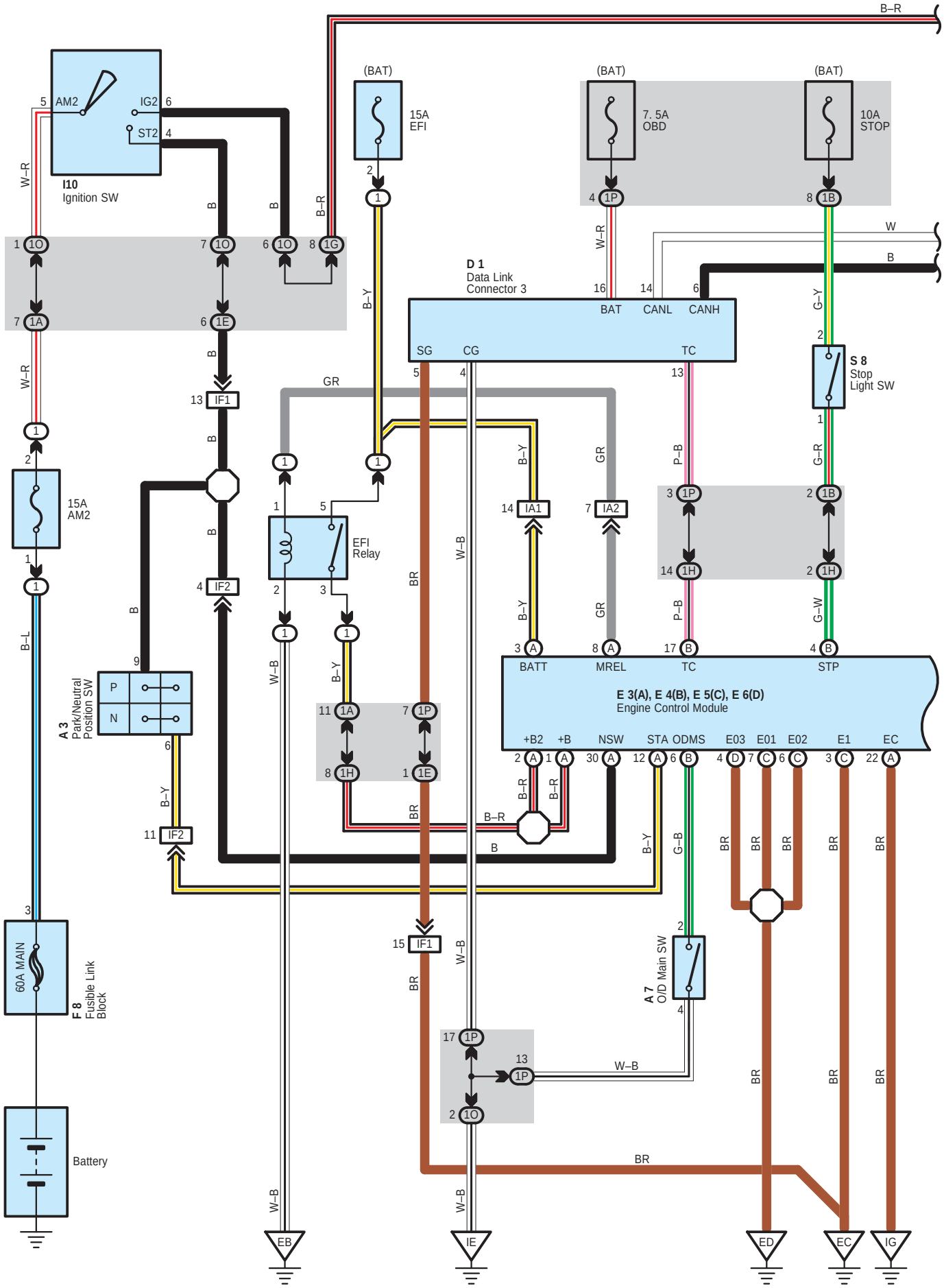
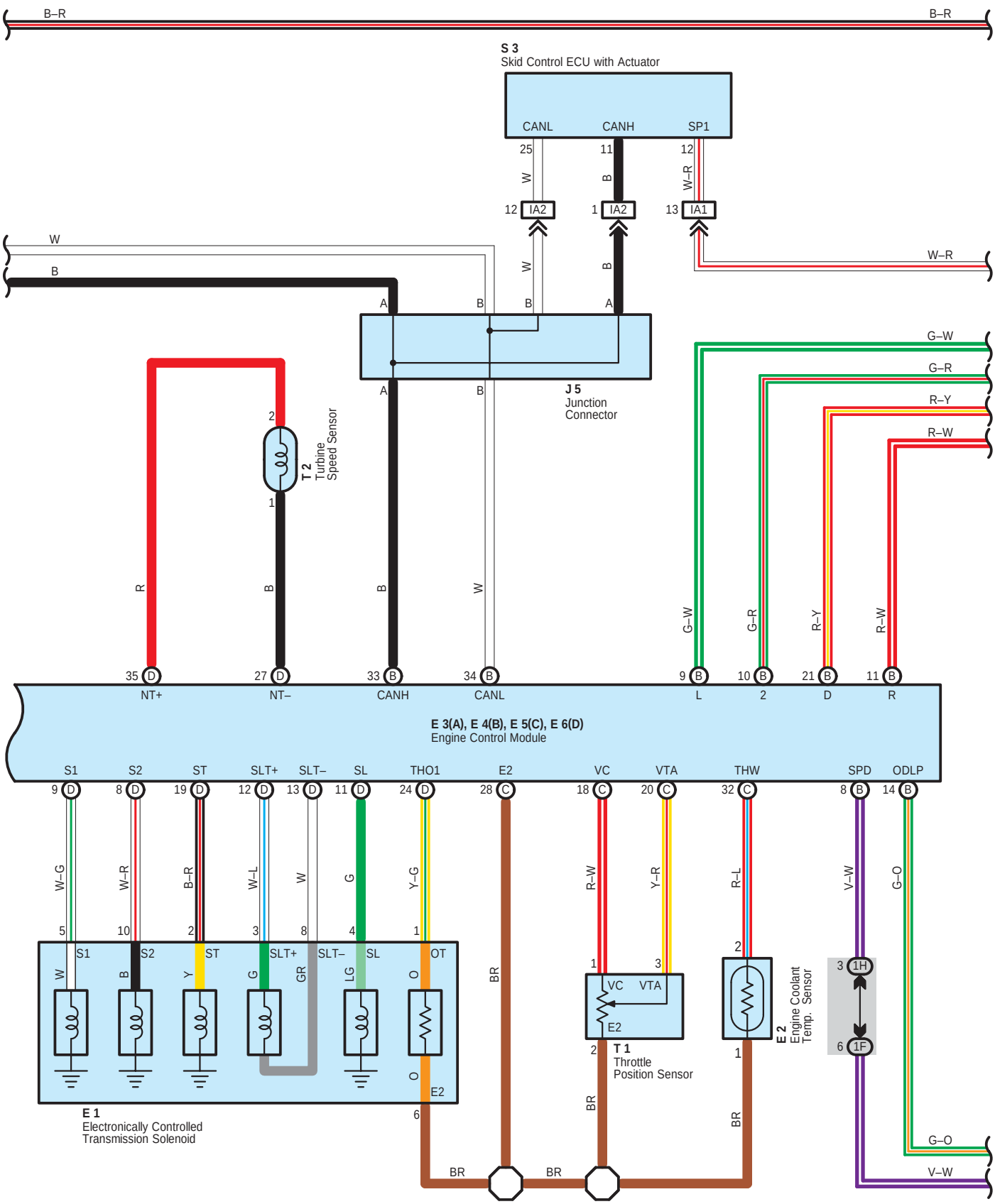
