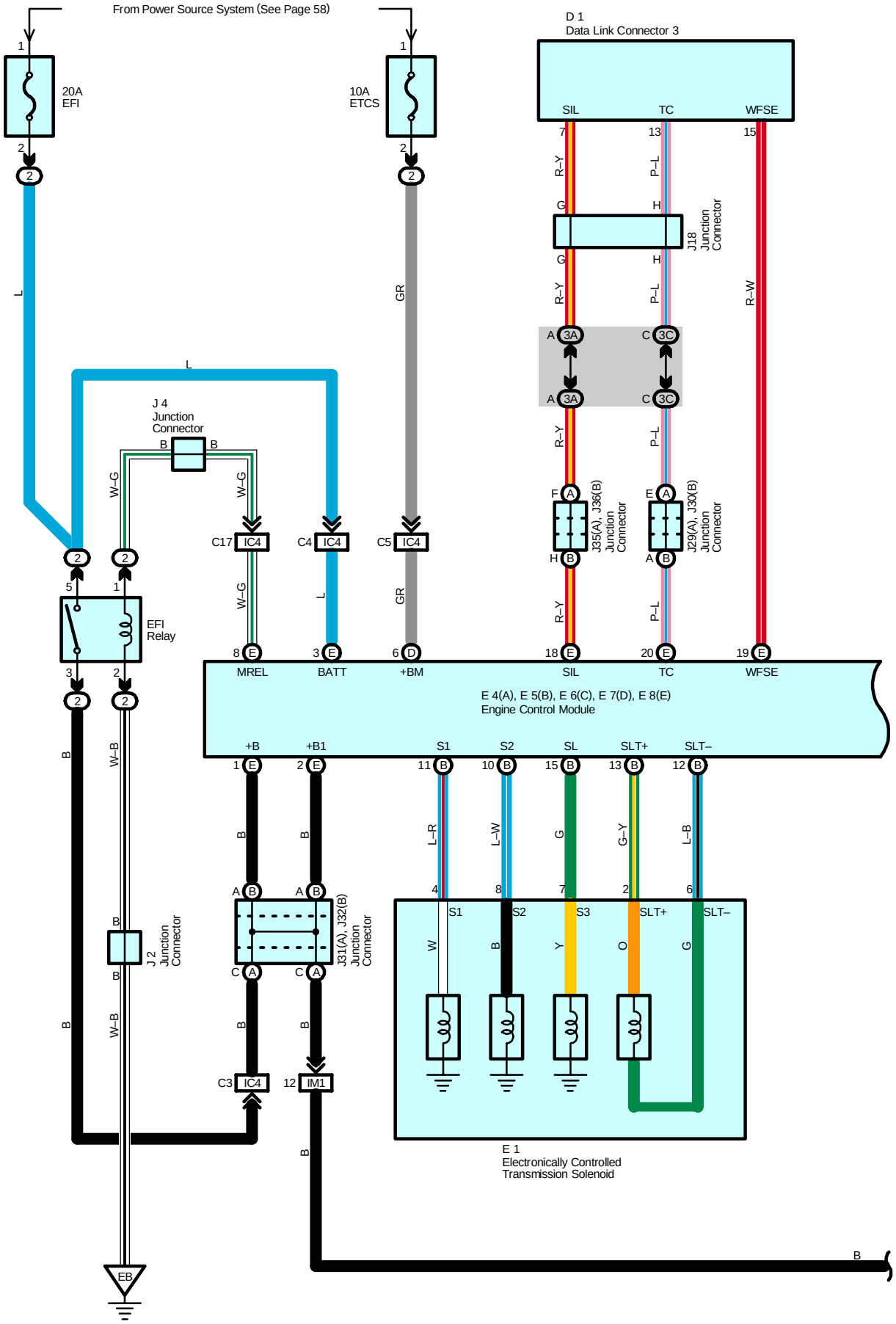
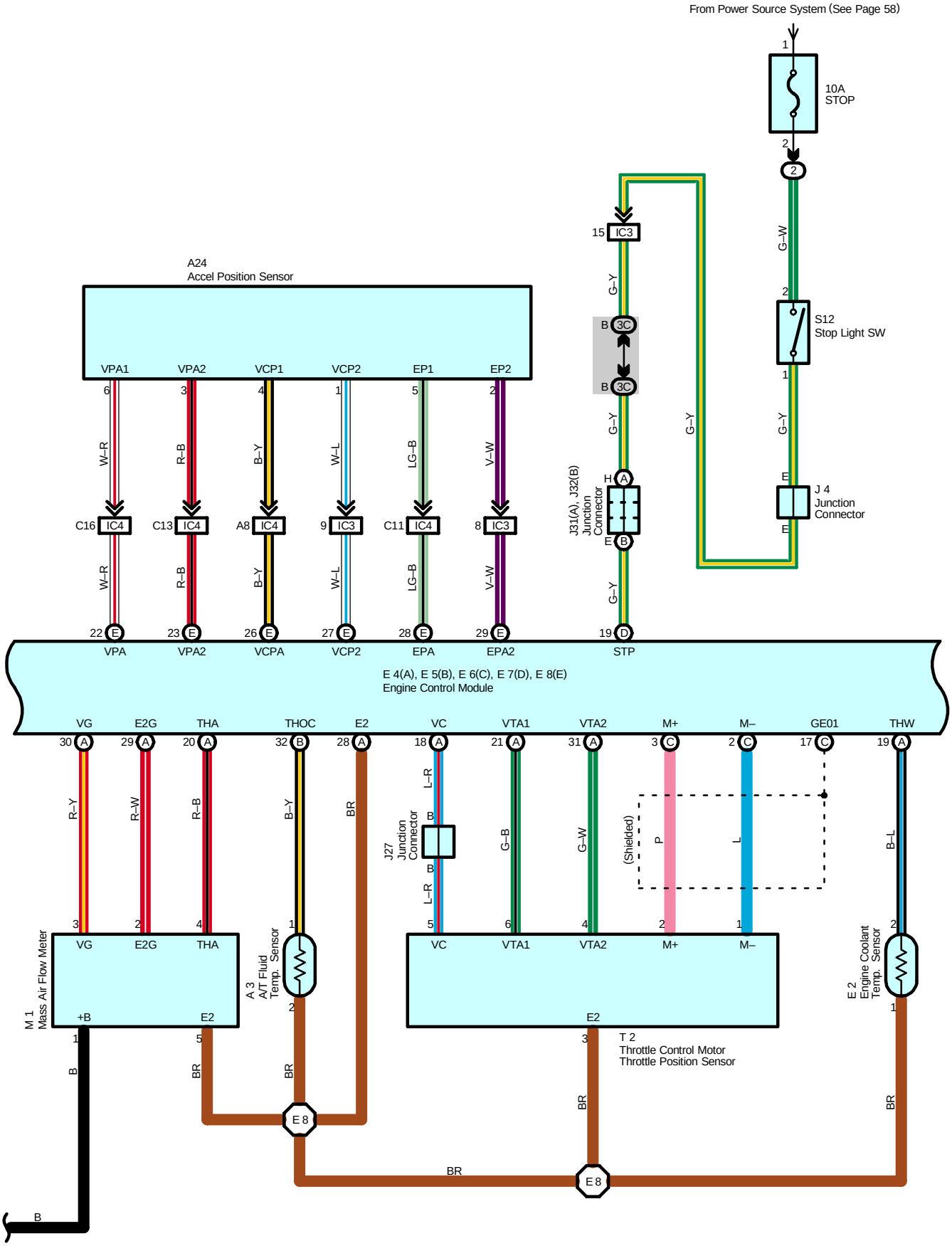
