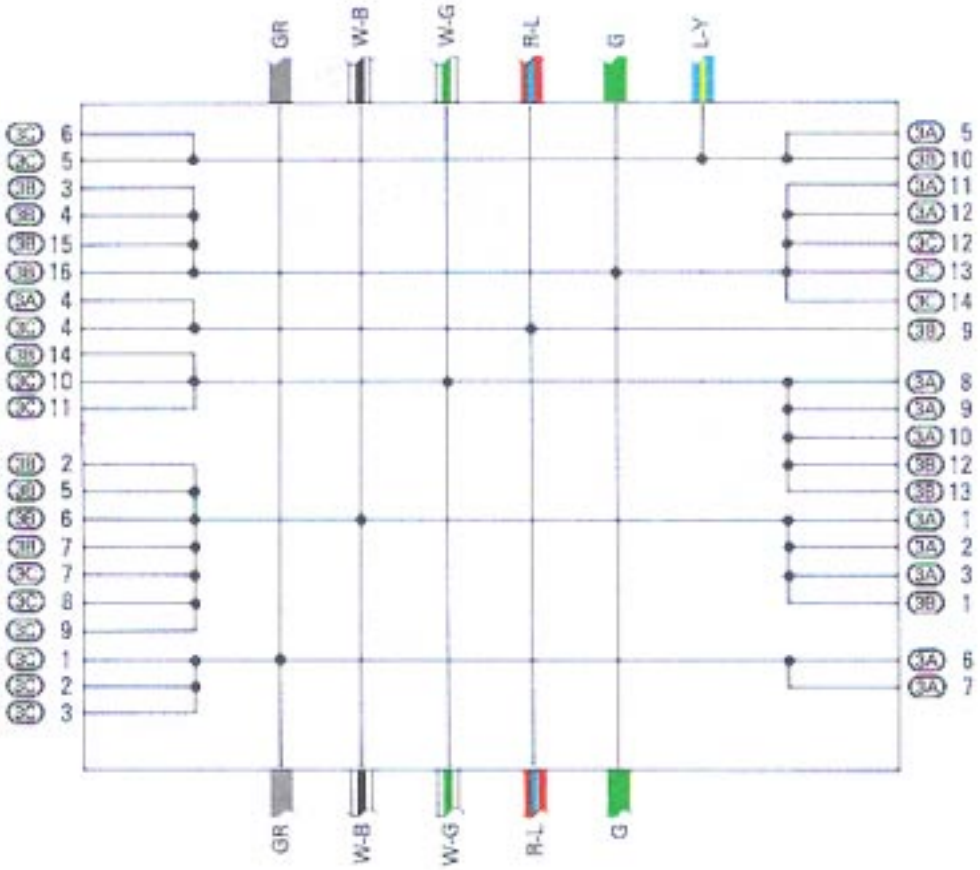
[J/B No. 2 Inner Circuit]



: J/B No. 3	Behind Combination Meter	(See Page 18)

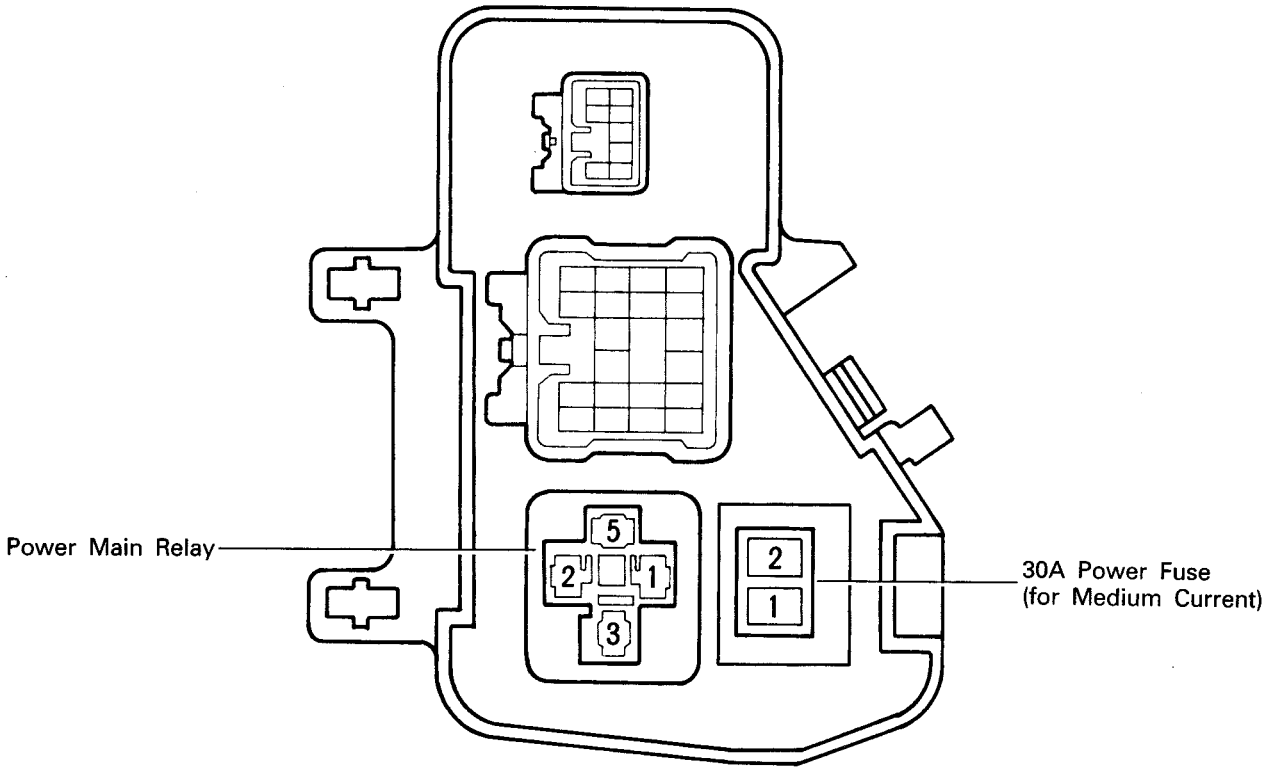


[J/B No. 3 Inner Circuit]

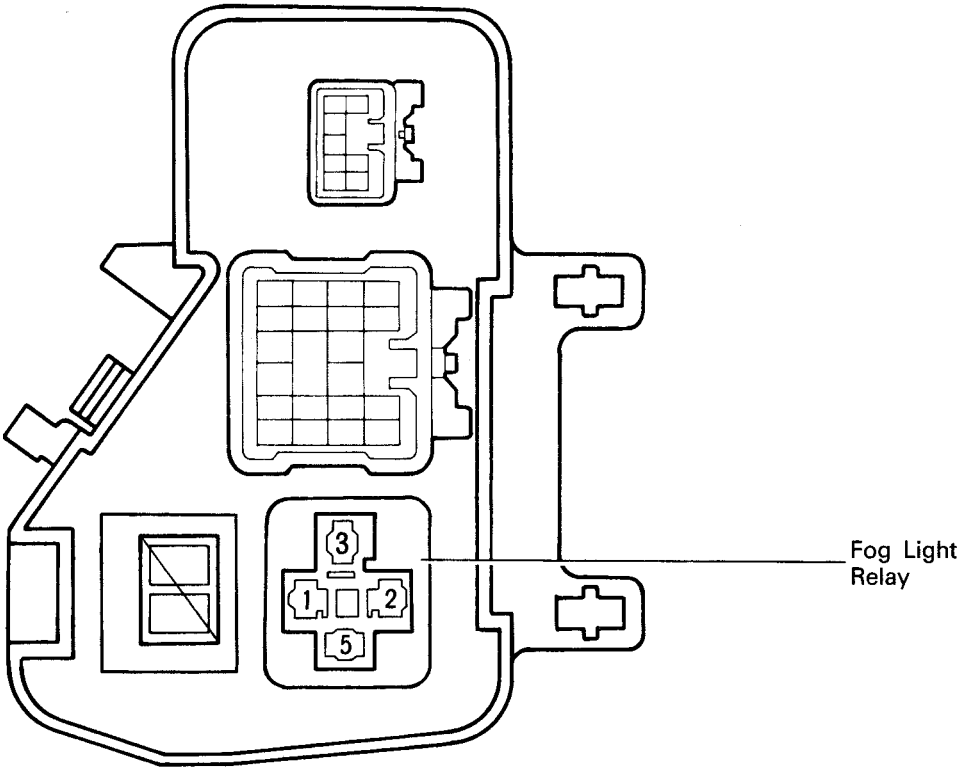


RELAY LOCATIONS

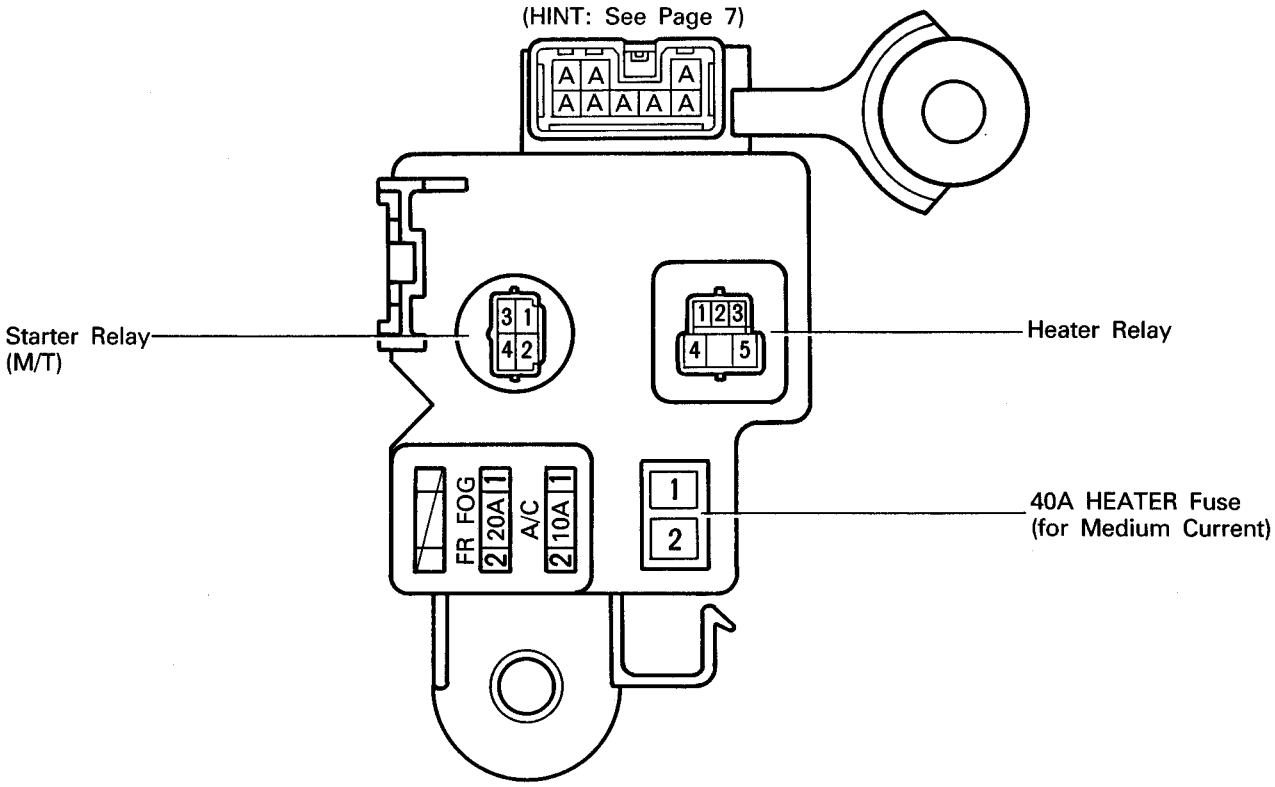
② : R/B No. 2	**Left Kick Panel** (See Page 18)



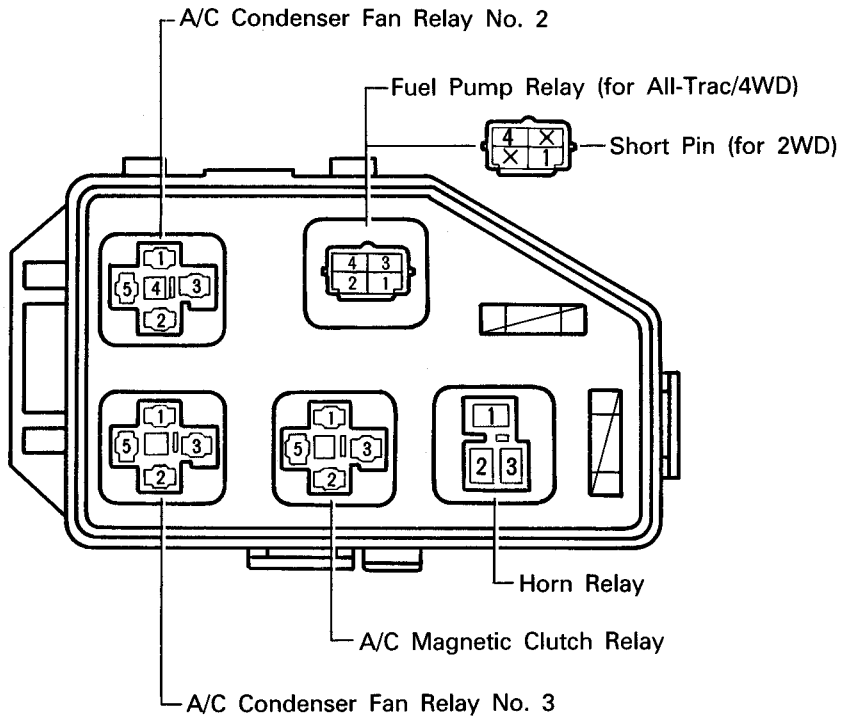
③ : R/B No. 3	**Right Kick Panel** (See Page 18)



④ : R/B No. 4	Right Kick Panel	(See Page 18)

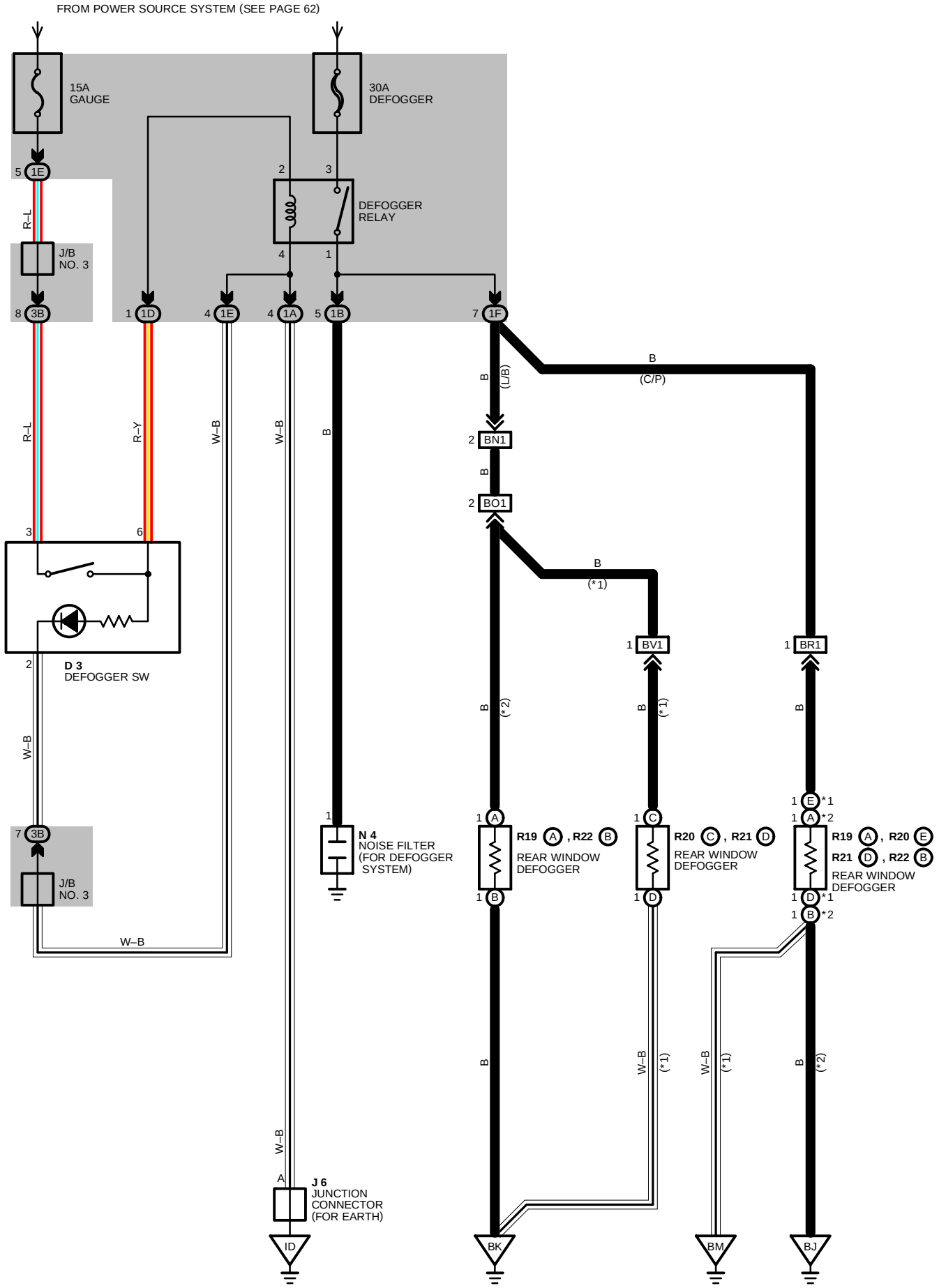


⑤ : R/B No. 5	Engine Compartment Front Right	(See Page 18)



REAR WINDOW DEFOGGER

*1 : W/ DIVERSITY ANTENNA
*2 : W/O DIVERSITY ANTENNA



SERVICE HINTS

DEFOGGER RELAY

1–3 : CLOSED WITH IGNITION SW ON AND DEFOGGER SW ON

D 3 DEFOGGER SW

3–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION

2–GROUND : ALWAYS CONTINUITY

: PARTS LOCATION

CODE	SEE PAGE	CODE		SEE PAGE	CODE		SEE PAGE
D 3	32	**R19**	A	34 (L/B), 35 (C/P)	**R21**	D	35 (C/P)
J 6	33	**R20**	C	34 (L/B)	**R22**	B	34 (L/B), 35 (C/P)
N 4	33	**R20**	E	35 (C/P)			

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1B		
1D		
1E		
1F	20	FLOOR WIRE AND J/B NO. 1 (LEFT KICK PANEL)
3B	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

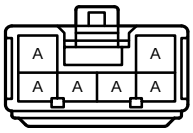
CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
BN1	46 (L/B)	BACK DOOR NO. 1 WIRE AND FLOOR WIRE (LEFT SIDE OF PACKAGE TRAY TRIM)
BO1	46 (L/B)	BACK DOOR NO. 1 WIRE AND BACK DOOR NO. 1 SUB WIRE (BACK DOOR UPPER LEFT)
BR1	48 (C/P)	FLOOR WIRE AND REAR WINDOW NO. 2 WIRE (LEFT REAR PILLAR)
BV1	48 (C/P)	FLOOR WIRE AND LUGGAGE ROOM NO. 4 WIRE

: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL
BJ	48 (C/P)	RIGHT REAR PILLAR (C/P)
BK	46 (L/B)	BACK DOOR RIGHT (L/B)
BM	48 (C/P)	LEFT REAR PILLAR (C/P)