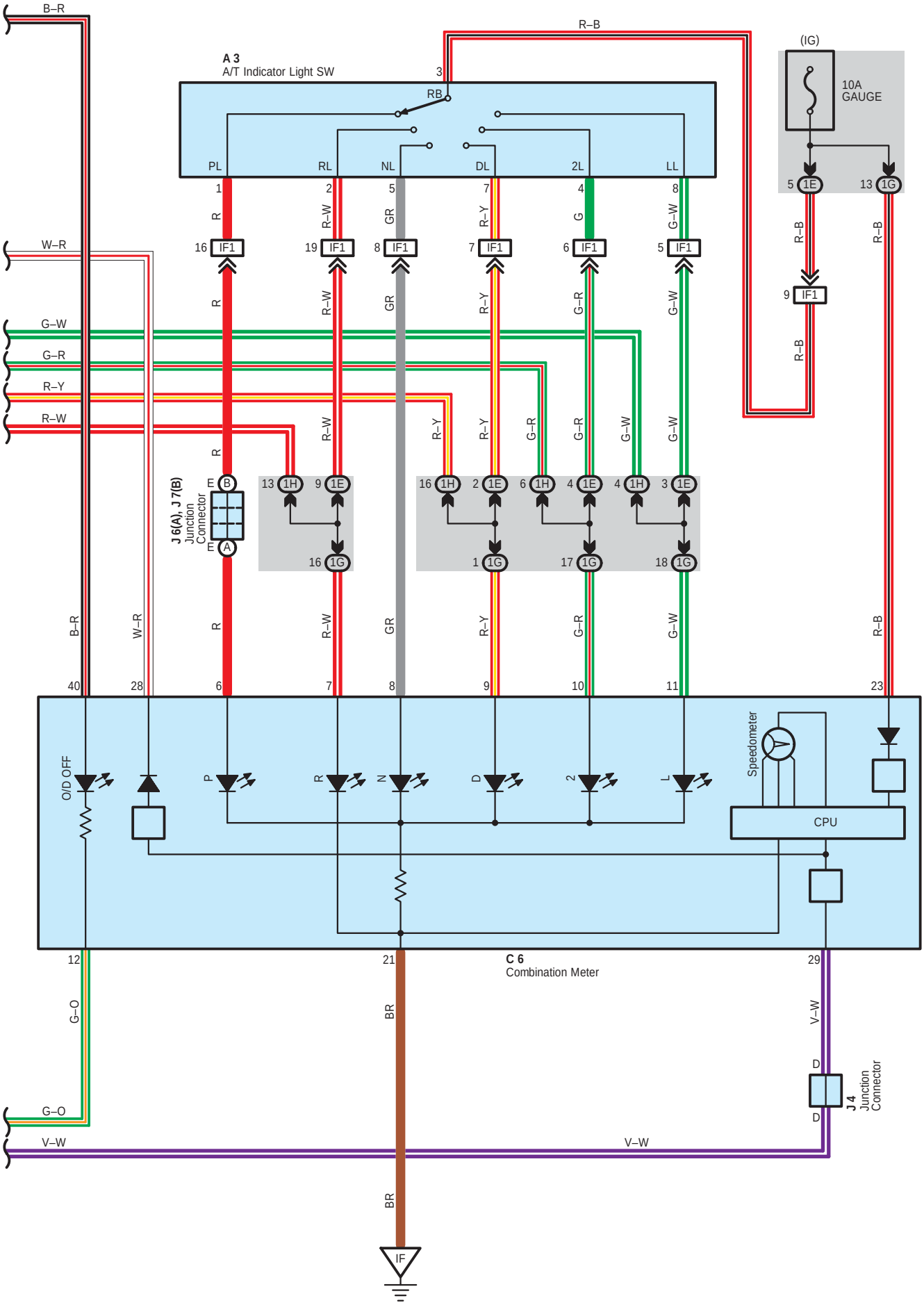