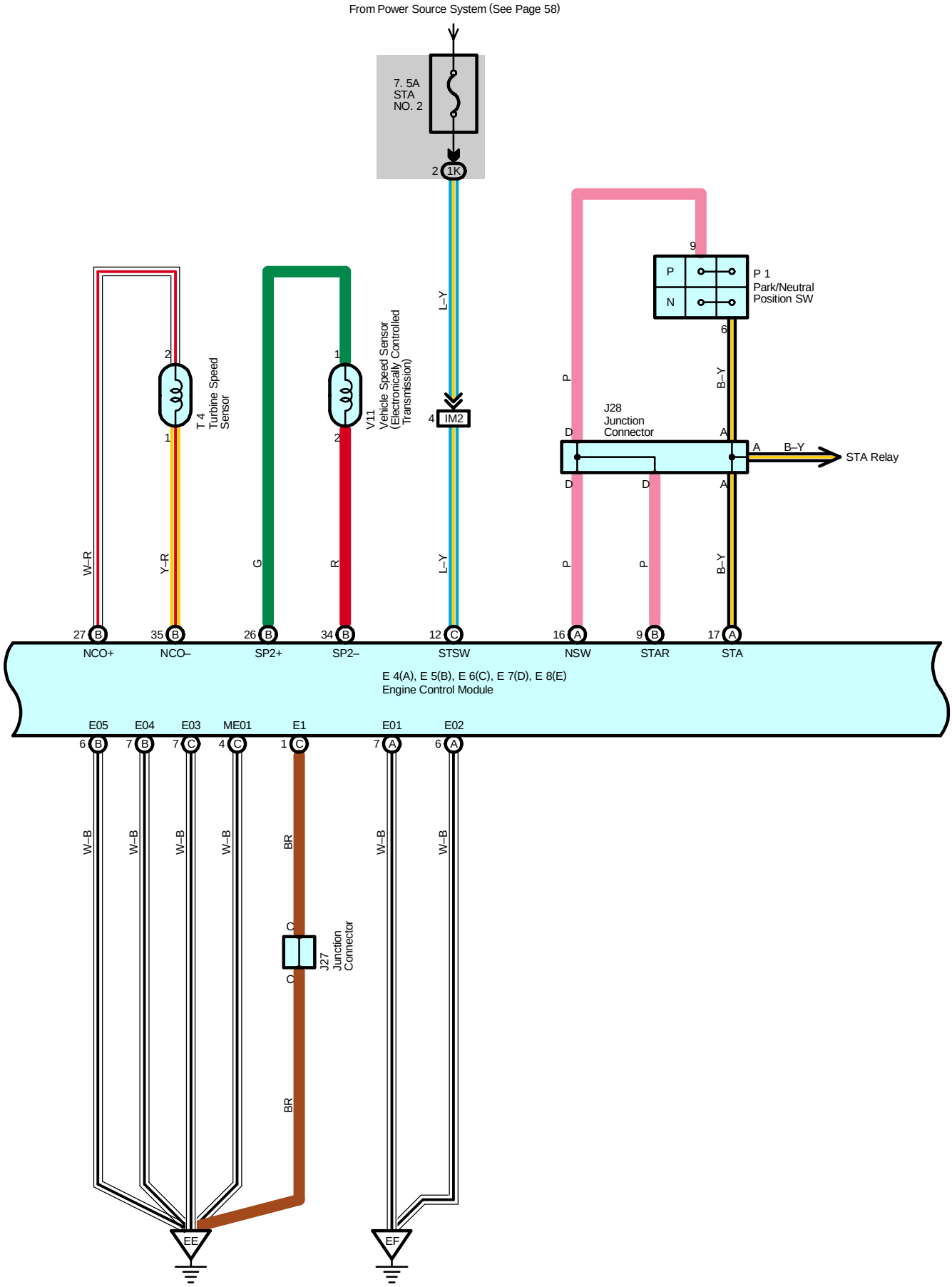