D 3 BLACK

J 6



(HINT : SEE PAGE 7)

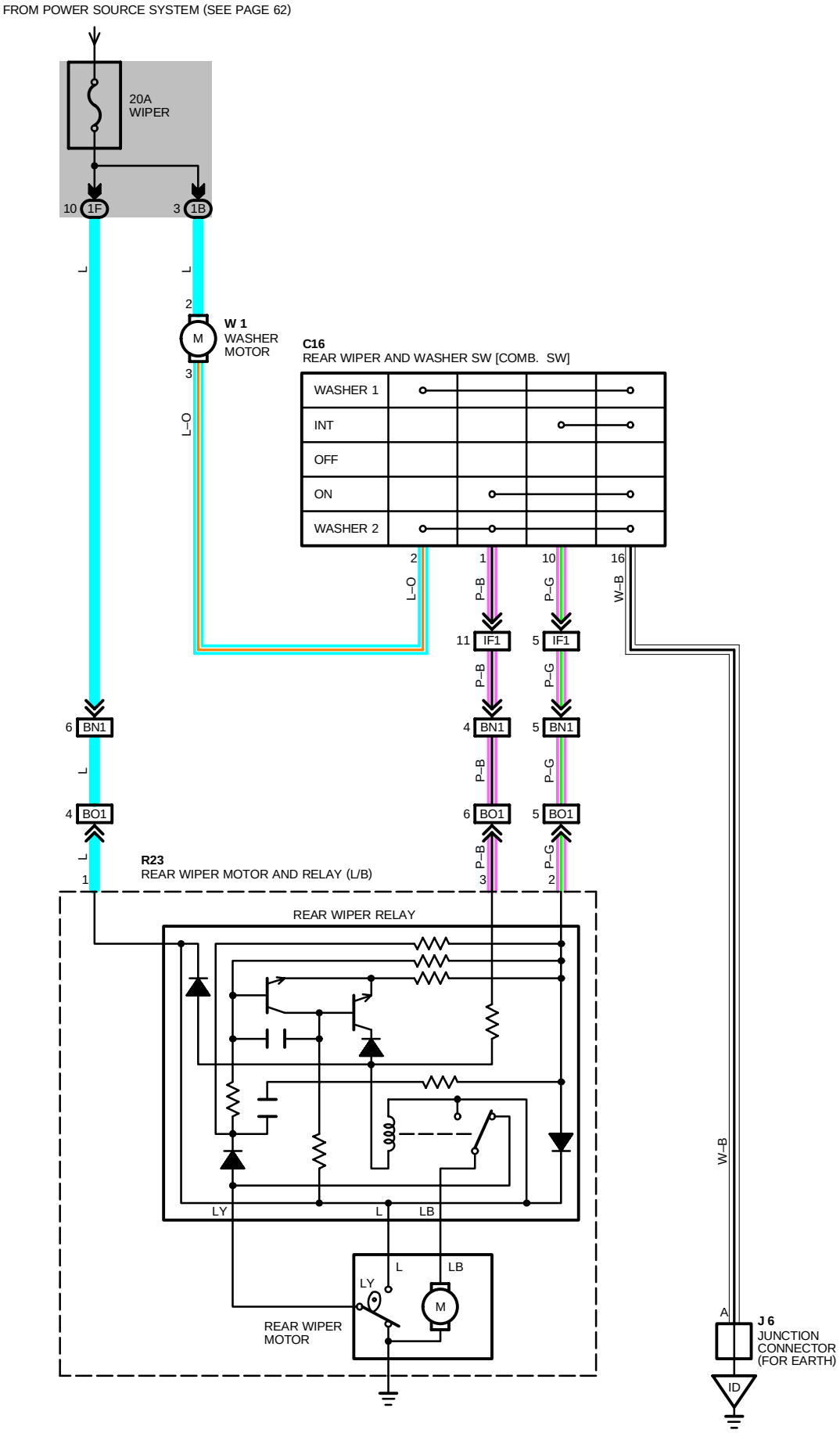
N 4

R19 (A) , **R20** (E) BLACK

R20 (C)

R21 (D) , **R22** (B) BLACK

REAR WIPER AND WASHER



SYSTEM OUTLINE

WHEN THE IGNITION SW IS TURNED ON, CURRENT FLOWS TO **TERMINAL 2** OF THE REAR WASHER MOTOR, **TERMINAL 1** OF THE REAR WIPER MOTOR AND RELAY THROUGH THE WIPER FUSE.

1. REAR WIPER NORMAL OPERATION

WITH THE IGNITION SW TURNED ON AND REAR WIPER AND WASHER SW TURNED ON, THE CURRENT FLOWING TO **TERMINAL 1** OF THE REAR WIPER RELAY FLOWS TO **TERMINAL 3** OF THE RELAY → **TERMINAL 1** OF THE REAR WIPER AND WASHER SW → **TERMINAL 16** → TO **GROUND**. THUS, THE RELAY COIL IS ACTIVATED AND THE CURRENT TO **TERMINAL 1** OF THE REALY FLOWS TO **TERMINAL LB** → **TERMINAL LB** OF THE REAR WIPER MOTOR → MOTOR → TO **GROUND** AND CAUSES THE MOTOR TO OPERATE THE WIPER.

2. REAR WIPER INTERMITTENT OPERATION

WHEN THE IGNITION SW IS ON AND THE REAR WIPER AND WASHER SW IS TURNED TO **INT** POSITION, CURRENT FLOWING TO **TERMINAL 1** OF THE REAR WIPER MOTOR AND RELAY FLOWS TO **TERMINAL 2** OF THE RELAY → **TERMINAL 10** OF THE REAR WIPER AND WASHER SW → **TERMINAL 16** → **GROUND**.

THIS CAUSES THE MOTOR TO OPERATE (THE POINT CHANGES) AND THE INTERMITTENT CIRCUIT OF THE RELAY OPERATES. INTERMITTENT OPERATION OF THE CIRCUIT IS CONTROLLED BY THE CHARGING AND DISCHARGING OF THE CONDENSER INSTALLED INSIDE THE RELAY.

3. WASHER OPERATION

WITH THE IGNITION SW TURNED ON AND THE REAR WIPER AND WASHER SW TURNED TO **ON** POSITION, WHEN THE WIPER SW IS TURNED FURTHER, THE CURRENT FLOWING TO **TERMINAL 2** OF THE REAR WASHER MOTOR FLOWS TO **TERMINAL 3** OF THE MOTOR → **TERMINAL 2** OF THE REAR WIPER AND WASHER SW → **TERMINAL 16** → TO **GROUND** SO THAT THE WASHER MOTOR ROTATES AND THE WINDOW WASHER EJECTS THE SPRAY, ONLY WHILE THE SWITCH IS FULLY TURNED.

WHEN THE WIPER SW IS OFF AND THEN TURNED TO WASHER ON (WIPER OFF SIDE), ONLY THE WASHER OPERATES.

SERVICE HINTS

W 1 WASHER MOTOR

2–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
3–GROUND : CONTINUITY WITH WASHER SW TURNED ON

R23 REAR WIPER MOTOR AND RELAY

1–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
2–GROUND : CONTINUITY WITH REAR WIPER SW AT **INT** POSITION
3–GROUND : CONTINUITY WITH REAR WIPER SW AT **ON** POSITION

○ : PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
C16	32	**R23**	34 (L/B)		
J 6	33	**W 1**	29 (3S–GTE), 30 (5S–FE)		

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1B	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1F	20	FLOOR WIRE AND J/B NO. 1 (LEFT KICK PANEL)

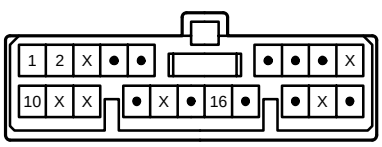
▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IF1	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
BN1	46 (L/B)	BACK DOOR NO. 1 WIRE AND FLOOR WIRE (LEFT SIDE OF PACKAGE TRAY TRIM)
BO1	46 (L/B)	BACK DOOR NO. 1 WIRE AND BACK DOOR NO. 1 SUB WIRE (BACK DOOR UPPER LEFT)

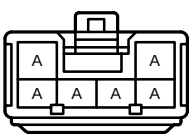
▽ : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL

C16 BLACK

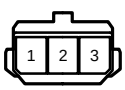


J 6

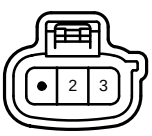


(HINT : SEE PAGE 7)

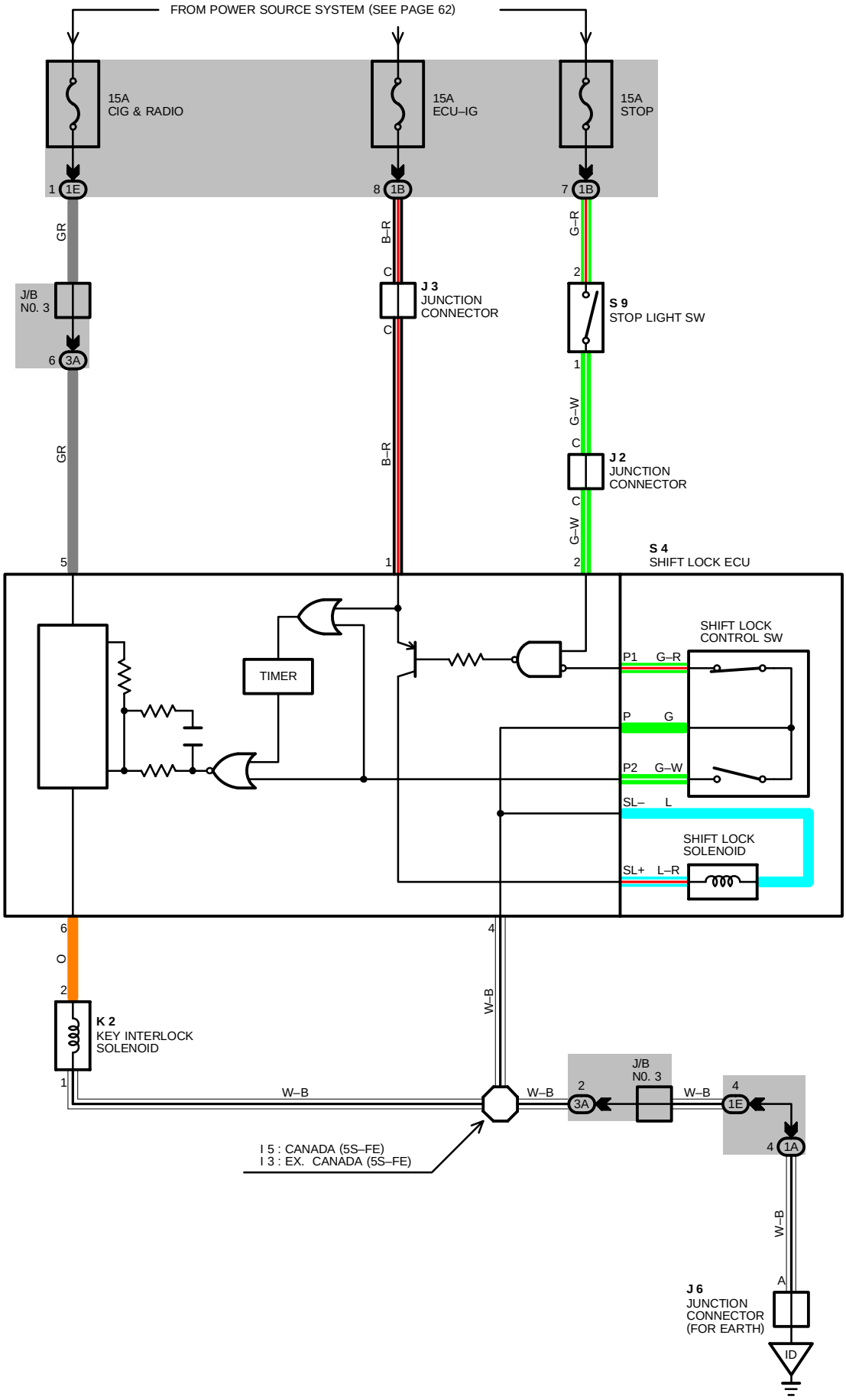
R23



W 1 GRAY



SHIFT LOCK


FROM POWER SOURCE SYSTEM (SEE PAGE 62)
15A
CIG & RADIO
15A
ECU–IG
15A
STOP
1E
1B
1B
GR
B–R
G–R
J/B
N0. 3
3A
J 3
JUNCTION
CONNECTOR
S 9
STOP LIGHT SW
G–W
J 2
JUNCTION
CONNECTOR
S 4
SHIFT LOCK ECU
TIMER
SHIFT LOCK
CONTROL SW
P1
G–R
P
G
P2
G–W
SL–
L
SHIFT LOCK
SOLENOID
SL+
L–R
O
K 2
KEY INTERLOCK
SOLENOID
W–B
I 5 : CANADA (5S–FE)
I 3 : EX. CANADA (5S–FE)
1E
1A
J 6
JUNCTION
CONNECTOR
(FOR EARTH)
ID

SYSTEM OUTLINE

WHEN THE IGNITION SW IS TURNED TO **ACC** POSITION THE CURRENT FROM THE CIG FUSE FLOWS TO **TERMINAL 5** OF THE SHIFT LOCK ECU. IN THE **ON** POSITION, THE CURRENT FROM THE ECU–IG FUSE FLOWS TO **TERMINAL 1** 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 IN “P” POSITION (CONTINUITY BETWEEN P1 AND P OF THE SHIFT POSITION SW) IS INPUT TO THE ECU. THE ECU OPERATES AND CURRENT FLOWS FROM **TERMINAL 1** OF THE ECU → **TERMINAL SL+** OF THE SHIFT LOCK SOLENOID → SOLENOID → **TERMINAL SL–** → **TERMINAL 4** OF THE ECU → **GROUND**. THIS CAUSES THE SHIFT LOCK SOLENOID TO TURN ON (PLATE STOPPER DISENGAGES) AND THE SHIFT LEVER CAN SHIFT INTO OTHER POSITION THAN THE “P” POSITION.

2. KEY INTERLOCK MECHANISM

WITH THE IGNITION SW IN **ON** OR **ACC** POSITION, WHEN THE SHIFT LEVER IS PUT IN “P” POSITION (NO CONTINUITY BETWEEN P2 AND P OF LOCK CONTROL SW). THE CURRENT FLOWING FROM **TERMINAL 5** OF THE ECU → KEY INTERLOCK SOLENOID IS CUT OFF. THIS CAUSES THE KEY INTERLOCK SOLENOID TO TURN OFF (LOCK LEVER DISENGAGES FROM LOCK POSITION) AND THE IGNITION KEY CAN BE TURNED FROM **ACC** TO **LOCK** POSITION. IF THE IGNITION IS LEFT IN **ACC** OR **ON** POSITION WITH THE SHIFT LEVER IN OTHER THAN “P” POSITION, THEN AFTER APPROX. ONE HOUR THE ECU OPERATES TO RELEASE THE LOCK.

SERVICE HINTS

S 4 SHIFT LOCK ECU

5–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ACC** OR **ON** POSITION
1–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
4–GROUND : ALWAYS CONTINUITY
2–GROUND : APPROX. **12** VOLTS WITH BRAKE PEDAL DEPRESSED

○ : PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
J 2	33	**J 6**	33	**S 4**	33
J 3	33	**K 2**	33	**S 9**	33

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1B		
1E		
3A	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

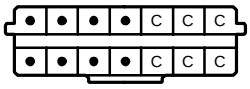
▽ : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL

⬡ : SPLICE POINTS

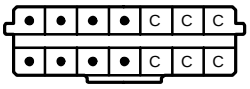
CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 3	44	COWL WIRE	**I 5**	44	COWL WIRE

J 2



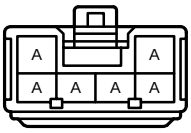
(HINT : SEE PAGE 7)

J 3



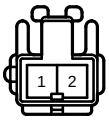
(HINT : SEE PAGE 7)

J 6

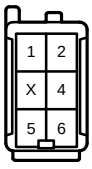


(HINT : SEE PAGE 7)

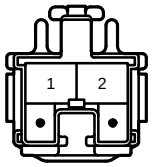
K 2 BLUE



S 4



S 9



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

- Malfunction symptoms of the supplemental restraint system are difficult to confirm, so the diagnostic trouble codes become the most important source of information when troubleshooting.

  When troubleshooting the supplemental restraint system, always inspect the diagnostic trouble codes before disconnecting the battery.

- Work must be started after 90 seconds from the time the Ignition SW is set to the “LOCK” position and the negative (–) terminal cable is disconnected from the battery.

  (The supplemental restraint system is equipped with a back–up power source so that if work is started within 90 seconds of disconnecting the negative (–) terminal cable of the battery, the SRS may be activated.)

  When the negative (–) terminal cable is disconnected from the battery, memory of the clock and audio systems will be cancelled. So before starting work, make a record of the contents memorized by each memory system. When work is finished, reset the clock and audio system as before and adjust the clock.

  This vehicle has tilt and telescopic steering, power seat and outside rear view mirror and power shoulder belt anchorage, which are all equipped with memory function, it is not possible to make a record of the memory contents. So when the work is finished, therefore it will be necessary to explain this fact to the customer, and ask the customer to adjust the features and reset the memory.

  To avoid erasing the memory of each memory system, never use a back–up power supply from outside the vehicle.

- When removing the steering wheel pad or handling a new steering wheel pad, keep the pad upper surface facing upward. Also, lock the lock lever of the twin lock type connector at the rear of the pad and take care not to damage the connector.

  (Storing the pad with its metallic surface up may lead to a serious accident if the SRS inflates for some reason.)

- Store the steering wheel pad where the ambient temperature remains below 93˚C (200˚F), without high humidity and away from electrical noise.

- Never use SRS parts from another vehicle. When replacing SRS parts, replace them with new parts.

- Never disassemble and repair the steering wheel pad, center SRS sensor assembly or front airbag sensors.

- Before repairing the body, remove the airbag sensors if during repair shocks are likely to be applied to the sensors due to vibration of the body or direct tapping with tools or other parts.

- Do not reuse a steering wheel pad or front airbag sensors.

  After evaluating whether the center airbag sensor assembly is damaged or not, decide whether or not to reuse it. (See the Repair Manual for the method for evaluating the center airbag sensor assembly.)

- When troubleshooting the supplemental restraint system, use a high–impedance (Min. 10kΩ/V) tester.

- The wire harness of the supplemental restraint system is integrated with the cowl wire harness assembly, engine room main wire harness assembly and cowl No. 2 wire harness assembly.

  The vehicle wiring harness exclusively for the airbag system is distinguished by corrugated yellow tubing, as are the connectors.

- Do not measure the resistance of the airbag squib.

  (It is possible this will deploy the airbag and is very dangerous.)

- If the wire harness used in the supplemental restraint system is damaged, replace the whole wire harness assembly.

  When the connector to the airbag front sensors can be repaired alone (when there is no damage to the wire harness), use the repair wire specially designed for the purpose.