B–R
(BAT)
15A
EFI
(BAT)
7. 5A
OBD
(BAT)
10A
STOP
I10
Ignition SW
AM2
IG2
ST2
W–R
B
B–R
B–Y
W
G–Y
D 1
Data Link
Connector 3
BAT
CANL
CANH
SG
CG
TC
S 8
Stop
Light SW
G–R
GR
P–B
15A
AM2
EFI
Relay
IA1
IA2
IF1
IF2
A 3
Park/Neutral
Position SW
P
N
B–L
G–W
BATT
MREL
STP
E 3(A), E 4(B), E 5(C), E 6(D)
Engine Control Module
+B2
+B
NSW
STA
ODMS
E03
E01
E02
E1
EC
W–B
BR
A 7
O/D Main SW
60A MAIN
F 8
Fusible Link
Block
Battery
EB
IE
ED
EC
IG


B–R
B–R
S 3
Skid Control ECU with Actuator
CANL
CANH
SP1
25
11
12
W
B
W–R
12 IA2
1 IA2
13 IA1
W
B
W–R
A
B
B
A
J 5
Junction
Connector
G–W
G–R
R–Y
R–W
2
1
T 2
Turbine
Speed Sensor
R
B
B
W
G–W
G–R
R–Y
R–W
35 D
27 D
33 B
34 B
9 B
10 B
21 B
11 B
NT+
NT–
CANH
CANL
L
2
D
R
E 3(A), E 4(B), E 5(C), E 6(D)
Engine Control Module
S1
S2
ST
SLT+
SLT–
SL
THO1
E2
VC
VTA
THW
SPD
ODLP
9 D
8 D
19 D
12 D
13 D
11 D
24 D
28 C
18 C
20 C
32 C
8 B
14 B
W–G
W–R
B–R
W–L
W
G
Y–G
R–W
Y–R
R–L
V–W
G–O
5
10
2
3
8
4
1
S1
S2
ST
SLT+
SLT–
SL
OT
W
B
Y
G
GR
LG
O
BR
1
3
VC
VTA
E2
2
T 1
Throttle
Position Sensor
2
E 2
Engine Coolant
Temp. Sensor
3 1H
6 1F
O
E2
6
BR
BR
BR
BR
E 1
Electronically Controlled
Transmission Solenoid
G–O
V–W


A 3
A/T Indicator Light SW
PL
RL
NL
DL
2L
LL
RB
(IG)
10A
GAUGE
IF1
J 6(A), J 7(B)
Junction
Connector
C 6
Combination Meter
CPU
Speedometer
O/D OFF
J 4
Junction
Connector
IF
B–R
W–R
G–W
G–R
R–Y
R–W
R–B
G–O
V–W
BR