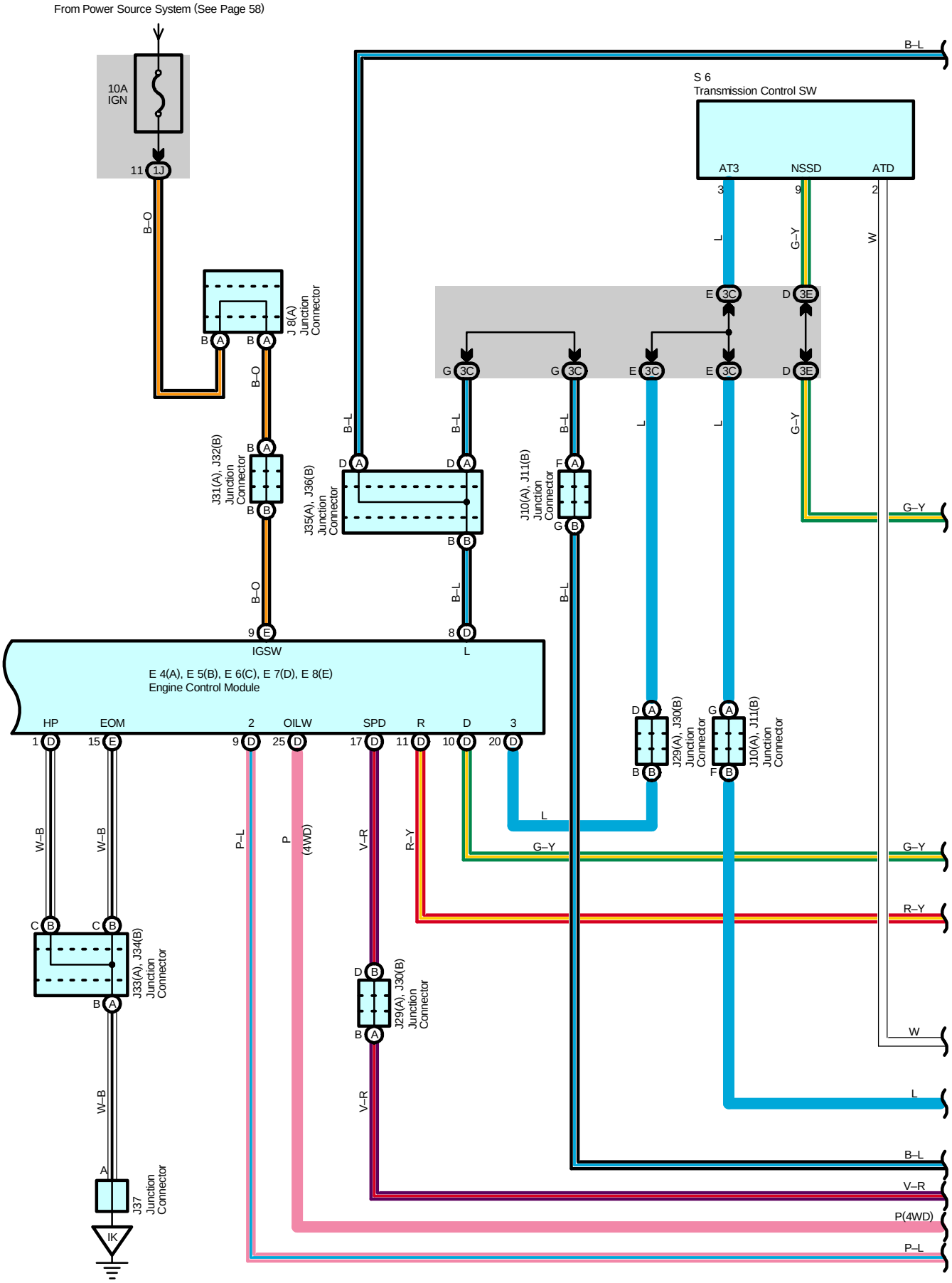
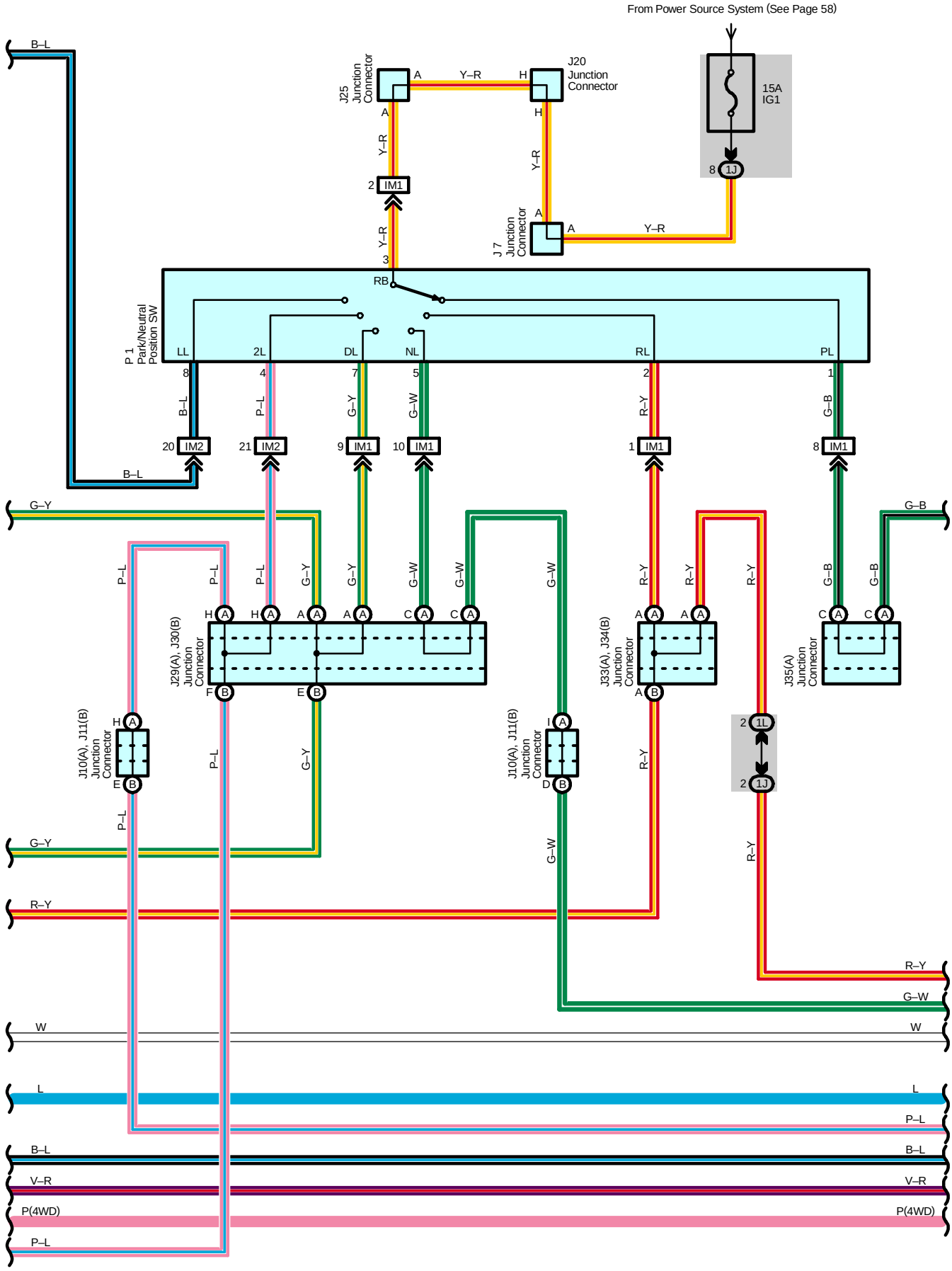