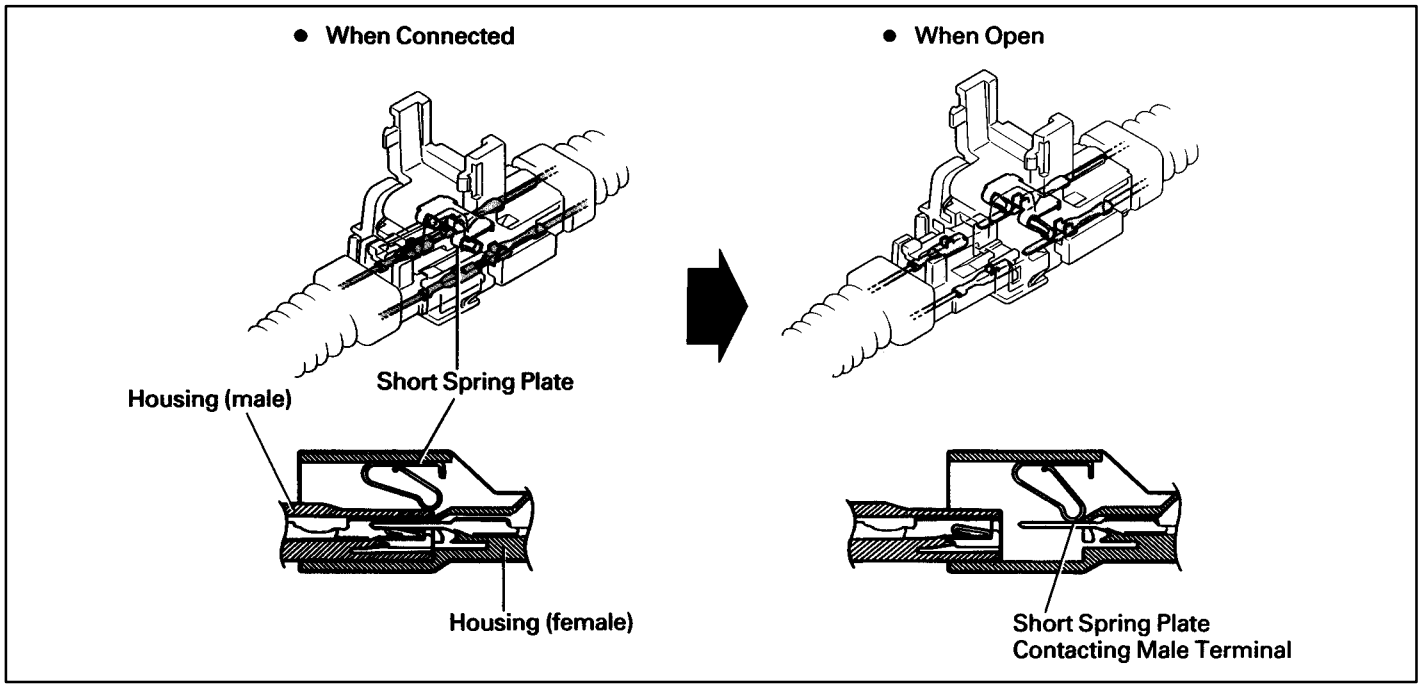
  (Refer to the Repair Manual for the applicable Model year for details of the replacement method.)

- INFORMATION LABELS (NOTICES) are attached to the periphery of the SRS components. Follow the instructions on the notices.

The supplemental restraint system has connectors which possess the functions described below:

1. SRS ACTIVATION PREVENTION MECHANISM

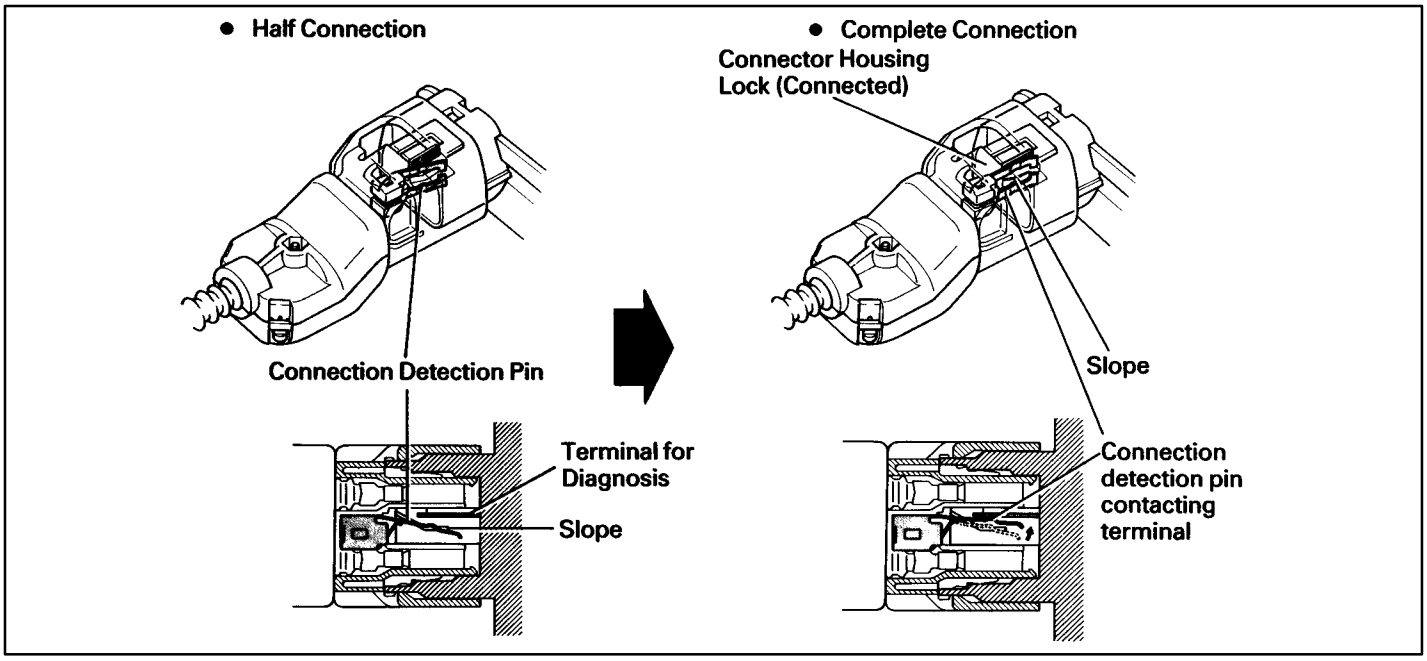
   Each connector contains a short spring plate. When the connector is disconnected, the short spring plate automatically connects the power source and grounding terminals of the squib to preclude a potential difference between the terminals.



2. ELECTRICAL CONNECTION CHECK MECHANISM

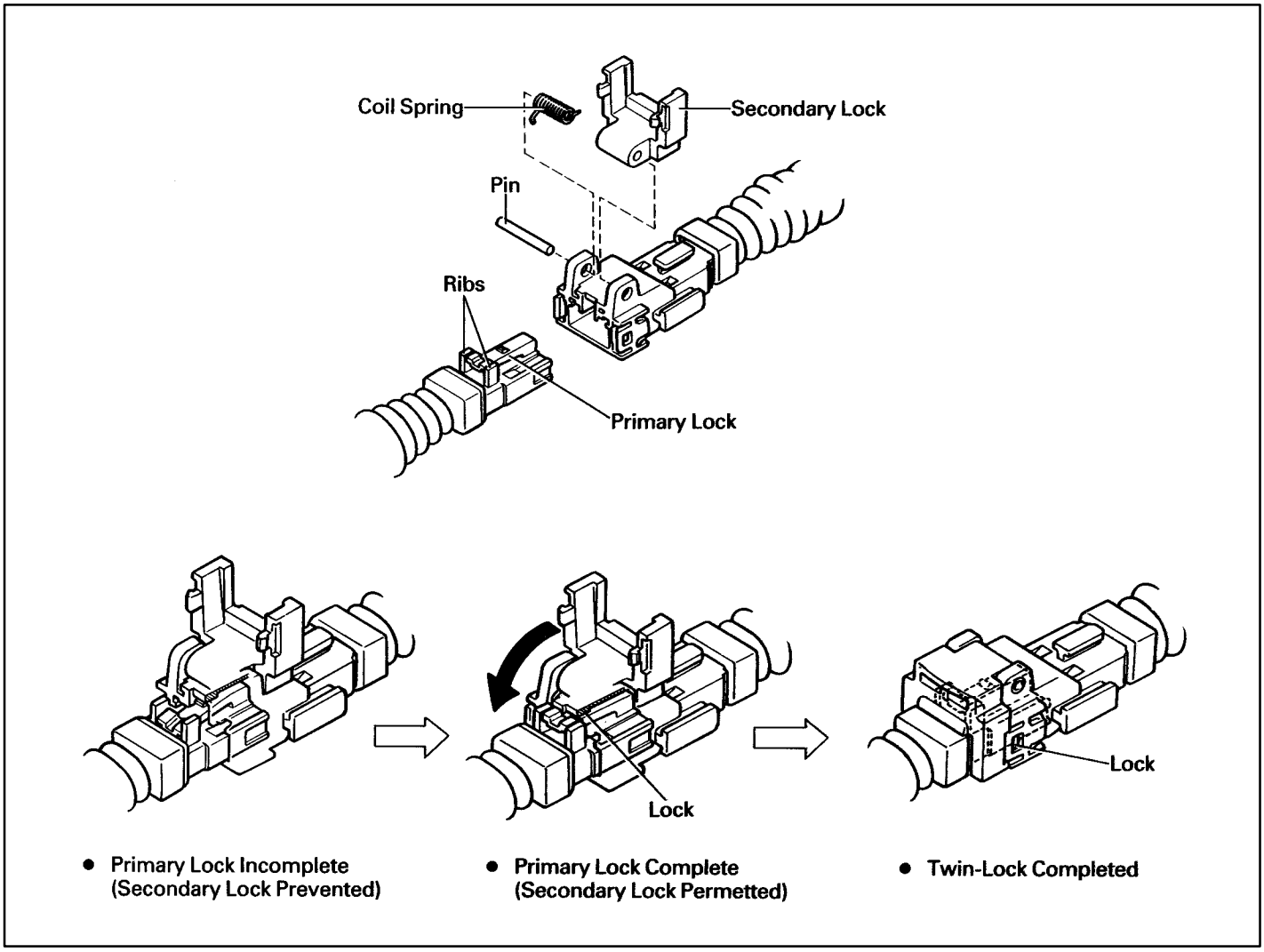
   This mechanism is designed to electrically check if connectors are connected correctly and completely.

   The electrical connection check mechanism is designed so that the connection detection pin connects with the diagnosis terminals when the connector housing lock is in the locked condition.

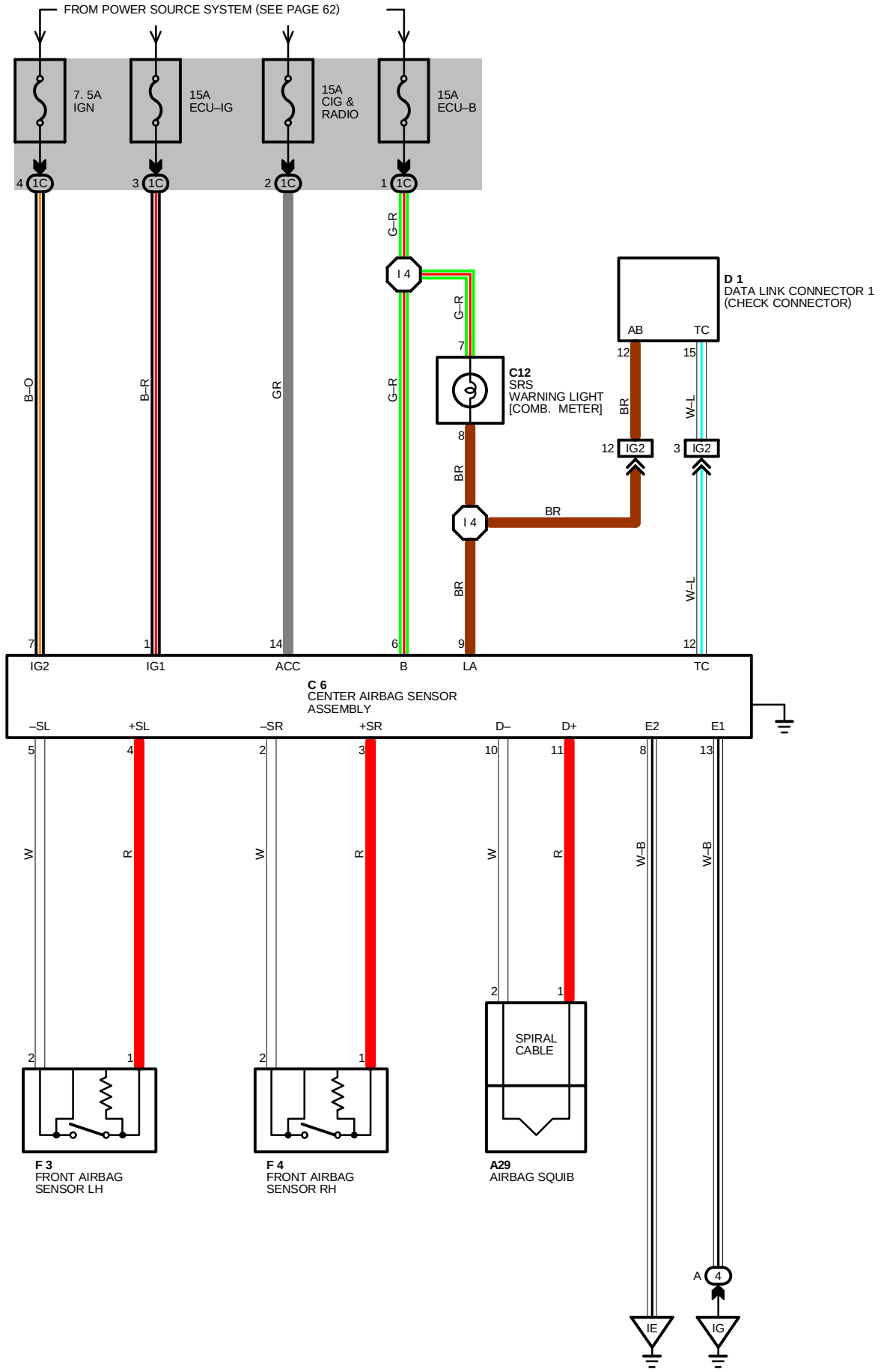


3. CONNECTOR TWIN–LOCK MECHANISM

With this mechanism connectors (male and female connectors) are locked by two locking devices to increase connection reliability. If the primary lock is incomplete, ribs interfere and prevent the secondary lock.



SRS (SUPPLEMENTAL RESTRAINT SYSTEM)



SYSTEM OUTLINE

THE SRS (SUPPLEMENTAL RESTRAINT SYSTEM) AIRBAG IS A DRIVER PROTECTION DEVICE WHICH HAS A SUPPLEMENTAL ROLE TO THE SEAT BELTS.

CURRENT FLOWS CONSTANTLY TO **TERMINAL 6** OF THE CENTER AIRBAG SENSOR ASSEMBLY. WHEN THE IGNITION SW IS TURNED TO ACC OR ON, CURRENT FROM THE CIG & RADIO FUSE FLOWS TO **TERMINAL 14** OF THE CENTER AIRBAG SENSOR ASSEMBLY. ONLY WHEN THE IGNITION SW IS ON DOES THE CURRENT FROM THE ECU–IG FUSE FLOW TO **TERMINAL 1**. AND THE CURRENT FROM THE IGN FUSE FLOWS TO **TERMINAL 7**.

IF AN ACCIDENT OCCURS WHILE DRIVING, DECELERATION CAUSED BY A FRONTAL IMPACT IS DETECTED BY EACH SENSOR AND SWITCH, AND WHEN THE FRONTAL IMPACT EXCEEDS A SET LEVEL (WHEN THE MERCURY SW BUILT INTO THE CENTER AIRBAG SENSOR ASSEMBLY IS ON AND THE CENTER AIRBAG SENSOR IS ON, FRONT AIRBAG SENSORS ARE OFF), CURRENT FROM THE CIG & RADIO, ECU–IG OR IGN FUSE FLOWS TO **TERMINAL 11** OF THE CENTER AIRBAG SENSOR ASSEMBLY → **TERMINAL 1** OF THE AIRBAG SQUIB → SQUIB → **TERMINAL 2** → **TERMINAL 10** OF CENTER AIRBAG SENSOR ASSEMBLY → **TERMINAL 8, TERMINAL 13** OR **BODY GROUND** → **GROUND**.

WHEN THE MERCURY SW BUILT INTO THE CENTER AIRBAG SENSOR ASSEMBLY IS ON AND THE FRONT AIRBAG SENSOR LH OR RH IS ON, CENTER AIRBAG SENSOR IS OFF CURRENT FROM THE CIG & RADIO, ECU–IG OR IGN FUSE FLOWS TO **TERMINAL 11** OF THE CENTER AIRBAG SENSOR ASSEMBLY → **TERMINAL 1** OF THE AIRBAG SQUIB → SQUIB →**TERMINAL 2** → **TERMINAL 10**, OF THE CENTER AIRBAG SENSOR ASSEMBLY → **TERMINAL 3** OR **4** → **TERMINAL 1** OF FRONT AIRBAG SENSOR → **TERMINAL 2** → **TERMINAL 2** OR **5** OF CENTER AIRBAG SENSOR ASSEMBLY → **TERMINAL 8, TERMINAL 13** OR **BODY GROUND** → **GROUND.**

WHEN THE MERCURY SW BUILT INTO THE CENTER AIRBAG SENSOR ASSEMBLY IS ON, AND THE FRONT AIRBAG SENSOR LH OR RH IS ON AND CENTER AIRBAG SENSOR IS ON ONE OF THE ABOVE–MENTIONED CIRCUITS IS ACTIVATED SO THAT CURRENT FLOWS TO THE AIRBAG SQUIB AND CAUSES IT TO OPERATE. THE BAG STORED INSIDE THE STEERING WHEEL PAD IS INSTANTANEOUSLY EXPANDED TO SOFTEN THE SHOCK TO THE DRIVER.

THE REASON WHY THERE ARE MULTIPLE POWER SOURCES AND GROUND POINTS IS SO THAT IN THE EVENT THAT ONE OR TWO OF THE POWER SOURCES AND GROUND POINTS DO NOT WORK FOR SOME REASON, THE REMAINING POWER SOURCE AND GROUND POINT WILL BE AVAILABLE TO COMPENSATE.