System Outline

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

1. Gear Shift Operation

During driving, the engine control module selects the shift for each gear which is most appropriate to the driving conditions, based on input signals from the engine coolant temp. sensor to TERMINAL THW of the engine control module, and also the input signals to TERMINAL NT+ of the engine control module from the turbine speed sensor devoted to the direct clutch. Current is then output to the electronically controlled transmission solenoid. When shifting to 1st gear, current flows from TERMINAL S1 of the engine control module to TERMINAL 5 of the electronically controlled transmission solenoid to GROUND, and from TERMINAL S2 of the engine control module to TERMINAL 10 of the electronically controlled transmission solenoid to GROUND, and continuity to solenoids No.1 and No.2 causes the shift.
For the 2nd gear, current flows from TERMINAL S1 of the engine control module to TERMINAL 5 of the electronically controlled transmission solenoid to GROUND, and continuity to the solenoid No.1 causes the shift.
For the 3rd gear, there is no continuity to either No.1 or No.2 solenoid.
Shifting into 4th gear (Overdrive) takes place when current flows from TERMINAL S2 of the engine control module to TERMINAL 10 of the electronically controlled transmission solenoid to GROUND, and continuity to the solenoid No.2 causes the shift.

2. Lock–Up Operation

When the engine control module judges from each signal that lock–up operation conditions have been met, current flows from TERMINAL SL of the engine control module to TERMINAL 4 of the electronically controlled transmission solenoid to GROUND, causing continuity to the lock–up solenoid and causing lock–up operation.

3. Clutch Pressure Control

The electronically controlled transmission solenoid is controlled by the current from TERMINAL SL of the engine control module, and controls the accumulator hydraulic pressure.
As a result, the clutch to hydraulic pressure is adjusted precisely, and allows stable shift change.

4. Line Pressure Control

The electronically controlled transmission solenoid is controlled by the current from TERMINAL SLT+ of the engine control module, and controls the throttle hydraulic pressure.
As a result, the line pressure can be controlled precisely, and the to hydraulic pressure is adjusted according to the shift change condition, and allows smooth shift change.

5. Shifting Control in Uphill/Downhill Traveling

This system determines whether the vehicle is traveling on an incline or decline from the throttle opening angle, vehicle acceleration condition and brake pedal operation, and controls the shift up to O/D to allow smooth driving.

6. Clutch to Clutch Control

When shifting from the 3rd gear to the 4th gear, the current from the engine control module TERMINAL ST controls the electronically controlled transmission solenoid, to control the drain orifice hydraulic pressure (Switch orifice). The electronically controlled transmission solenoid is also controlled by the current from the engine control module TERMINAL SLT+, to adjust the hydraulic pressure precisely, which ensures smooth shifting.

7. Stop Light SW Circuit

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

8. Overdrive Circuit

∗ Overdrive on
When the engine is turned on from ignition off, the engine control module turns the O/D on. When the O/D main SW is pushed while the O/D is off, a signal is input into TERMINAL ODMS of the engine control module, and the O/D is turned on by the engine control module. In this case, the engine control module controls the gear shift according to the vehicle's driving condition, using the O/D range. At this time, the O/D off indicator light is off.

∗ Overdrive off
When the O/D main SW is pushed while the O/D is on, a signal is input into TERMINAL ODMS of the engine control module, and the O/D is turned off. At this time, the current flows through the O/D off indicator light to TERMINAL ODLP of the engine control module. As a result, the O/D off indicator light turns on, and the engine control module controls the gear shift according to the vehicle's driving condition, without using the O/D range.

ECT and A/T Indicator

: Parts Location

Code	See Page	Code	See Page	Code	See Page
A3	28	E4 B	30	J6 A	31
A7	30	E5 C	30	J7 B	31
C6	30	E6 D	30	S3	29
D1	30	F8	28	S8	31
E1	28	I10	30	T1	29
E2	28	J4	31	T2	29
E3 A	30	J5	31		

: Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	22	Engine Room R/B (Engine Compartment Left)

: Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
1A	24	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1B		
1E	25	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1F		
1G		
1H		
1O		
1P		

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA1	35	Engine Room Main Wire and Instrument Panel Wire (Behind the Reinforcement LH)
IA2		
IF1	35	Engine Wire and Instrument Panel Wire (Behind the Glove Box)
IF2		

: Ground Points

Code	See Page	Ground Points Location
EB	34	Front Left Fender Apron
EC	34	Engine Block
ED		
IE	35	Left Kick Panel
IF	35	Instrument Panel Brace LH
IG	35	Right Kick Panel