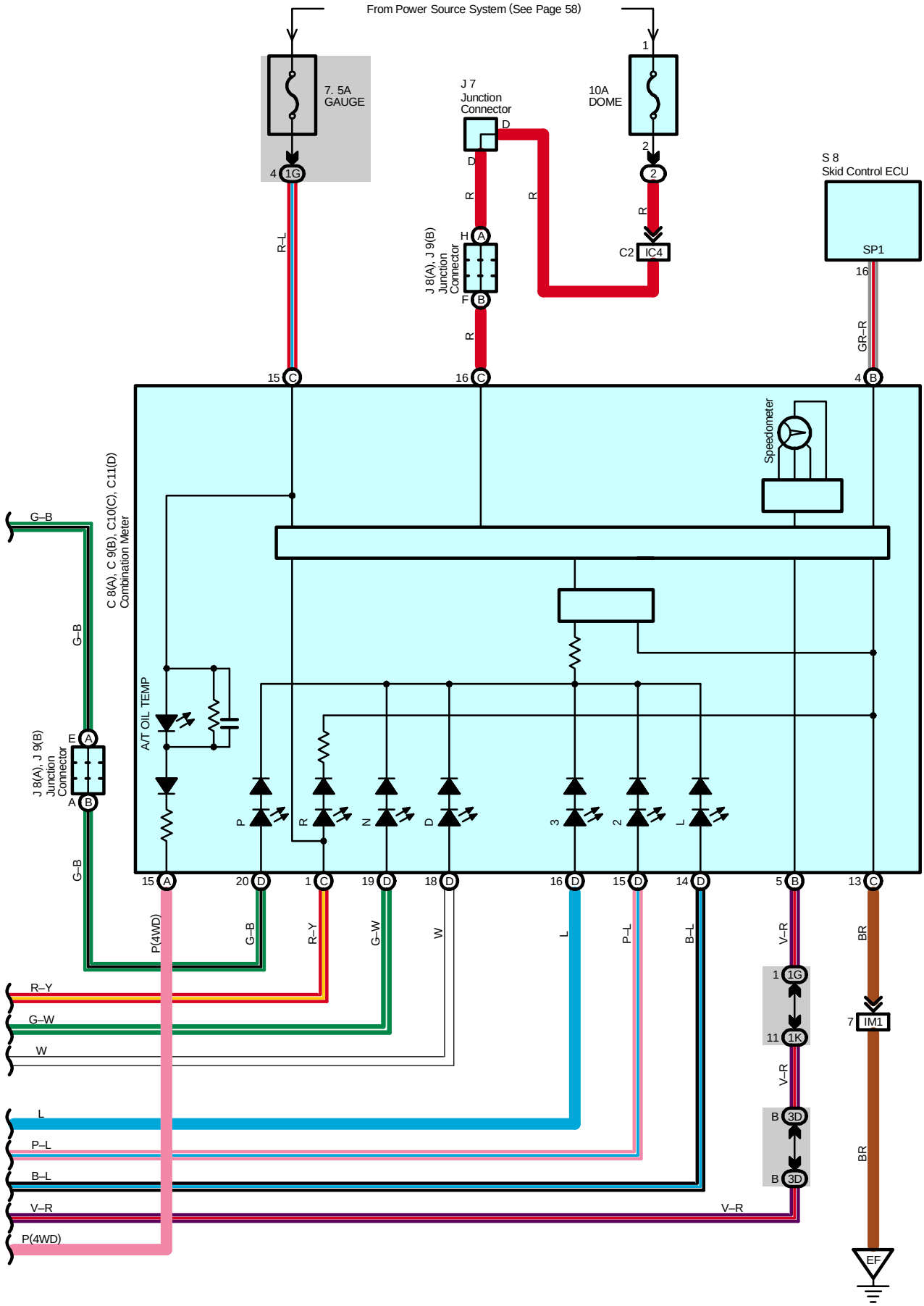