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
A29	32	**D 1**	28 (3S–GTE), 30 (5S–FE)	**F 3**	31 (4A–FE)
C 6	32		31 (4A–FE)	**F 4**	28 (3S–GTE), 30 (5S–FE)
C12	32	**F 3**	28 (3S–GTE), 30 (5S–FE)		31 (4A–FE)

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
4	27	R/B NO. 4 (RIGHT KICK PANEL)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1C	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IG2	42	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE CONTROL MODULE (ECU))

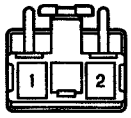
: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
IE	42	INSTRUMENT PANEL BRACE LH
IG	42	R/B NO. 4 SET BOLT

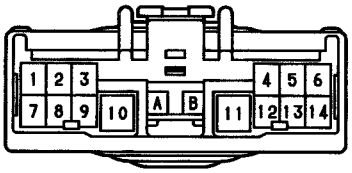
: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 4	44	COWL WIRE			

A29 YELLOW

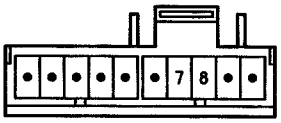


C 6 YELLOW

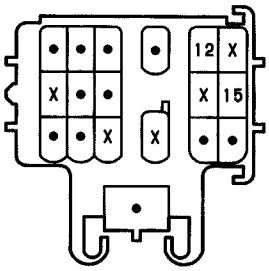


*1

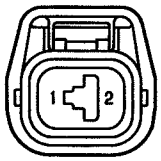
C12 BROWN



D 1 DARK GRAY

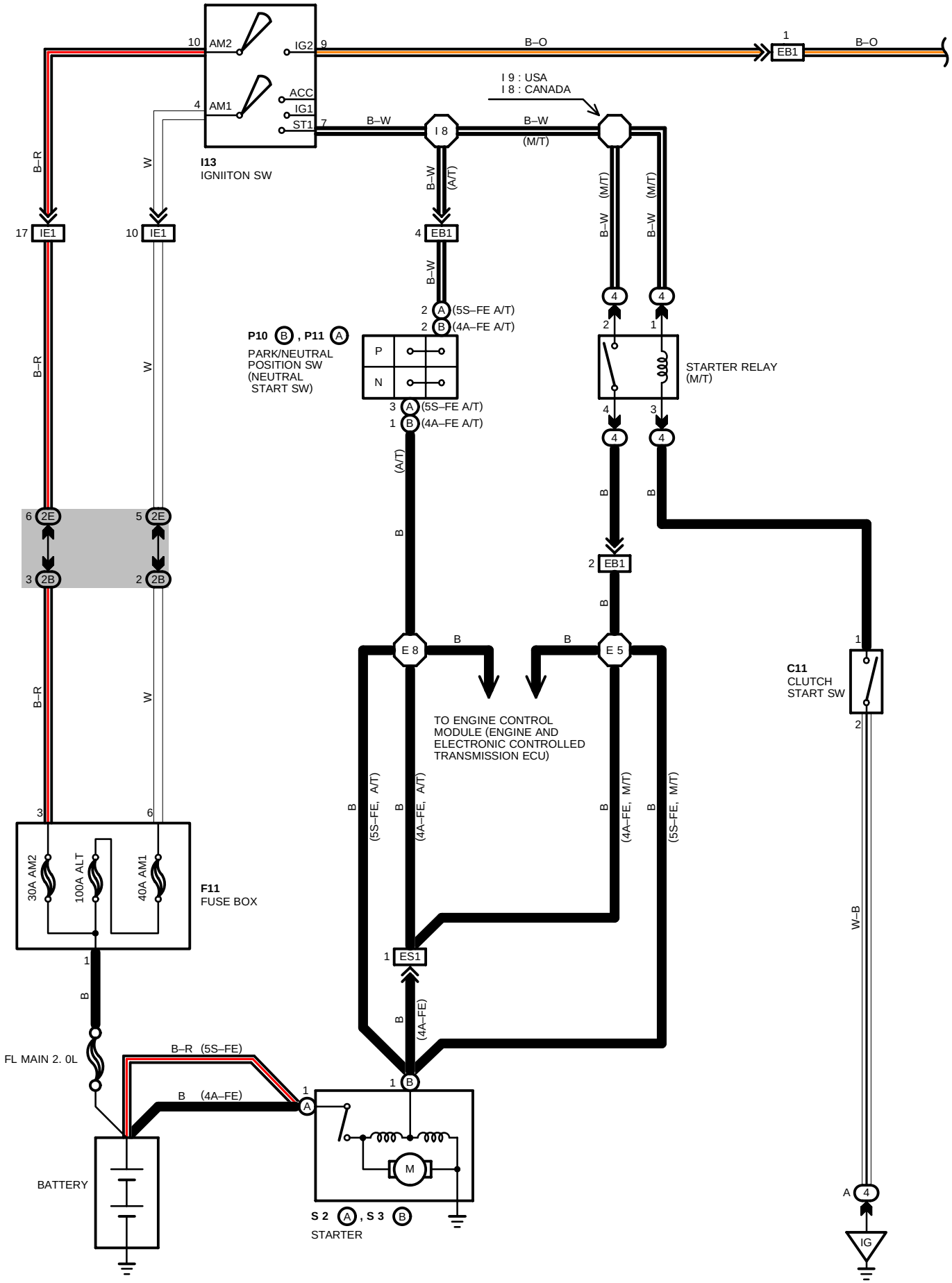


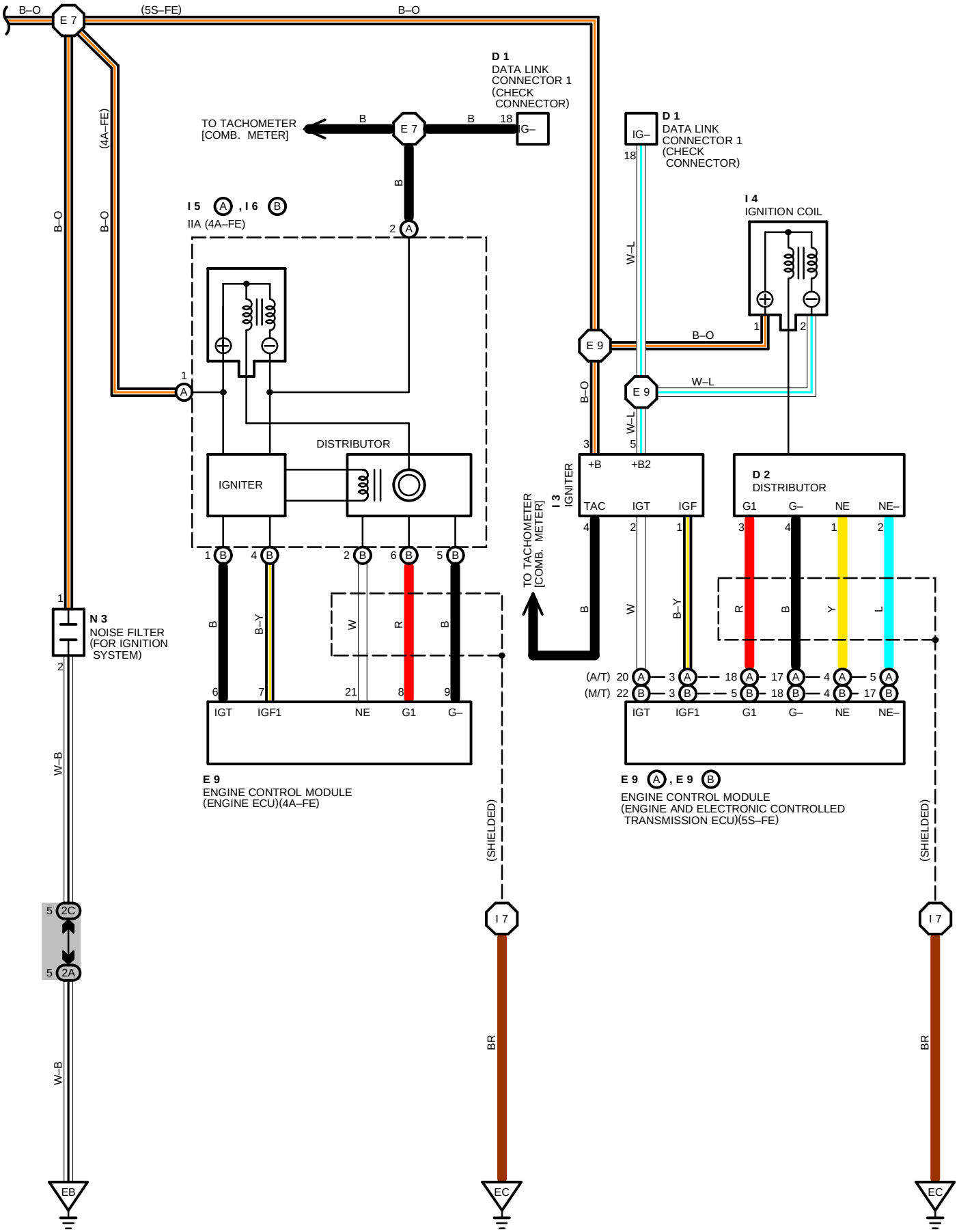
F 3, F 4 YELLOW



*1

*1 :WITH ELECTRICAL CONNECTION CHECK MECHANISM (SEE PAGE 197)


10 AM2
IG2 9
B–O
1 EB1
B–O
I 9 : USA
I 8 : CANADA
4 AM1
ACC
IG1
ST1 7
B–W
I 8
B–W
(M/T)
I13
IGNIITON SW
B–R
W
B–W (A/T)
B–W (M/T)
B–W (M/T)
17 IE1
10 IE1
4 EB1
B–W
2 A (5S–FE A/T)
2 B (4A–FE A/T)
P10 B , P11 A
PARK/NEUTRAL
POSITION SW
(NEUTRAL
START SW)
P
N
3 A (5S–FE A/T)
1 B (4A–FE A/T)
4 4
2 1
STARTER RELAY
(M/T)
4 3
4 4
(A/T)
B
6 2E
5 2E
3 2B
2 2B
2 EB1
E 8
B
B
E 5
C11
CLUTCH
START SW
TO ENGINE CONTROL
MODULE (ENGINE AND
ELECTRONIC CONTROLLED
TRANSMISSION ECU)
B (5S–FE, A/T)
B (4A–FE, A/T)
B (4A–FE, M/T)
B (5S–FE, M/T)
3 6
30A AM2
100A ALT
40A AM1
F11
FUSE BOX
1 ES1
(4A–FE)
W–B
FL MAIN 2. 0L
B–R (5S–FE)
B (4A–FE)
1 B
1 A
BATTERY
M
S 2 A , S 3 B
STARTER
A 4
IG


B–O
E 7
(5S–FE)
B–O
D 1
DATA LINK
CONNECTOR 1
(CHECK
CONNECTOR)
TO TACHOMETER
[COMB. METER]
B
E 7
B
18
IG–
(4A–FE)
B–O
B–O
B
2
A
I 5 A , I 6 B
IIA (4A–FE)
1
A
DISTRIBUTOR
IGNITER
1 B
4 B
2 B
6 B
5 B
B
B–Y
W
R
B
6
7
21
8
9
IGT
IGF1
NE
G1
G–
E 9
ENGINE CONTROL MODULE
(ENGINE ECU)(4A–FE)
1
N 3
NOISE FILTER
(FOR IGNITION
SYSTEM)
2
W–B
5 2C
5 2A
W–B
EB
(SHIELDED)
I 7
BR
EC
IG–
18
D 1
DATA LINK
CONNECTOR 1
(CHECK
CONNECTOR)
W–L
I 4
IGNITION COIL
1
2
B–O
E 9
W–L
E 9
B–O
W–L
3
5
I 3
IGNITER
+B
+B2
TAC
IGT
IGF
4
2
1
B
W
B–Y
TO TACHOMETER
[COMB. METER]
D 2
DISTRIBUTOR
G1
G–
NE
NE–
3
4
1
2
R
B
Y
L
(A/T) 20 A 3 A 18 A 17 A 4 A 5 A
(M/T) 22 B 3 B 5 B 18 B 4 B 17 B
IGT
IGF1
G1
G–
NE
NE–
E 9 A , E 9 B
ENGINE CONTROL MODULE
(ENGINE AND ELECTRONIC CONTROLLED
TRANSMISSION ECU)(5S–FE)
(SHIELDED)
I 7
BR
EC

STARTING AND IGNITION (2WD)

SERVICE HINTS

I13 IGNITION SW
4–7 : CLOSED WITH IGNITION SW AT **ST** POSITION
9–10 : CLOSED WITH IGNITION SW AT **ON** OR **ST** POSITION

C12 CLUTCH START SW
1–2 : CLOSED WITH CLUTCH PEDAL FULLY DEPRESSED

STARTER RELAY
(4) 2–**(4)** 4 : CLOSED WITH CLUTCH START SW ON AND IGNITION SW AT **ST** POSITION

STARTER
POINTS CLOSED WITH CLUTCH START SW ON AND IGNITION SW AT **ST** POSITION

P10, P11 PARK/NEUTRAL POSITION SW (NEUTRAL START SW)
2–3 : CLOSED WITH A/T SHIFT LEVER IN **P** OR **N** POSITION (5S–FE A/T)
1–2 : CLOSED WITH A/T SHIFT LEVER IN **P** OR **N** POSITION (4A–FE A/T)

: PARTS LOCATION

CODE		SEE PAGE	CODE		SEE PAGE	CODE		SEE PAGE
C11		32	**F11**		30 (5S–FE), 31 (4A–FE)	**N 3**		30 (5S–FE), 31 (4A–FE)
D 1		30 (5S–FE), 31 (4A–FE)	**I 3**		30 (5S–FE)	**P10**	B	30 (5S–FE), 31 (4A–FE)
D 2		30 (5S–FE), 31 (4A–FE)	**I 4**		30 (5S–FE)	**P11**	A	30 (5S–FE)
E 9		33	**I 5**	A	31 (4A–FE)	**S 2**	A	30 (5S–FE), 31 (4A–FE)
E 9	A	33	**I 6**	B	31 (4A–FE)	**S 3**	B	30 (5S–FE), 31 (4A–FE)
	B	33	**I13**		33			

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
4	27	R/B NO. 4 (RIGHT KICK PANEL)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
2A	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO.2 (NEAR THE BATTERY)
2B	22 (2WD)	ENGINE WIRE AND J/B NO.2 (NEAR THE BATTERY)
2C		
2E	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO.2 (NEAR THE BATTERY)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EB1	38 (5S–FE)	ENGINE WIRE AND COWL WIRE (REAR SIDE OF RIGHT FRONT FENDER)
	40 (4A–FE)	
ES1	40 (4A–FE)	ENGINE WIRE AND ENGINE ROOM NO. 2 WIRE (NEAR THE STARTER)
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)

: GROUND POINTS

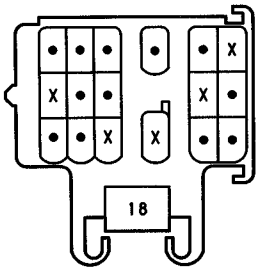
CODE	SEE PAGE	GROUND POINTS LOCATION
EB	38 (5S–FE)	FRONT LEFT FENDER
	40 (4A–FE)	
EC	38 (5S–FE)	INTAKE MANIFOLD
	40 (4A–FE)	
IG	42	R/B NO. 4 SET BOLT

: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 5	38 (5S–FE)	ENGINE WIRE	**E 9**	38 (5S–FE)	ENGINE WIRE
	40 (4A–FE)		**I 7**	44	
E 7	38 (5S–FE)		**I 8**	44	COWL WIRE
	40 (4A–FE)		**I 9**	44	
E 8	38 (5S–FE)				
	40 (4A–FE)				

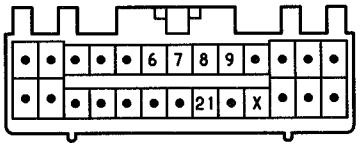
C11

D 1 GRAY

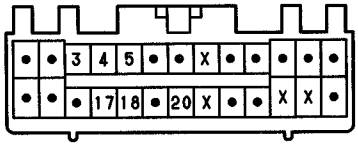


D 2 BLACK

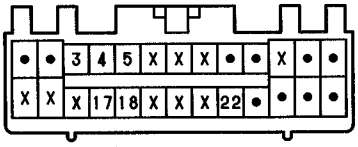
E 9 GRAY



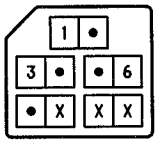
E 9 Ⓐ DARK GRAY



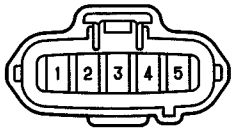
E 9 Ⓑ DARK GRAY



F11 BLACK



I 3 BLACK

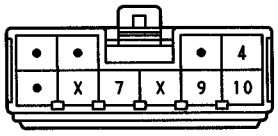


I 4 BLACK

I 5 Ⓐ DARK GRAY

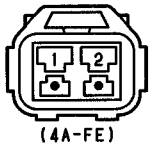
I 6 Ⓑ DARK GRAY

I13 BLACK



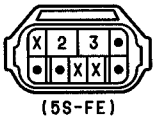
N 3 GRAY

P10 Ⓑ GRAY



(4A-FE)