From Power Source System (See Page 58)
20A EFI
10A ETCS
D 1
Data Link Connector 3
SIL
TC
WFSE
J18 Junction Connector
J 4 Junction Connector
EFI Relay
MREL
BATT
+BM
J35(A), J36(B) Junction Connector
J29(A), J30(B) Junction Connector
E 4(A), E 5(B), E 6(C), E 7(D), E 8(E)
Engine Control Module
+B
+B1
S1
S2
SL
SLT+
SLT–
J 2 Junction Connector
J31(A), J32(B) Junction Connector
S3
E 1
Electronically Controlled Transmission Solenoid
EB


From Power Source System (See Page 58)
10A
STOP
S12
Stop Light SW
J 4
Junction
Connector
A24
Accel Position Sensor
VPA1
VPA2
VCP1
VCP2
EP1
EP2
J31(A), J32(B)
Junction
Connector
E 4(A), E 5(B), E 6(C), E 7(D), E 8(E)
Engine Control Module
VPA
VPA2
VCPA
VCP2
EPA
EPA2
STP
VG
E2G
THA
THOC
E2
VC
VTA1
VTA2
M+
M–
GE01
THW
J27
Junction
Connector
(Shielded)
M 1
Mass Air Flow Meter
A 3
A/T Fluid
Temp. Sensor
E 2
Engine Coolant
Temp. Sensor
T 2
Throttle Control Motor
Throttle Position Sensor
+B
E2
E 8
W–R
R–B
B–Y
W–L
LG–B
V–W
G–Y
G–W
L–R
G–B
R–Y
R–W
P
L
B–L
BR
B