P11 Ⓐ GRAY

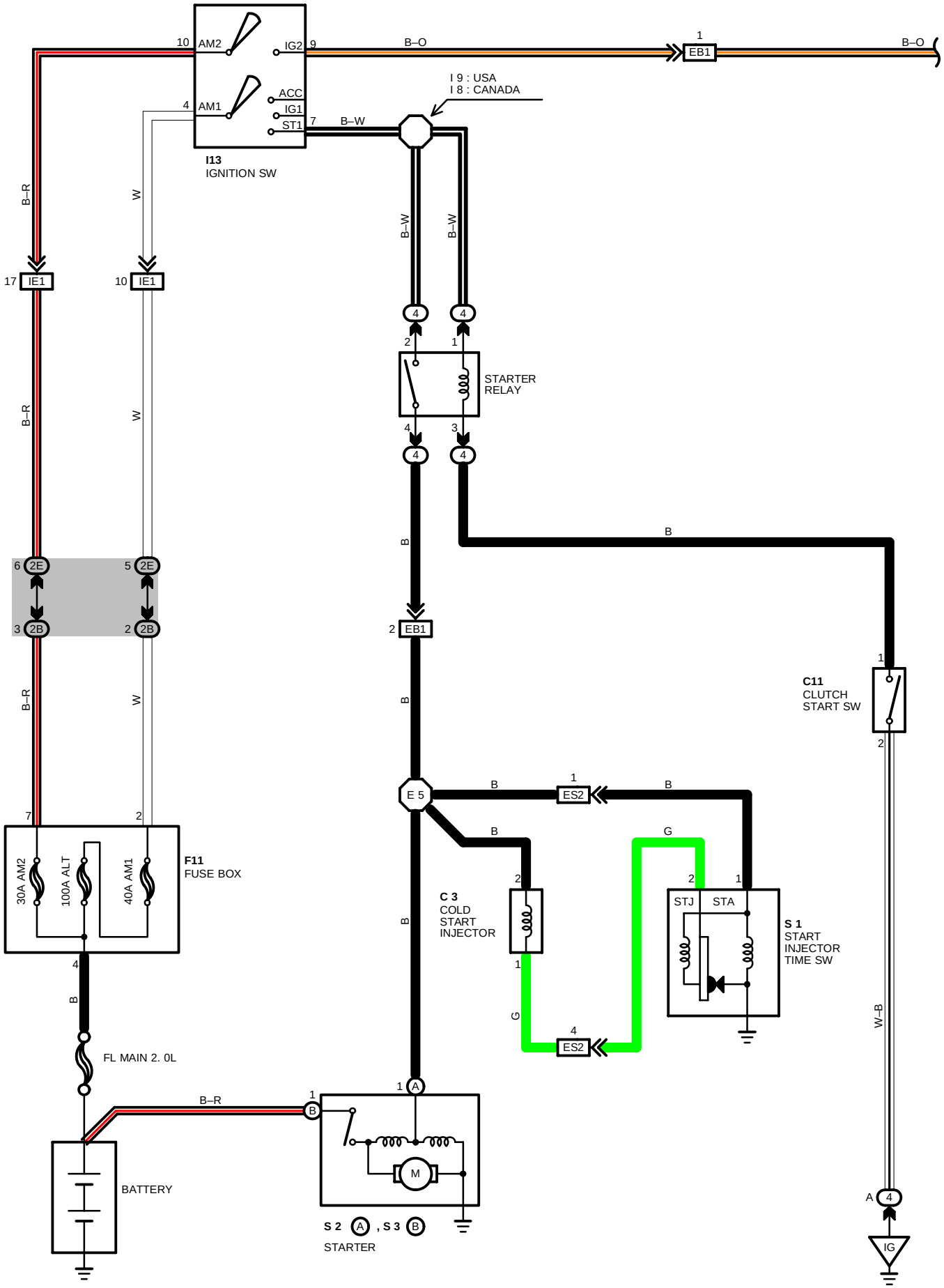


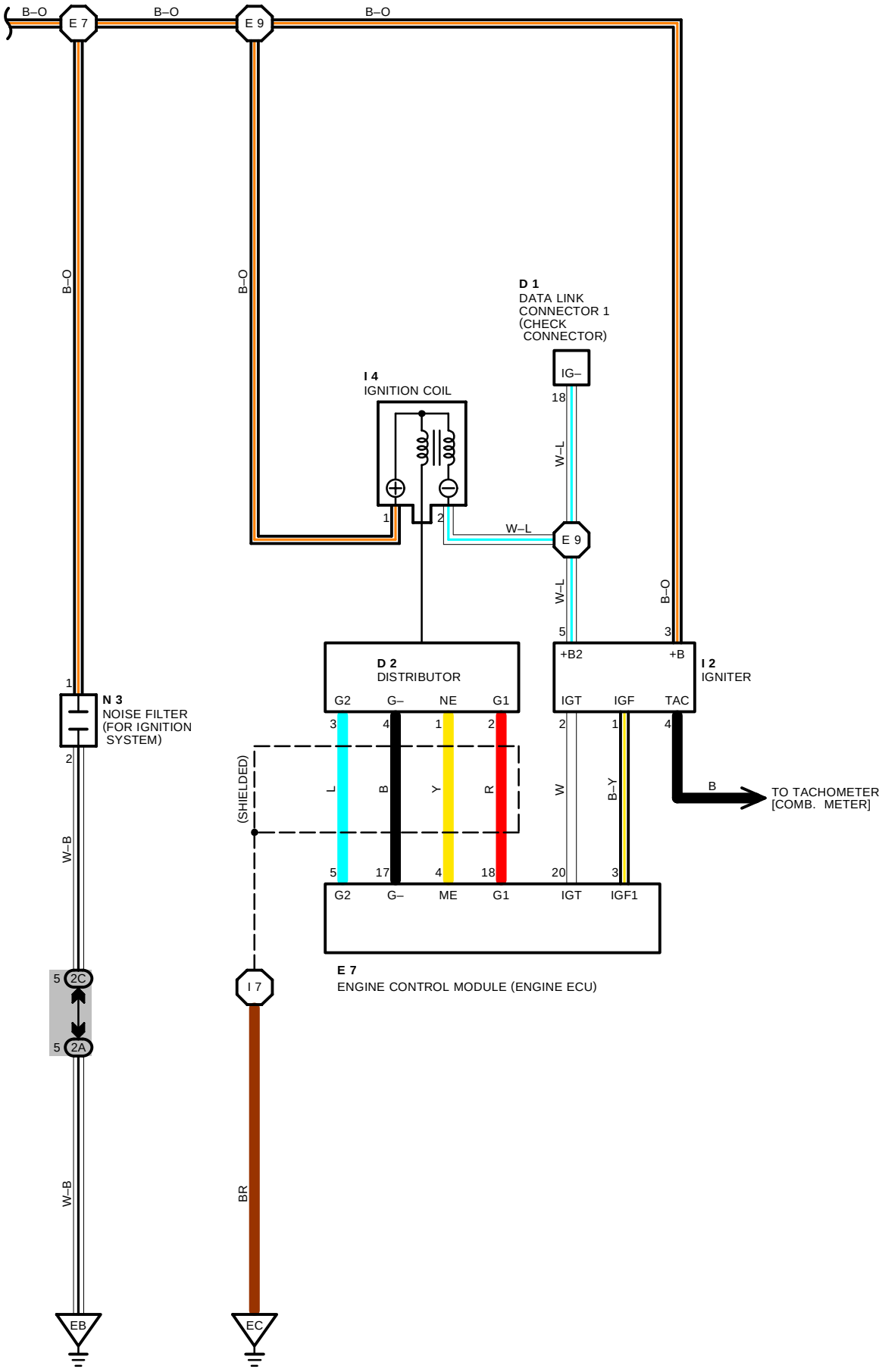
(5S-FE)

S 2 Ⓐ

S 3 Ⓑ BLACK

STARTING AND IGNITION (ALL–TRAC/4WD)




B–O
E 7
B–O
E 9
B–O
B–O
B–O
D 1
DATA LINK
CONNECTOR 1
(CHECK
CONNECTOR)
IG–
18
I 4
IGNITION COIL
W–L
1
2
W–L
E 9
W–L
B–O
5
3
+B2
+B
I 2
IGNITER
D 2
DISTRIBUTOR
G2
G–
NE
G1
IGT
IGF
TAC
3
4
1
2
2
1
4
B
TO TACHOMETER
[COMB. METER]
(SHIELDED)
L
B
Y
R
W
B–Y
5
17
4
18
20
3
G2
G–
ME
G1
IGT
IGF1
1
N 3
NOISE FILTER
(FOR IGNITION
SYSTEM)
2
W–B
E 7
ENGINE CONTROL MODULE (ENGINE ECU)
5
2C
5
2A
I 7
W–B
BR
EB
EC

STARTING AND IGNITION (ALL–TRAC/4WD)

SERVICE HINTS

STARTER
POINTS CLOSED WITH CLUTCH START SW ON AND IGNITION SW AT **ST** POSITION

STARTER RELAY
(4) 2–**(4)** 4 : CLOSED WITH CLUTCH START SW ON AND IGNITION SW AT **ST** POSITION

C 3 COLD START INJECTOR
1–2 : APPROX. **12** VOLTS WHILE START INJECTOR TIME SW IS CLOSED AND STARTER CRANKING

C11 CLUTCH START SW
1–2 : CLOSED WITH CLUTCH PEDAL FULLY DEPRESSED

I13 IGNITION SW
4–7 : CLOSED WITH IGNITION SW AT **ST** POSITION
9–10 : CLOSED WITH IGNITION SW AT **ON** OR **ST** POSITION

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE		SEE PAGE
C 3	28 (3S–GTE)	**F11**	29 (3S–GTE)	**S 1**		29 (3S–GTE)
C11	32	**I 2**	29 (3S–GTE)	**S 2**	A	29 (3S–GTE)
D 1	28 (3S–GTE)	**I 4**	29 (3S–GTE)	**S 3**	B	29 (3S–GTE)
D 2	28 (3S–GTE)	**I13**	33			
E 7	33	**N 3**	29 (3S–GTE)			

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
4	27	R/B NO. 4 (RIGHT KICK PANEL)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
2A	23 (ALL–TRAC/4WD)	ENGINE ROOM MAIN WIRE AND J/B NO.2 (NEAR THE BATTERY)
2B	23 (ALL–TRAC/4WD)	ENGINE WIRE AND J/B NO.2 (NEAR THE BATTERY)
2C		
2E	23 (ALL–TRAC/4WD)	ENGINE ROOM MAIN WIRE AND J/B NO.2 (NEAR THE BATTERY)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
EB1	36 (3S–GTE)	ENGINE WIRE AND COWL WIRE (REAR SIDE OF RIGHT FRONT FENDER)
ES2	36 (3S–GTE)	ENGINE WIRE AND ENGINE ROOM NO. 2 WIRE (NEAR THE DISTRIBUTOR)
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)

: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
EB	36 (3S–GTE)	FRONT LEFT FENDER
EC	36 (3S–GTE)	INTAKE MANIFOLD
IG	42	R/B NO. 4 SET BOLT

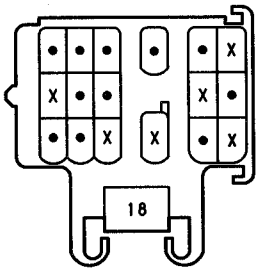
: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 5	36 (3S–GTE)	ENGINE WIRE	**I 7**	44	ENGINE WIRE
E 7			**I 8**	44	COWL WIRE
E 9			**I 9**	44	

C 3 BLACK

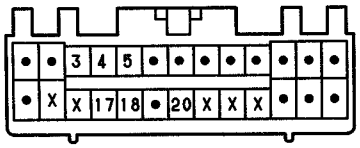
C11

D 1 DARK GRAY

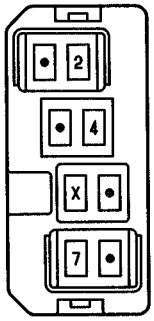


D 2 BLACK

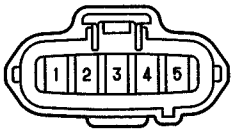
E 7 DARK GRAY



F11 BLACK

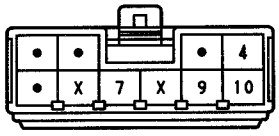


I 2 BLACK



I 4 BLACK

I13 BLACK

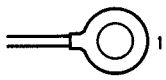


N 3 GRAY

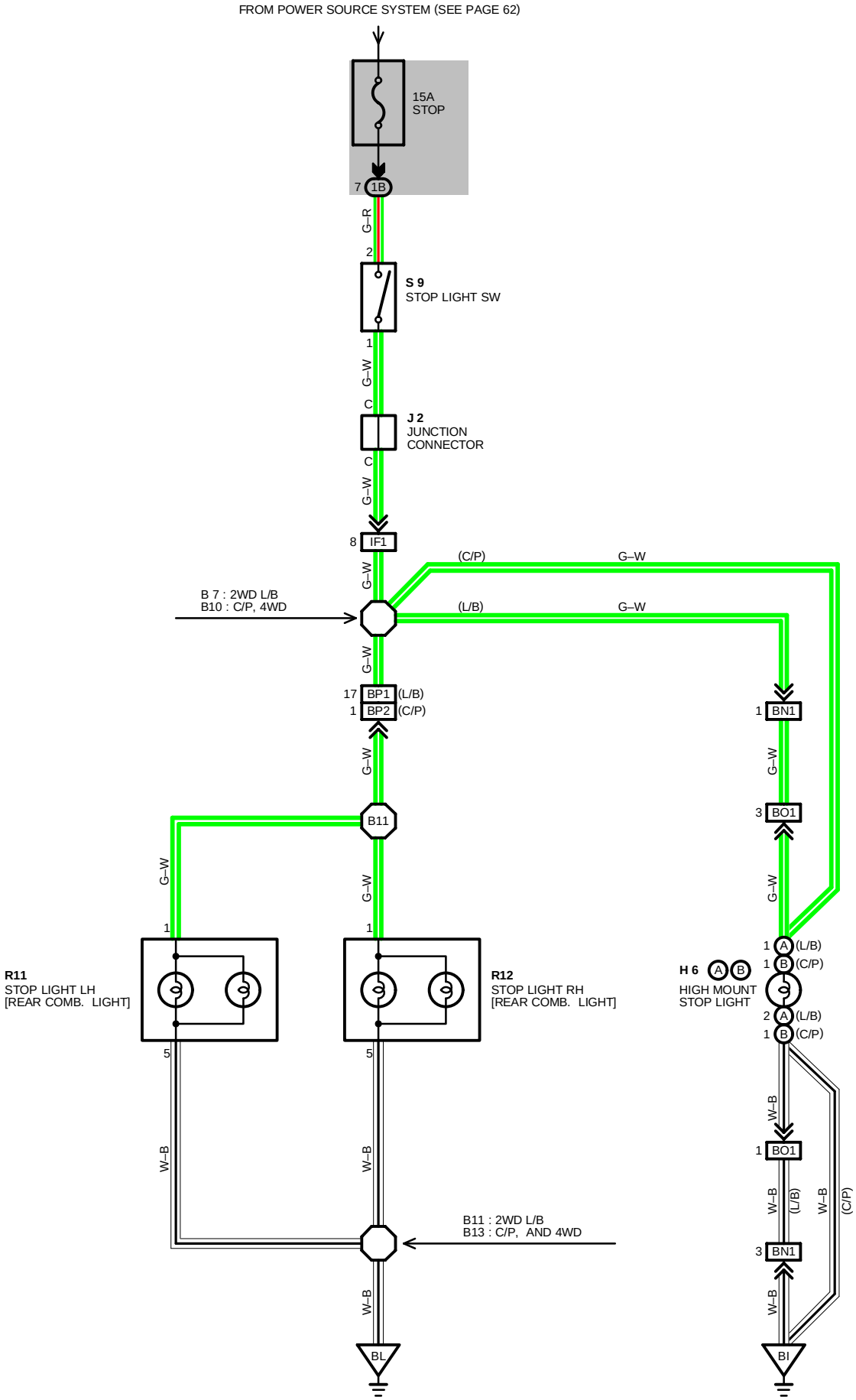
S 1 BROWN

S 2 (A) BLACK

S 3 (B)



STOP LIGHT


FROM POWER SOURCE SYSTEM (SEE PAGE 62)
15A
STOP
7 1B
G–R
2
S 9
STOP LIGHT SW
1
G–W
C
J 2
JUNCTION
CONNECTOR
C
G–W
8 IF1
G–W
B 7 : 2WD L/B
B10 : C/P, 4WD
(C/P)
G–W
(L/B)
G–W
G–W
17 BP1 (L/B)
1 BP2 (C/P)
G–W
B11
G–W
1 BN1
G–W
3 BO1
G–W
R11
STOP LIGHT LH
[REAR COMB. LIGHT]
R12
STOP LIGHT RH
[REAR COMB. LIGHT]
H 6
HIGH MOUNT
STOP LIGHT
1 A (L/B)
1 B (C/P)
2 A (L/B)
1 B (C/P)
1
1
5
5
W–B
W–B
W–B
1 BO1
W–B
(L/B)
W–B
(C/P)
3 BN1
W–B
B11 : 2WD L/B
B13 : C/P, AND 4WD
W–B
BL
BI

SERVICE HINTS

S 9 STOP LIGHT SW
1–2: CLOSED WITH BRAKE PEDAL DEPRESSED

: PARTS LOCATION

CODE		SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
H 6	A	34 (L/B)	**J 2**	33	**R12**	34 (L/B), 35 (C/P)
	B	35 (C/P)	**R11**	34 (L/B), 35 (C/P)	**S 9**	33

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1B	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IF1	42	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
BN1	46 (L/B)	BACK DOOR NO. 1 WIRE AND FLOOR WIRE (LEFT SIDE OF PACKAGE TRAY TRIM)
BO1	46 (L/B)	BACK DOOR NO. 1 WIRE AND BACK DOOR NO. 1 SUB WIRE (BACK DOOR UPPER LEFT)
BP1	46 (L/B)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LEFT QUARTER PANEL CENTER)
BP2	48 (C/P)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LUGGAGE COMPARTMENT LEFT)

: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
BI	46 (L/B)	UNDER THE LEFT CENTER PILLAR
	48 (C/P)	
BL	46 (L/B)	BACK PANEL CENTER
	48 (C/P)	

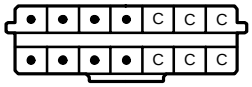
: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
B 7	46 (L/B)	FLOOR WIRE	**B13**	46 (L/B)	LUGGAGE ROOM WIRE
B10	46 (L/B)			48 (C/P)	
	48 (C/P)				
B11	46 (L/B)	LUGGAGE ROOM WIRE			
	48 (C/P)				

(L/B) **H 6** (A)

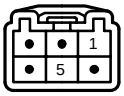
(C/P) **H 6** (B)

J 2

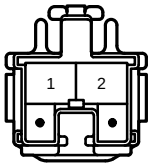


(HINT : SEE PAGE 7)

R11, R12

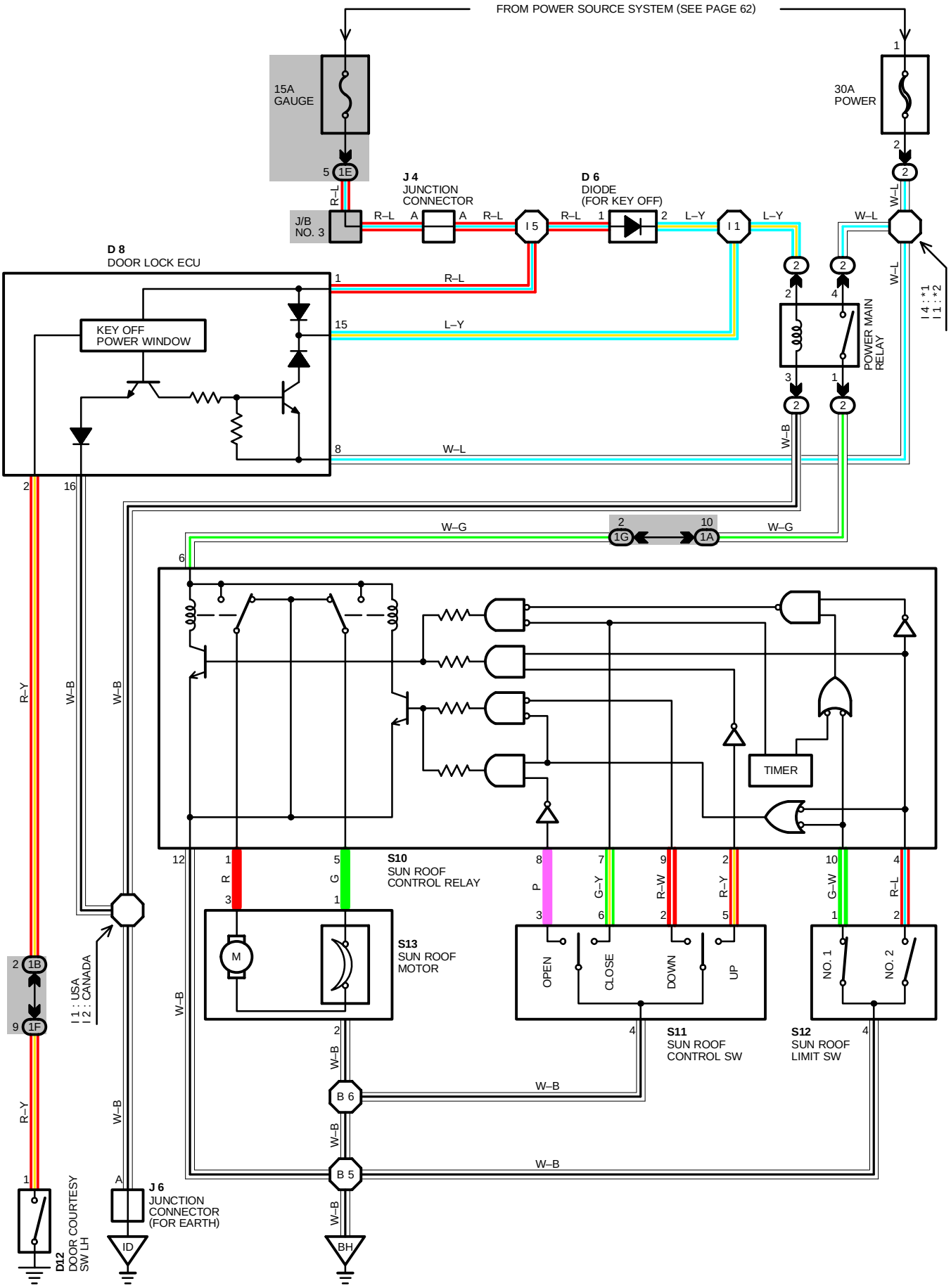


S 9



SUN ROOF

*1 : W/ ABS CANADA M/T (3S–GTE, 5S–FE, 4A–FE)
*2 : W/O ABS CANADA M/T (3S–GTE, 5S–FE, 4A–FE)



SYSTEM OUTLINE

CURRENT ALWAYS FLOWS TO **TERMINAL 4** OF THE POWER MAIN RELAY THROUGH THE POWER FUSE, WITH THE IGNITION SW TURNED ON, CURRENT FLOWS THROUGH THE GAUGE FUSE TO **TERMINAL 2** OF THE POWER MAIN RELAY. THIS ACTIVATES THE RELAY AND CURRENT FLOWING TO **TERMINAL 4** OF THE POWER MAIN RELAY FLOWS TO **TERMINAL 1** OF THE POWER MAIN RELAY → TO **TERMINAL 6** OF THE SUN ROOF CONTROL RELAY.

1. SLIDE OPEN OPERATION

WHEN THE IGNITION SW IS ON AND THE SUN ROOF SW IS PUSHED TO THE OPEN SIDE, A SIGNAL IS INPUT TO **TERMINAL 8** OF THE SUN ROOF CONTROL RELAY. WHEN THIS OCCURS ACTIVATING THE RELAY SO THAT CURRENT FLOWS FROM **TERMINAL 6** OF THE RELAY → **TERMINAL 5** → **TERMINAL 1** OF THE SUN ROOF MOTOR → MOTOR → **TERMINAL 3** → **TERMINAL 1** OF THE RELAY → **TERMINAL 12** → **GROUND,** THE MOTOR ROTATES TO THE OPEN SIDE AND THE SUN ROOF SLIDES OPEN AS LONG AS THE SUN ROOF CONTROL SW IS PUSHED TO THE OPEN SIDE.

WHEN THE SUN ROOF IS OPENED COMPLETELY, EVEN IF THE SUN ROOF SW IS PUSHED CONTINUOUSLY, THE CURRENT TO THE SUN ROOF MOTOR INCREASES.

IN THIS CASE, THE CIRCUIT BREAKER BUILT INTO THE MOTOR OPENS AND CUTS OUT THE CURRENT TO THE MOTOR, PREVENTING THE MOTOR FROM BURNING OUT.

2. SLIDE CLOSE OPERATION

WITH THE IGNITION SW TURNED ON AND THE SUN ROOF CONTROL SW IS PUSHED TO THE CLOSE SIDE, A SIGNAL IS INPUT FROM **TERMINAL 6** TO **TERMINAL 7** OF THE SUN ROOF CONTROL RELAY. THIS ACTIVATES THE RELAY AND THE CURRENT FLOWING TO **TERMINAL 6** FLOWS TO **TERMINAL 1** → **TERMINAL 3** OF THE SUN ROOF MOTOR → MOTOR → **TERMINAL 10** → **TERMINAL 5** OF THE RELAY → **TERMINAL 12** → **GROUND**. THIS CUASES THE MOTOR TO ROTATE TO THE CLOSE SIDE AND SLIDE CLOSE OPERATION CONTINUES AS LONG AS THE SUN ROOF CONTROL SW IS PUSHED TO THE CLOSE SIDE.

100 MM BEFORE THE FULLY **CLOSED** POSITION THE SUN ROOF LIMIT NO. 1 SW TURN OFF. THIS SIGNAL IS INPUT INTO THE RELAY, SO THE RELAY STOPS OPERATION. THUS CURRENT DOES NOT FLOW TO THE SUN ROOF MOTOR AND THE SUN ROOF AUTOMATICALLY STOPS.

IF THE SUN ROOF SW IS THEN PUSH AGAIN, THE TIMER INSTALLED IN THE SUN ROOF CONTROL TURNS ON THE RELAY OPERATES FOR **0.65** SEC. TO RE–OPERATE THE MOTOR SO THAT THE SUN ROOF LIMIT SW NO. 1 TURNS ON. AS A RESULT, AS LONG AS THE SUN ROOF SW IS PUSHED, SLIDE CLOSE OPERATION OCCURS AND THE SUN ROOF IS ABLE TO FULLY CLOSE.

3. TILT UP OPERATION

WHEN THE SUN ROOF CONTROL SW IS PUSHED TO **TILT UP** POSITION, WITH THE IGNITION SW TURNED ON AND THE SLIDE ROOF COMPLETELY CLOSED A SIGNAL IS INPUT TO **TERMINAL 2** OF THE SUN ROOF CONTROL RELAY AND SUN ROOF LIMIIT SW NO. 2 IS TURNED OFF SIMULTANEOUSLY,. CAUSING THE SUN ROOF CONTROL RELAY TO OPERATE. AS A RESULT, THE RELAY IS ACTIVATED AND CURENT FLOWS FROM **TERMINAL 6** OF THE RELAY → **TERMINAL 1** → **TERMAINAL 3** OF THE SUN ROOF MOTOR → MOTOR → **TERMINAL 1** → **TERMINAL 5** OF THE RELAY → **TERMINAL 12** → **GROUND**, ROTATING THE MOTOR FOR TILT UP OPERATION.

4. TILT DOWN OPERATION

WHEN THE SUN ROOF CONTROL SW IS PUSHED TO **TILT DOWN** POSITION, WITH THE IGNITION SW TURNED ON AND THE SLIDE ROOF TILTED UP, A SIGNAL IS INPUT TO **TERMINAL 9** OF THE SUN ROOF CONTROL RELAY SIGNALS THAT SUN ROOF LIMIT SW NO. 1 AND NO. 2 ARE OFF ARE INPUT SEPARATELY TO **TERMINAL 10** AND **TERMINAL 4**.

AS A RESULT, RELAY ACTIVATES AND THE CURRENT FLOWS FROM **TERMINAL 6** OF THE RELAY → **TERMINAL 5** → **TERMINAL 1** OF THE SUN ROOF MOTOR → MOTOR → **TERMINAL 3** → **TERMINAL 1** OF THE RELAY → **TERMINAL 12** → **GROUND,** ROTATING THE MOTOR FOR TILT DOWN OPERATION.

5. KEY OFF OPERATION

WITH THE IGNITION SW TURNED ON TO OFF, THE DOOR LOCK ECU OPERATES AND CURRENT FLOWS FROM POWER FUSE → **TERMINAL 8** OF THE DOOR LOCK ECU → **TERMINAL 15** → **TERMINAL 2** OF THE POWER MAIN RELAY → **TERMINAL 3** → TO **GROUND** FOR ABOUT **60** SECONDS. THE SAME NOMAL OPERATION, THE CURRENT FLOWS FROM POWER FUSE → **TERMINAL 1** → **TERMINAL 6** OF THE SUN ROOF CONTROL RELAY. AS A RESULT, FOR ABOUT **60** SECONDS AFTER THE IGNITION SW IS TURNED OFF, IT IS POSSIBLE TO OPEN AND CLOSE THE SUN ROOF BY THE FUNCTIONING OF THIS RELAY. ALSO, BY OPENING THE DOOR (DOOR COURTESY SW ON) WITHIN **60** SECONDS AETER TURNING THE IGNITION SW TO OFF, A SIGNAL IS INPUT **TERMINAL 2** OF THE DOOR LOCK ECU. AS A RESULT, THE ECU TURNS OFF.

SERVICE HINTS

S10 SUN ROOF CONTROL RELAY

12–GROUND : ALWAYS CONTINUITY
6–GROUND : APPROX. **12** VOLTS WITH IGNITION SW AT **ON** POSITION
1–GROUND : APPROX. **12** VOLTS WITH IGNITION SW ON AND SUN ROOF SW **CLOSED** OR **UP** POSITION
5–GROUND : APPROX. **12** VOLTS WITH IGNITION SW ON AND SUN ROOF SW **OPEN** OR **DOWN** POSITION

(DISCONNECT WIRING CONNECTOR FROM RELAY)
8–GROUND : CONTINUITY WITH SUN ROOF SW AT **OPEN** POSITION
7–GROUND : CONTINUITY WITH SUN ROOF SW AT **CLOSE** POSITION
9–GROUND : CONTINUITY WITH SUN ROOF SW AT **DOWN** POSITION
2–GROUND : CONTINUITY WITH SUN ROOF SW AT **UP** POSITION

SUN ROOF

: PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
D 6	32	**J 4**	33	**S11**	34 (L/B), 35 (C/P)
D 8	32	**J 6**	33	**S12**	34 (L/B), 35 (C/P)
D12	34 (L/B), 35 (C/P)	**S10**	34 (L/B), 35 (C/P)	**S13**	34 (L/B), 35 (C/P)

: RELAY BLOCKS

CODE	SEE PAGE	RELAY BLOCKS (RELAY BLOCK LOCATION)
2	26	R/B NO. 2 (LEFT KICK PANEL)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

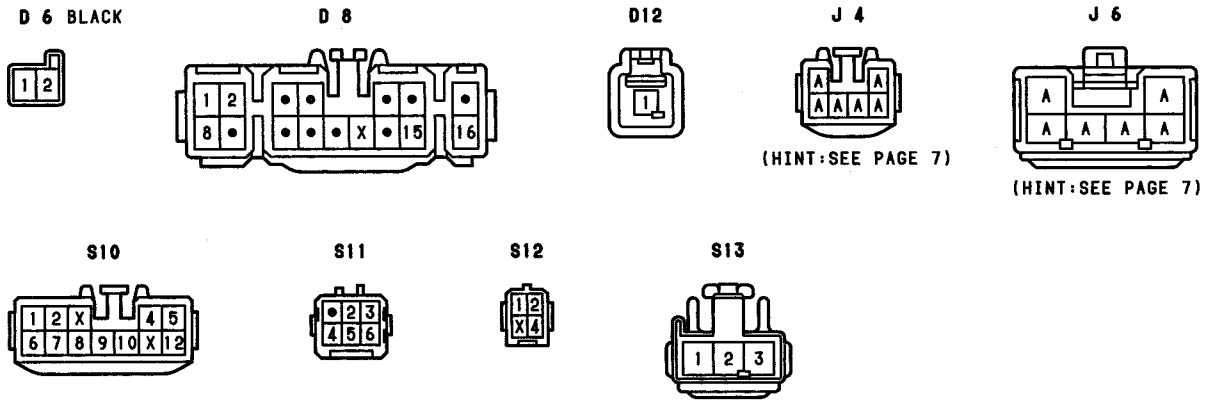
CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1B		
1E		
1F	20	FLOOR WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1G	20	ROOF WIRE AND J/B NO. 1 (LEFT KICK PANEL)

: GROUND POINTS

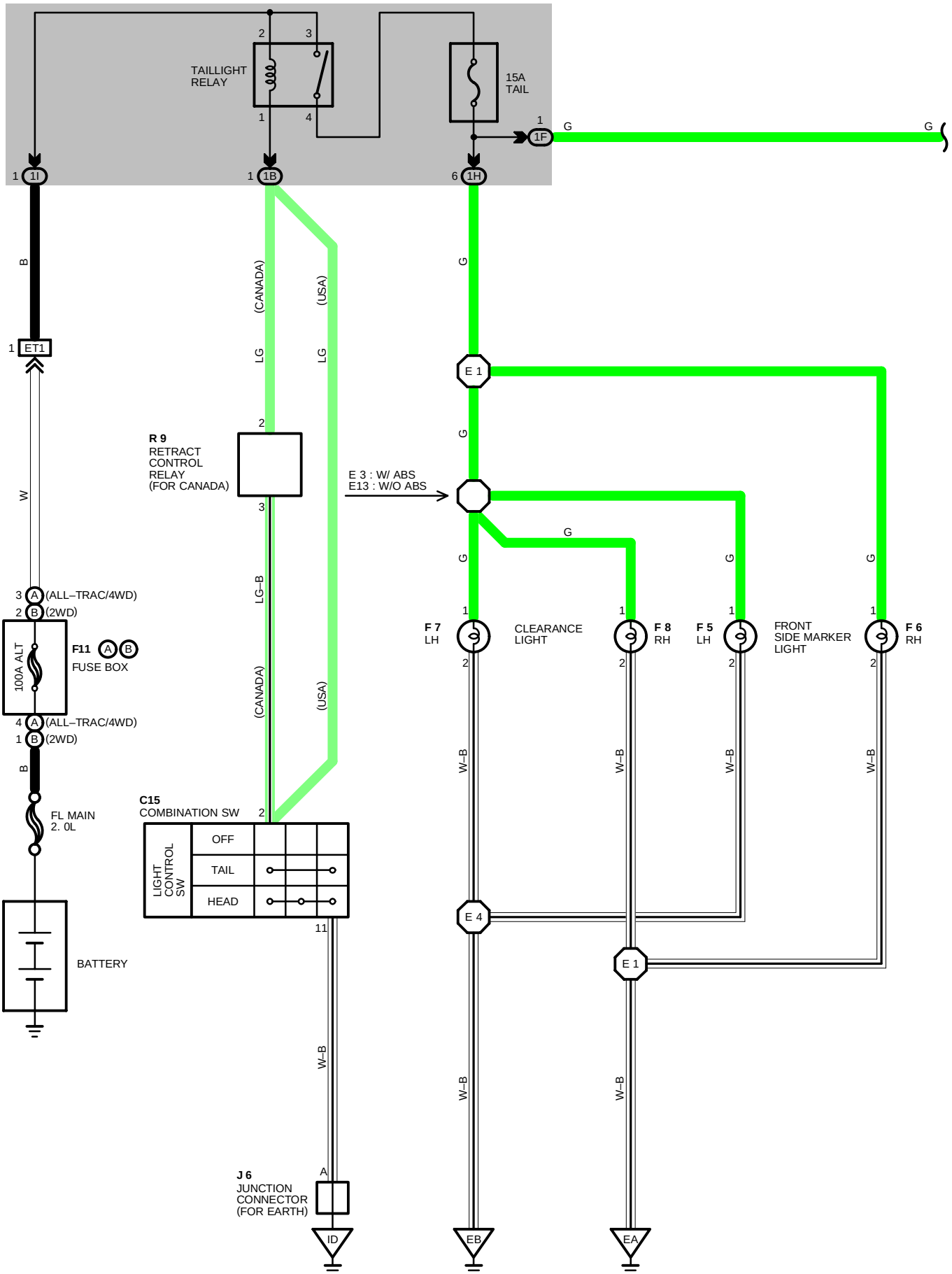
CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL
BH	46 (L/B)	ROOF LEFT
	48 (C/P)	

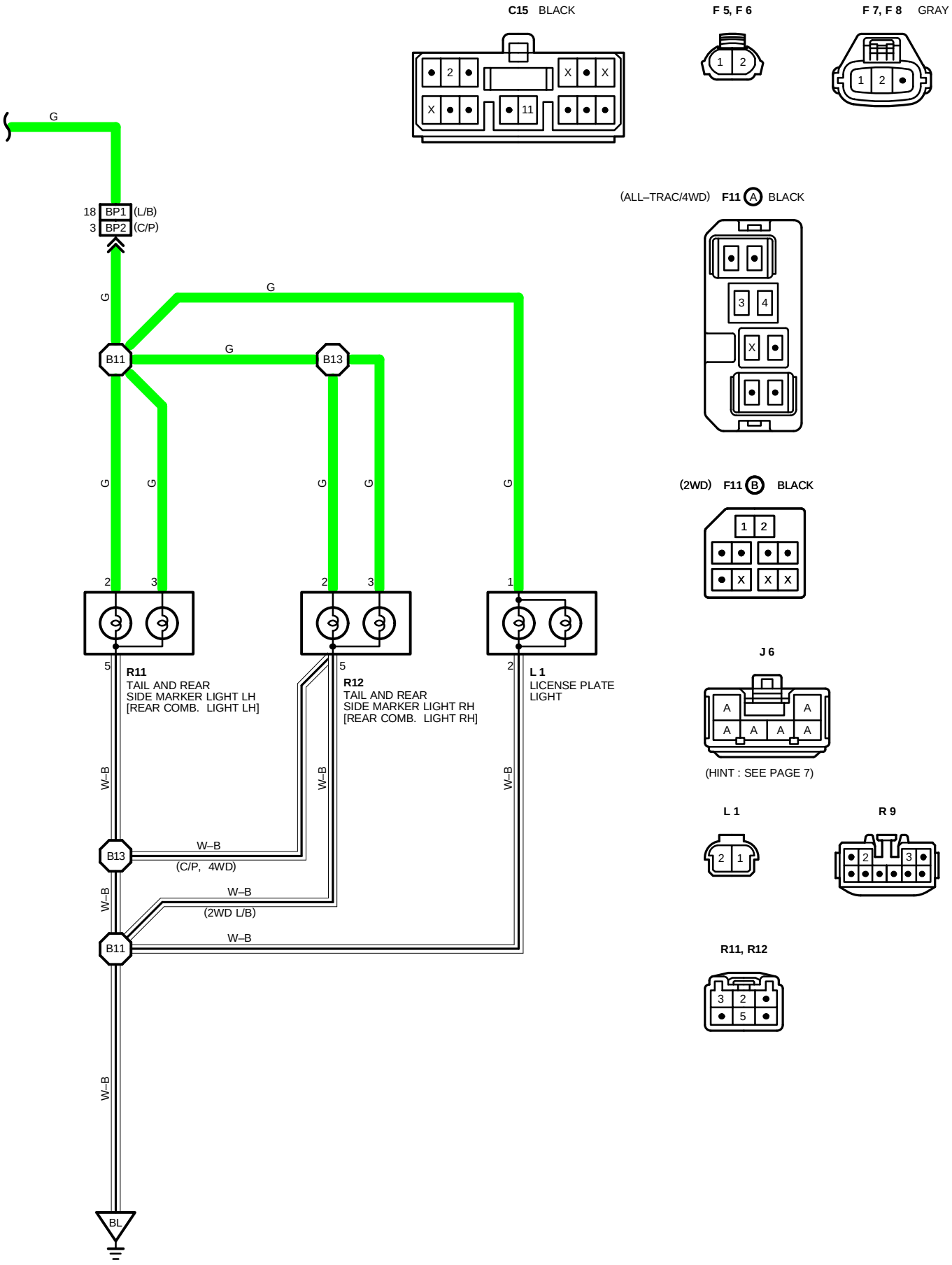
: SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
B 5	46 (L/B)	ROOF WIRE	**I 1**	44	COWL WIRE
	48 (C/P)		**I 2**		
B 6	46 (L/B)		**I 4**		
	48 (C/P)		**I 5**		



TAILLIGHT


TAILLIGHT RELAY
15A TAIL
1I
1B
1H
1F
G
B
W
ET1
(CANADA)
(USA)
LG
LG–B
R 9
RETRACT CONTROL RELAY (FOR CANADA)
E 3 : W/ ABS
E13 : W/O ABS
E 1
E 4
F 7 LH
CLEARANCE LIGHT
F 8 RH
F 5 LH
FRONT SIDE MARKER LIGHT
F 6 RH
W–B
(ALL–TRAC/4WD)
(2WD)
100A ALT
F11
FUSE BOX
FL MAIN 2. 0L
BATTERY
C15
COMBINATION SW
LIGHT CONTROL SW
OFF
TAIL
HEAD
J 6
JUNCTION CONNECTOR (FOR EARTH)
ID
EB
EA


C15 BLACK
F 5, F 6
F 7, F 8 GRAY
(ALL–TRAC/4WD) F11 A BLACK
(2WD) F11 B BLACK
J 6
(HINT : SEE PAGE 7)
L 1
R 9
R11, R12
G
18 BP1 (L/B)
3 BP2 (C/P)
B11
B13
R11
TAIL AND REAR
SIDE MARKER LIGHT LH
[REAR COMB. LIGHT LH]
R12
TAIL AND REAR
SIDE MARKER LIGHT RH
[REAR COMB. LIGHT RH]
L 1
LICENSE PLATE
LIGHT
W–B
(C/P, 4WD)
(2WD L/B)
BL

TAILLIGHT

SERVICE HINTS

TAILLIGHT RELAY

3–4 : CLOSED WITH LIGHT CONTROL SW AT **TAIL** OR **HEAD** POSITION
CLOSED WITH ENGINE RUNNING AND BRAKE LEVER RELEASED (CANADA)