From Power Source System (See Page 58)
7. 5A
STA
NO. 2
2 1K
L–Y
4 IM2
T 4
Turbine Speed
Sensor
V11
Vehicle Speed Sensor
(Electronically Controlled
Transmission)
9
P
N
P 1
Park/Neutral
Position SW
6
B–Y
P
J28
Junction
Connector
D
A
A
B–Y
STA Relay
W–R
Y–R
G
R
L–Y
P
P
B–Y
27 B NCO+
35 B NCO–
26 B SP2+
34 B SP2–
12 C STSW
16 A NSW
9 B STAR
17 A STA
E 4(A), E 5(B), E 6(C), E 7(D), E 8(E)
Engine Control Module
E05
E04
E03
ME01
E1
E01
E02
6 B
7 B
7 C
4 C
1 C
7 A
6 A
W–B
W–B
W–B
W–B
BR
W–B
W–B
C
C
J27
Junction
Connector
BR
EE
EF


From Power Source System (See Page 58)
10A
IGN
11 1J
B–O
J 8(A)
Junction
Connector
B–L
S 6
Transmission Control SW
AT3
NSSD
ATD
3
9
2
L
G–Y
W
E 3C
D 3E
G 3C
J31(A), J32(B)
Junction
Connector
J35(A), J36(B)
Junction
Connector
J10(A), J11(B)
Junction
Connector
9 E
IGSW
8 D
L
E 4(A), E 5(B), E 6(C), E 7(D), E 8(E)
Engine Control Module
HP
EOM
2
OILW
SPD
R
D
3
1 D
15 E
9 D
25 D
17 D
11 D
10 D
20 D
J29(A), J30(B)
Junction
Connector
J10(A), J11(B)
Junction
Connector
W–B
P–L
P
(4WD)
V–R
R–Y
G–Y
J33(A), J34(B)
Junction
Connector
J37
Junction
Connector
IK
B–L
V–R
P(4WD)
P–L
W
L
R–Y