○ : PARTS LOCATION

CODE	SEE PAGE	CODE		SEE PAGE	CODE	SEE PAGE
C15	32	**F 7**		31 (4S–FE)	**L 1**	34 (L/B), 35 (C/P)
F 5	28 (3S–GTE), 30 (5S–FE)	**F 8**		28 (3S–GTE), 30 (5S–FE)	**R 9**	33
	31 (4S–FE)			31 (4S–FE)	**R11**	34 (L/B), 35 (C/P)
F 6	28 (3S–GTE), 30 (5S–FE)	**F11**	A	28 (3S–GTE)	**R12**	34 (L/B), 35 (C/P)
	31 (4S–FE)		B	30 (5S–FE), 31 (4S–FE)		
F 7	28 (3S–GTE), 30 (5S–FE)	**J 6**		33		

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1B	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1F	20	FLOOR WIRE AND J/B NO.1 (LEFT KICK PANEL)
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1I		

▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

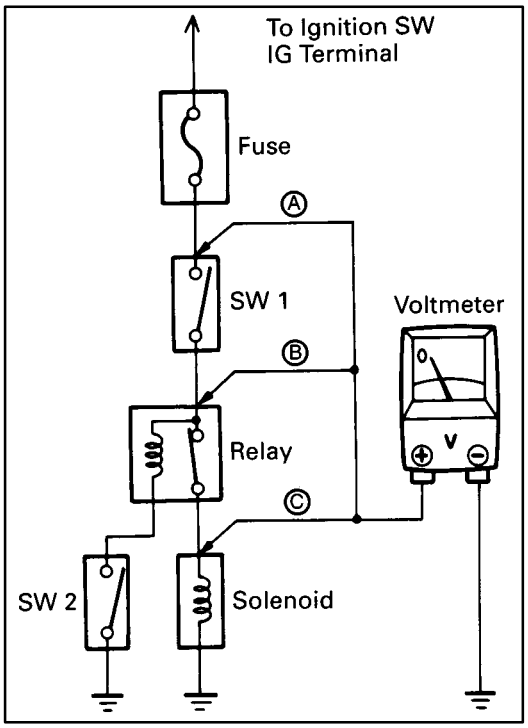
CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
ET1	36 (3S–GTE)	ENGINE ROOM MAIN WIRE AND ENGINE WIRE (NEAR THE J/B NO. 2)
	38 (5S–FE)	
	40 (4A–FE)	
BP1	46 (L/B)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LEFT QUARTER PANEL CENTER)
BP2	48 (C/P)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LUGGAGE COMPARTMENT LEFT)

▽ : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
EA	36 (3S–GTE)	FRONT RIGHT FENDER
	38 (5S–FE)	
	40 (4A–FE)	
EB	36 (3S–GTE)	FRONT LEFT FENDER
	38 (5S–FE)	
	40 (4A–FE)	
ID	42	LEFT KICK PANEL
BL	46 (L/B)	BACK PANEL CENTER
	48 (C/P)	

⯃ : SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
E 1	36 (3S–GTE)	ENGINE ROOM MAIN WIRE	**E 4**	38 (5S–FE)	ENGINE ROOM MAIN WIRE
	38 (5S–FE)			40 (4A–FE)	
	40 (4A–FE)		**B11**	46 (L/B)	LUGGAGE ROOM WIRE
E 3	36 (3S–GTE)			48 (C/P)	
	38 (5S–FE)		**B13**	46 (L/B)	
	40 (4A–FE)			48 (C/P)	
E 4	36 (3S–GTE)				



VOLTAGE CHECK

(a) Establish conditions in which voltage is present at the check point.

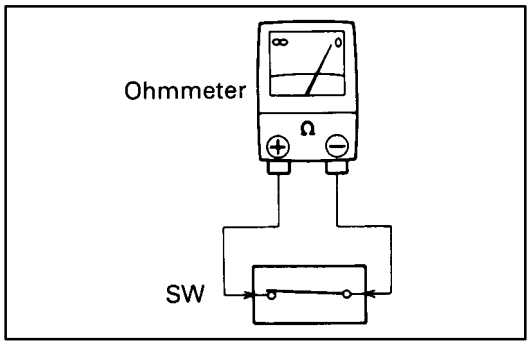
Example:

Ⓐ – Ignition SW on

Ⓑ – Ignition SW and SW 1 on

Ⓒ – Ignition SW, SW 1 and Relay on (SW 2 off)

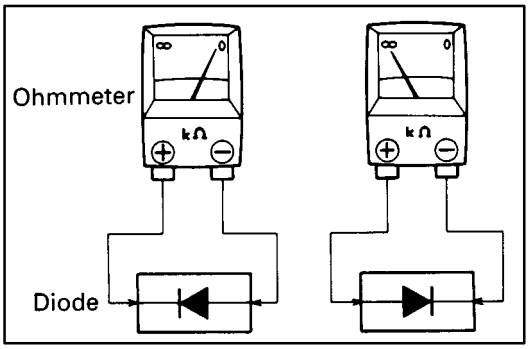
(b) Using a voltmeter, connect the negative lead to a good ground point or negative battery terminal, and the positive lead to the connector or component terminal. This check can be done with a test a light instead of a voltmeter.



CONTINUITY AND RESISTANCE CHECK

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

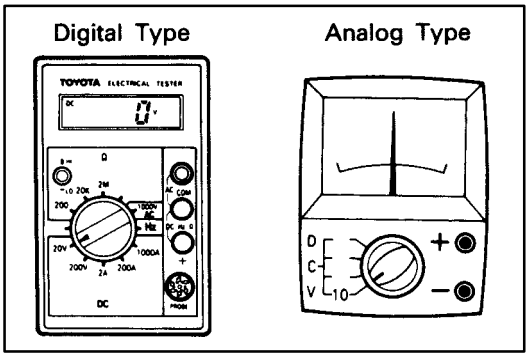
(b) Contact the two leads of an ohmmeter to each of the check points.



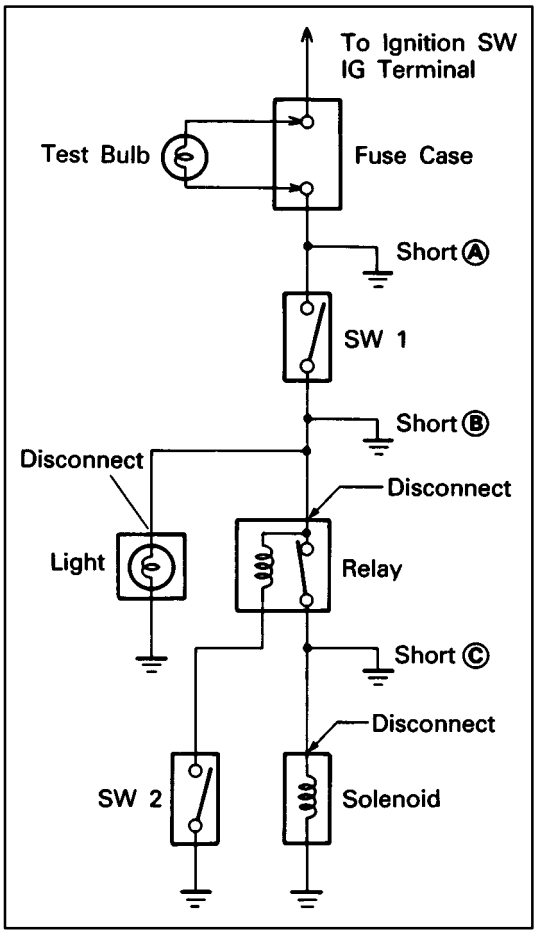
If the circuit has diodes, reverse the two leads and check again.

When contacting the negative lead to the diode positive side and the positive lead to the negative side, there should be continuity.

When contacting the two leads in reverse, there should be no continuity.



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



FINDING A SHORT CIRCUIT

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

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

(c) Establish conditions in which the test bulb comes on.

Example:

Ⓐ – Ignition SW on

Ⓑ – Ignition SW and SW 1 on

Ⓒ – Ignition SW, SW 1 and Relay on (Connect the Relay) and SW 2 off (or Disconnect SW 2)

(d) Disconnect and reconnect the connectors while watching the test bulb.

The short lies between the connector where the test bulb stays lit and the connector where the bulb goes out.

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

CAUTION

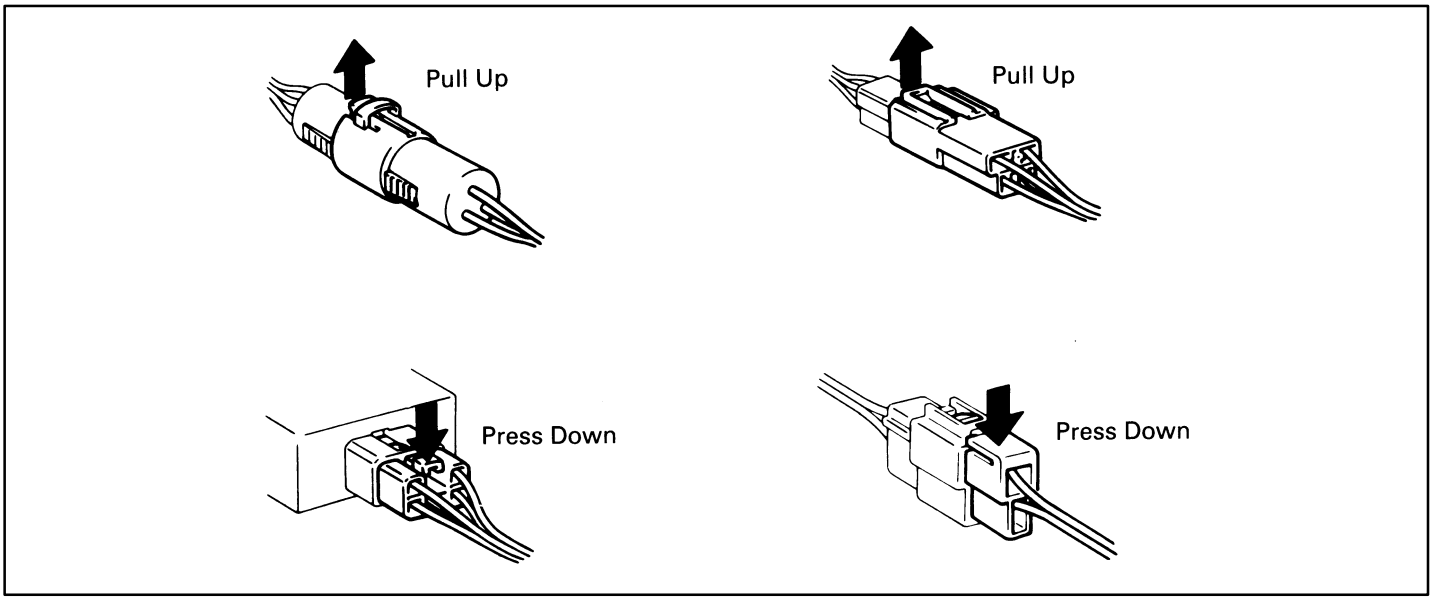
(a) Do not open the cover or the case of the ECU unless absolutely necessary. (If the IC terminals are touched, the IC may be destroyed by static electricity.)

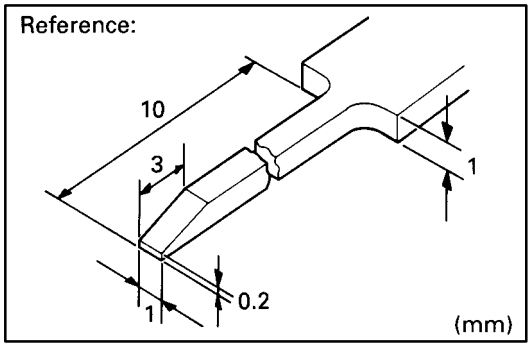
(b) When replacing the internal mechanism (ECU part) of the digital meter, be careful that no part of your body or clothing comes in contact with the terminals of leads from the IC, etc. of the replacement part (spare part).

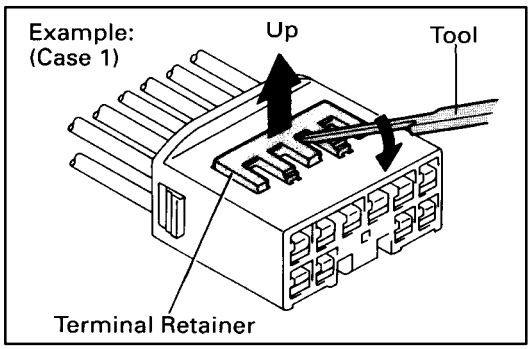
DISCONNECTION OF MALE AND FEMALE CONNECTORS

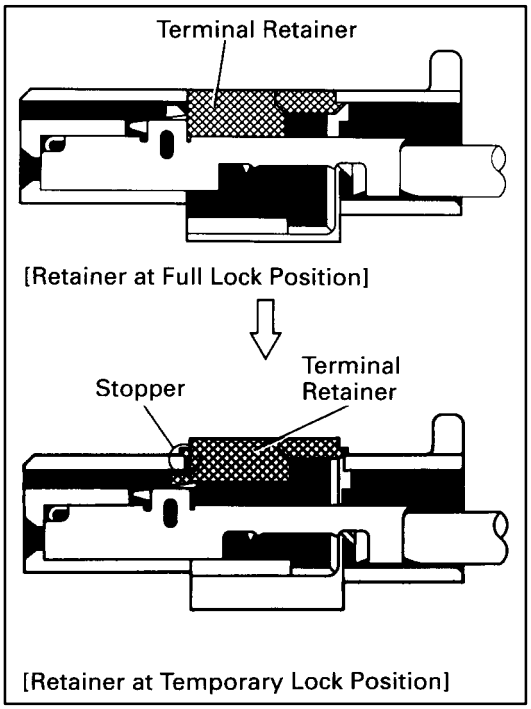
To pull apart the connectors, pull on the connector itself, not the wire harness.

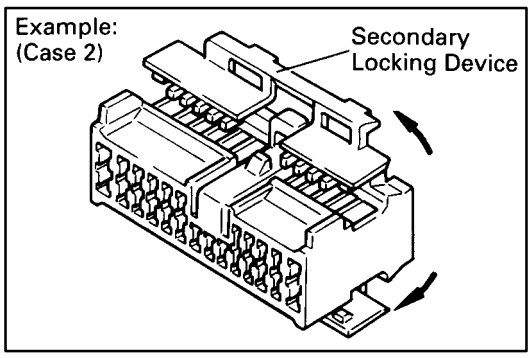
HINT: Check to see what kind of connector you are disconnecting before pulling apart.











HOW TO REPLACE TERMINAL

(with terminal retainer or secondary locking device)

1. PREPARE THE SPECIAL TOOL

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

2. DISCONNECT CONNECTOR

3. DISENGAGE THE SECONDARY LOCKING DEVICE OR TERMINAL RETAINER.

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

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

NOTICE:

Do not remove the terminal retainer from connector body.

Ⓐ For Non–Waterproof Type Connector

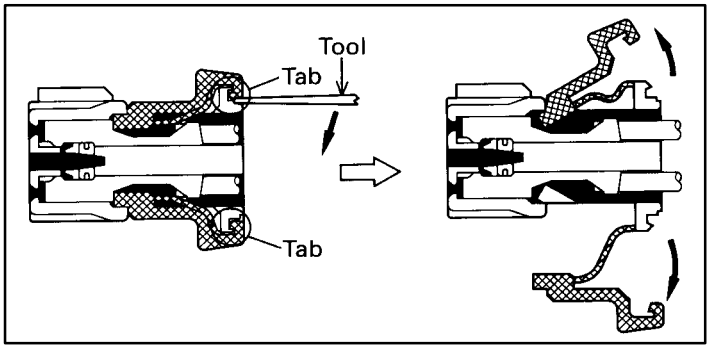
HINT: The needle insertion position varies according to the connector's shape (number of terminals etc.), so check the position before inserting it.

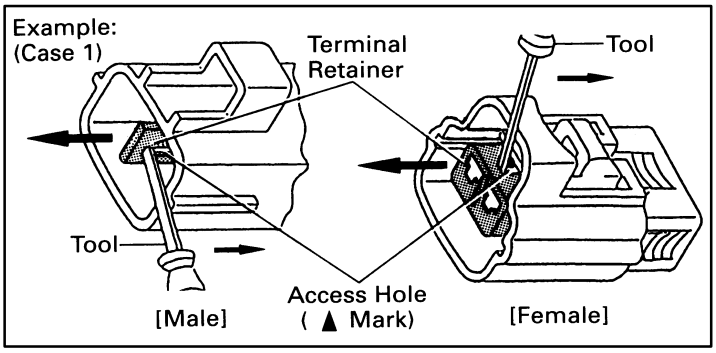
"Case 1"

Raise the terminal retainer up to the temporary lock position.

"Case 2"

Open the secondary locking device.



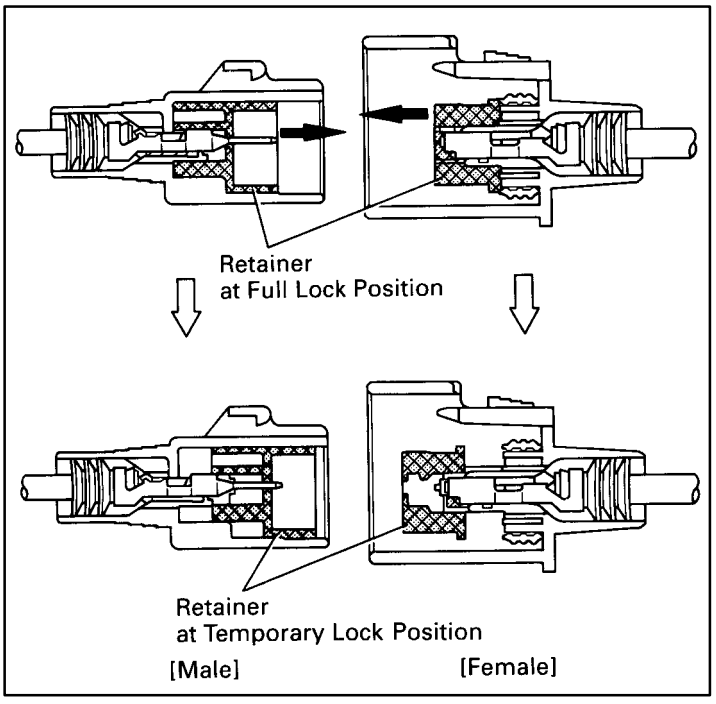


Ⓑ For Waterproof Type Connector

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

Example:

Terminal Retainer	Connector Body
Black or White	: Gray
Black or White	: Dark Gray
Gray or White	: Black

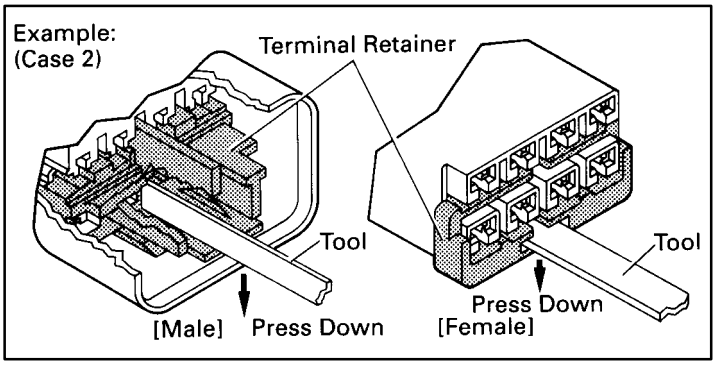


"Case 1"

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

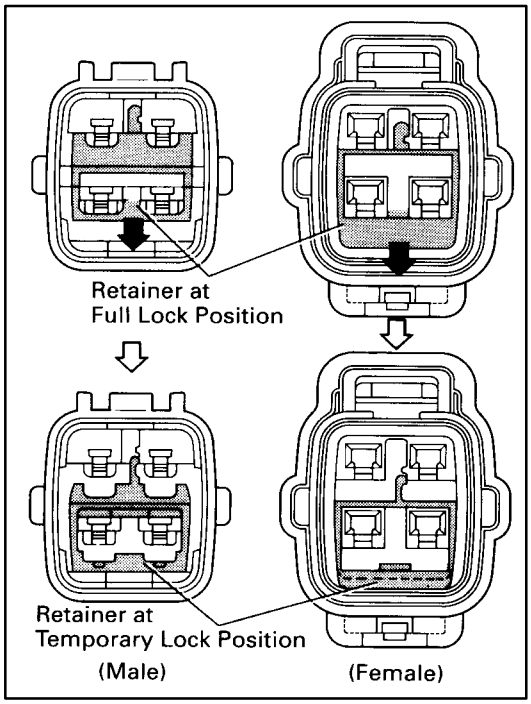
Insert the special tool into the terminal retainer access hole (▲ Mark) and pull the terminal retainer up to the temporary lock position.