From Power Source System (See Page 58)
B–L
J25 Junction Connector
A
Y–R
H
J20 Junction Connector
15A IG1
8 1J
2 IM1
3
RB
J 7 Junction Connector
P 1 Park/Neutral Position SW
LL
2L
DL
NL
RL
PL
20 IM2
21 IM2
9 IM1
10 IM1
1 IM1
8 IM1
G–Y
P–L
G–W
R–Y
G–B
J29(A), J30(B) Junction Connector
J33(A), J34(B) Junction Connector
J35(A) Junction Connector
J10(A), J11(B) Junction Connector
2 1L
2 1J
W
L
V–R
P(4WD)


From Power Source System (See Page 58)
7. 5A
GAUGE
4 1G
R–L
J 7
Junction
Connector
D
D
R
R
H A
F B
J 8(A), J 9(B)
Junction
Connector
R
16 C
10A
DOME
1
2
2
R
C2 IC4
S 8
Skid Control ECU
SP1
16
GR–R
4 B
15 C
Speedometer
C 8(A), C 9(B), C10(C), C11(D)
Combination Meter
G–B
G–B
J 8(A), J 9(B)
Junction
Connector
E A
A B
G–B
A/T OIL TEMP
P
R
N
D
3
2
L
15 A
20 D
1 C
19 D
18 D
16 D
15 D
14 D
5 B
13 C
P(4WD)
G–B
R–Y
G–W
W
L
P–L
B–L
V–R
BR
1 1G
11 1K
V–R
B 3D
B 3D
7 IM1
BR
V–R
R–Y
G–W
W
L
P–L
B–L
V–R
P(4WD)
EF

Electronically Controlled Transmission and A/T Indicator (1GR–FE)

System Outline

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

1. Gear Shift Operation

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

2. Lock–Up Operation

When the engine control module decides based on each signal that the lock–up condition has been met, the current flows through TERMINAL SL of the engine control module to TERMINAL 7 of the electronically controlled transmission solenoid to GROUND, causing lock–up operation.

3. Stop Light SW Circuit

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

Service Hints

E4 (A), E5 (B), E6 (C), E7 (D), E8 (E) Engine Control Module

(E) 9–Ground : Approx. 12 volts with the ignition SW at ON position
(D) 6, (E) 3–Ground : Always approx. 12 volts
(A)16–Ground : Approx. 12 volts with the ignition SW at ST position
(D)19–Ground : Approx. 12 volts with the brake pedal depressed
(A)6, (A) 7, (B) 6, (B) 7, (C) 1, (C) 4, (C) 7, (D) 1, (E) 15–Ground : Always continuity

P1 Park/Neutral Position SW

3–1 : Closed with the shift lever in P position
3–2 : Closed with the shift lever in R position
3–5 : Closed with the shift lever in N position
3–7 : Closed with the shift lever in D position or 3 position
3–4 : Closed with the shift lever in 2 position
3–8 : Closed with the shift lever in L position

○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
A3	34 (1GR–FE)	J4	38	J33 A	38
A24	36	J7	38	J34 B	38
C8 A	37	J8 A	38	J35 A	38
C9 B	37	J9 B	38	J36 B	38
C10 C	37	J10 A	38	J37	38
C11 D	37	J11 B	38	M1	35 (1GR–FE)
D1	37	J18	38	P1	35 (1GR–FE)
E1	34 (1GR–FE)	J20	38	S6	39
E2	34 (1GR–FE)	J25	38	S8	39
E4 A	37	J27	38	S12	39
E5 B	37	J28	38	T2	35 (1GR–FE)
E6 C	37	J29 A	38	T4	35 (1GR–FE)
E7 D	37	J30 B	38	V11	35 (1GR–FE)
E8 E	37	J31 A	38		
J2	35 (1GR–FE)	J32 B	38		

: Relay Blocks

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

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1G	25	Instrument Panel Wire and Driver Side J/B (Lower Finish Panel)
1J		
1K		
1L		
3A	28	Instrument Panel Wire and Center J/B (Instrument Panel Brace RH)
3C		
3D		
3E		

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC3	48	Instrument Panel Wire and Engine Room Main Wire (Left Kick Panel)
IC4		
IM1	52	Engine Wire and Instrument Panel Wire (Right Side of Blower Unit)
IM2		

: Ground Points

Code	See Page	Ground Points Location
EB	46 (1GR–FE)	Front Left Fender
EE	46 (1GR–FE)	Rear Side of Right Bank Cylinder Block
EF	46 (1GR–FE)	Rear Side of Left Bank Cylinder Block
IK	48	Right Kick Panel

: Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E8	46 (1GR–FE)	Engine Wire			