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



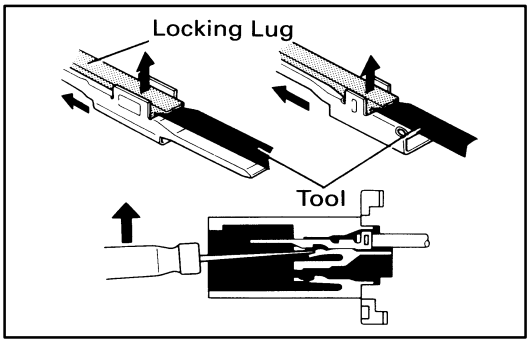
"Case 2"

Type which cannot be pulled as far as Power Lock.

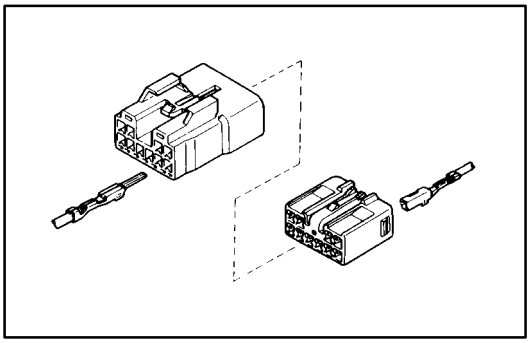


Insert the tool straight into the access hole of terminal retainer as shown.

Push the terminal retainer down to the temporary lock position.



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

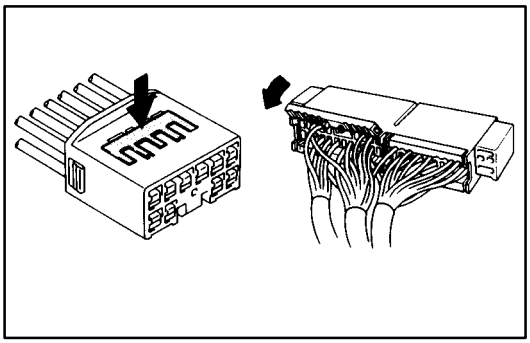


4. INSTALL TERMINAL TO CONNECTOR

(a) Insert the terminal.

HINT:

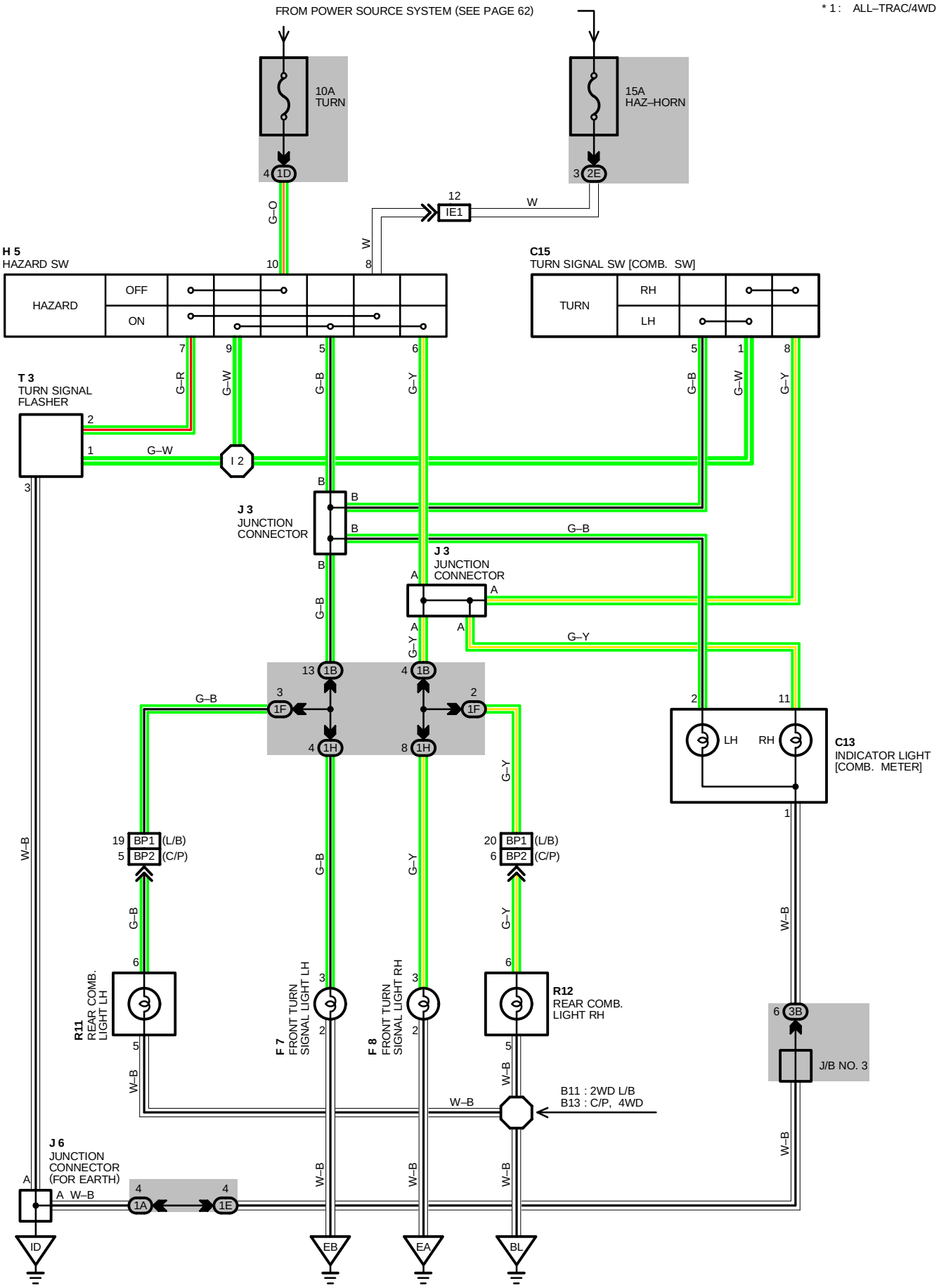
1. Make sure the terminal is positioned correctly.
2. Insert the terminal until the locking lug locks firmly.
3. Insert the terminal with terminal retainer in the temporary lock position.



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

5. CONNECT CONNECTOR

TURN SIGNAL AND HAZARD WARNING LIGHT



SERVICE HINTS

T 3 TURN SIGNAL FLASHER

2–GROUND : APPROX. **12** VOLTS WITH IGNITION SW ON OR HAZARD SW ON

1–GROUND : CHANGES FROM **12** TO **0** VOLTS WITH IGNITION SW ON AND TURN SIGNAL SW LEFT OR RIGHT, OR WITH HAZARD SW ON

3–GROUND : ALWAYS CONTINUITY

○ : PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
C13	32	**F 8**	28 (3S–GTE), 30 (5S–FE)	**J 6**	33
C15	32		31 (4A–FE)	**R11**	34 (L/B), 35 (C/P)
F 7	28 (3S–GTE), 30 (5S–FE)	**H 5**	33	**R12**	34 (L/B), 35 (C/P)
	31 (4A–FE)	**J 3**	33	**T 3**	33

⬭ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1B		
1D		
1E		
1F	20	FLOOR WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2E	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO.2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	
3B	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

▭ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IE1	42	ENGINE ROOM MAIN WIRE AND COWL WIRE (LEFT KICK PANEL)
BP1	46 (L/B)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LEFT QUARTER PANEL CENTER)
BP2	48 (C/P)	FLOOR WIRE AND LUGGAGE ROOM WIRE (LUGGAGE COMPARTMENT LEFT)

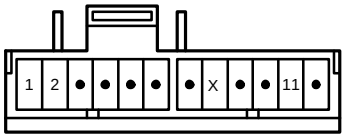
▽ : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
EA	36 (3S–GTE)	FRONT RIGHT FENDER
	38 (5S–FE)	
	40 (4A–FE)	
EB	36 (3S–GTE)	FRONT LEFT FENDER
	38 (5S–FE)	
	40 (4A–FE)	
ID	42	LEFT KICK PANEL
BL	46 (L/B)	BACK PANEL CENTER
	48 (C/P)	

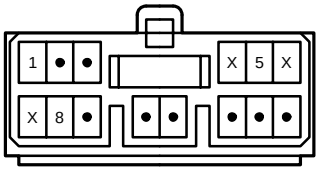
⬡ : SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 2	44	COWL WIRE	**B13**	46 (L/B), 46 (C/P)	LUGGAGE ROOM WIRE
B11	46 (L/B)	LUGGAGE ROOM WIRE			

C13

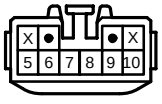


C15 BLACK

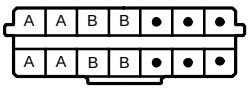


F 7, F 8 GRAY

H 5 BLACK

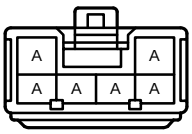


J 3



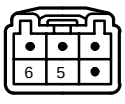
(HINT : SEE PAGE 7)

J 6

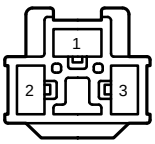


(HINT : SEE PAGE 7)

R11, R12

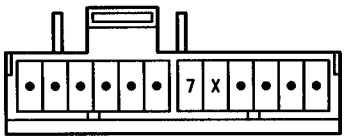


T 3

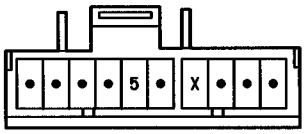


B 8, B 9

C13 (A)

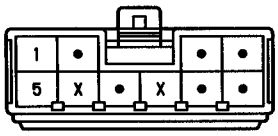


C14 (B) GRAY

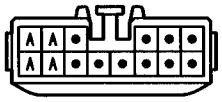


D12

I13 BLACK

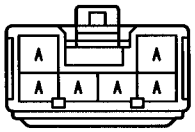


J 1



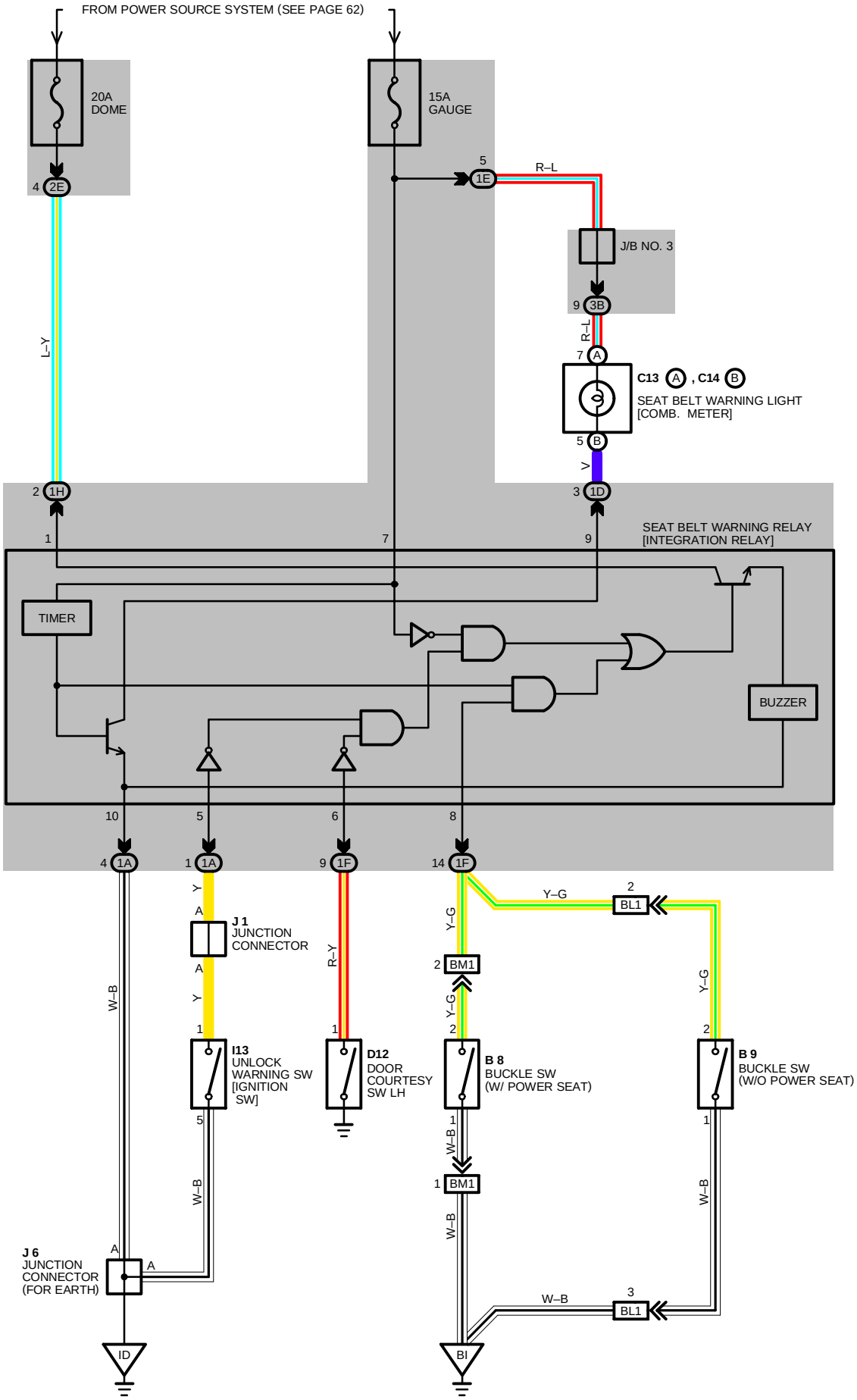
(HINT:SEE PAGE 7)

J 6



(HINT:SEE PAGE 7)

UNLOCK AND SEAT BELT WARNING



SYSTEM OUTLINE

CURRENT ALWAYS FLOWS TO **TERMINAL 1** OF THE SEAT BELT WARNING RELAY (INTEGRATION RELAY) THROUGH DOME FUSE.

1. SEAT BELT WARNING SYSTEM

WHEN THE IGNITION SW IS TURN ON, CURRENT FLOWS FROM THE GAUGE FUSE TO **TERMINAL 7** OF THE SEAT BELT WARNING RELAY. AT THE SAME TIME, CURRENT FLOWS TO **TERMINAL 9** OF THE RELAY FROM THE GAUGE FUSE THROUGH THE SEAT BELT WARNING LIGHT. THIS CURRENT ACTIVATES THE SEAT BELT WARNING RELAY AND, FOR APPROX. **4–8** SECONDS, CURRENT FLOWING THROUGH THE WARNING LIGHT FLOWS FROM **TERMINAL 9** OF THE RELAY → **TERMINAL 10** → **GROUND**, CAUSING THE WARNING LIGHT TO LIGHT UP. AT THE SAME AS THE WARNING LIGHT LIGHTS UP, A BUCKLE SW OFF SIGNAL IS INPUT TO **TERMINAL 8** OF THE RELAY, THE CURRENT FLOWING TO **TERMINAL 1** OF THE RELAY FLOWS FROM **TERMINAL 10** → **GROUND** AND THE SEAT BELT WARNING BUZZER SOUNDS FOR APPROX. **4–8** SECONDS. HOWEVER, IF THE SEAT BELT IS PUT ON (BUCKLE SW ON) DURING THIS PERIOD (WHILE THE BUZZER IS SOUNDING), SIGNAL INPUT TO **TERMINAL 8** OF THE RELAY STOPS AND THE CURRENT FLOW FROM **TERMINAL 1** OF THE RELAY → **TERMINAL 10** → **GROUND** IS CUT, CAUSING THE BUZZER TO STOP.

2. UNLOCK WARNING SYSTEM

WITH THE IGNITION KEY INSERTED IN THE KEY CYLINDER (UNLOCK SW ON). THE IGNITION SW STILL OFF AND DOOR OPEN (DOOR COURTESY SW ON), WHEN A SIGNAL IS INPUT TO **TERMINAL 6** OF THE RELAY, THE SEAT BELT WARNING RELAY OPERATES, CURRENT FLOWS FROM **TERMINAL 1** OF THE RELAY → **TERMINAL 10** → **GROUND** AND THE UNLOCK WARNING BUZZER SOUNDS.

SERVICE HINTS

I 13 UNLOCK WARNING SW [IGNITION SW]
1–5 : CLOSED WITH IGNITION KEY IN CYLINDER

SEAT BELT WARNING RELAY [INTEGRATION RELAY]
10–GROUND : ALWAYS CONTINUITY
6–GROUND : CONTINUITY WITH DRIVER'S DOOR OPEN
5–GROUND : CONTINUITY WITH IGNITION KEY IN CYLINDER
8–GROUND : CONTINUITY WITH DRIVER'S LAP BELT IN USE
9–GROUND : **0** VOLTS FOR **4–8** SECONDS WITH IGNITION SW ON AND APPROX.**12** VOLTS **4–8** SECONDS AFTER IGNITION SW ON
1–GROUND : ALWAYS APPROX. **12** VOLTS

D12 DOOR COURTESY SW
1–GROUND : CLOSED WITH DRIVER'S DOOR OPEN

B 8, B 9 BUCKLE SW (DRIVER'S)
2–1 : CLOSED WITH DRIVER'S LAP BELT IN USE

○ : PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
B 8	34 (L/B), 35 (C/P)	**C14** B	32	**J 1**	33
B 9	34 (L/B), 35 (C/P)	**D12**	34 (L/B), 35 (C/P)	**J 6**	33
C13 A	32	**I13**	33		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1A	20	COWL WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1D		
1E		
1F	20	FLOOR WIRE AND J/B NO. 1 (LEFT KICK PANEL)
1H	20	ENGINE ROOM MAIN WIRE AND J/B NO. 1 (LEFT KICK PANEL)
2E	22 (2WD)	ENGINE ROOM MAIN WIRE AND J/B NO. 2 (NEAR THE BATTERY)
	23 (ALL–TRAC/4WD)	
3B	25	COWL WIRE AND J/B NO. 3 (BEHIND COMBINATION METER)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
BL1	46 (L/B)	FLOOR WIRE AND FRAME WIRE (LEFT SIDE OF FRONT FLOOR PANEL)
	48 (C/P)	
BM1	46 (L/B)	FRAME WIRE AND SEAT WIRE (UNDER THE DRIVER'S SEAT)
	48 (C/P)	

: GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
ID	42	LEFT KICK PANEL
BI	46 (L/B)	UNDER THE LEFT CENTER PILLAR
	48 (C/P)	