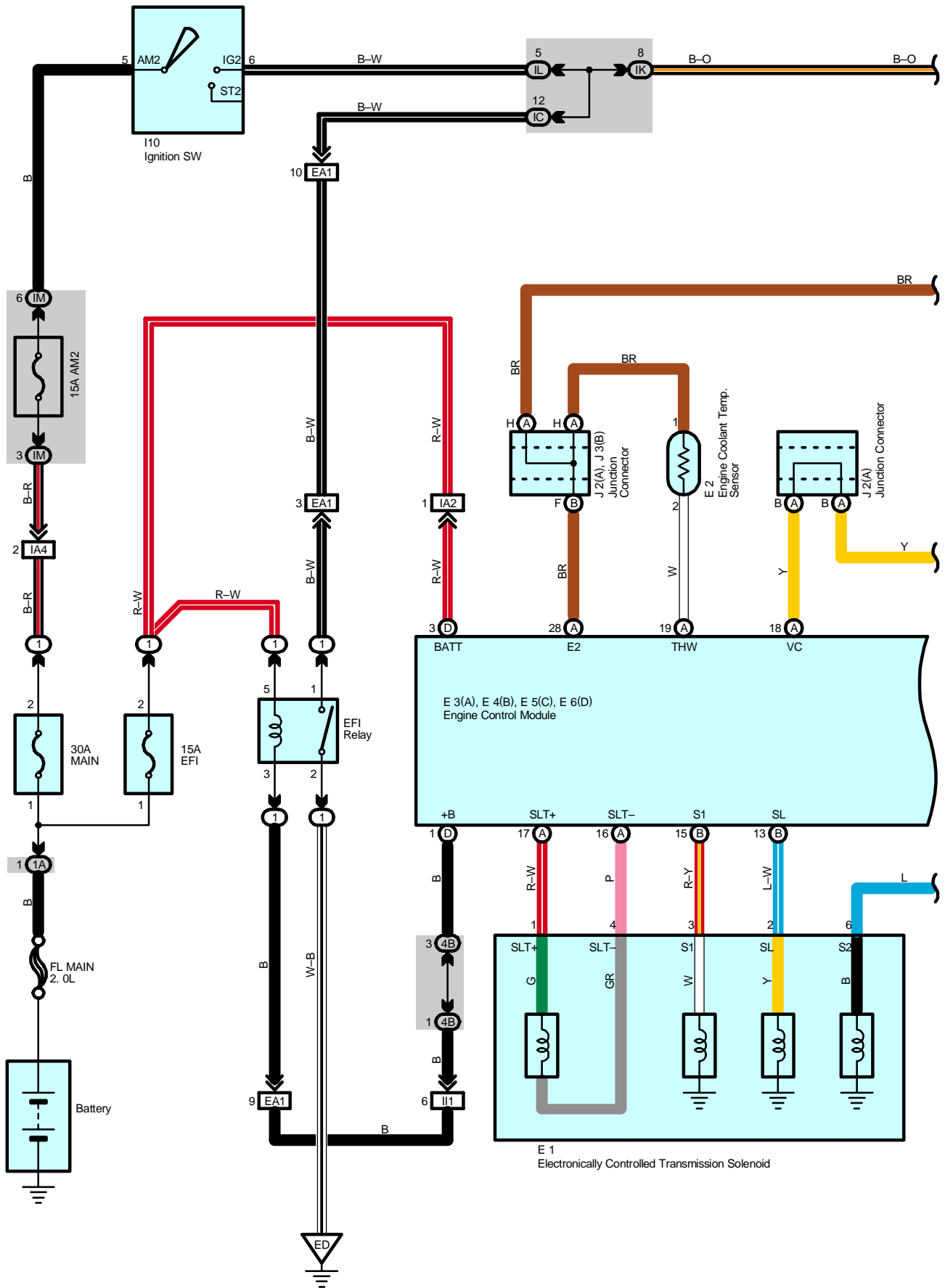
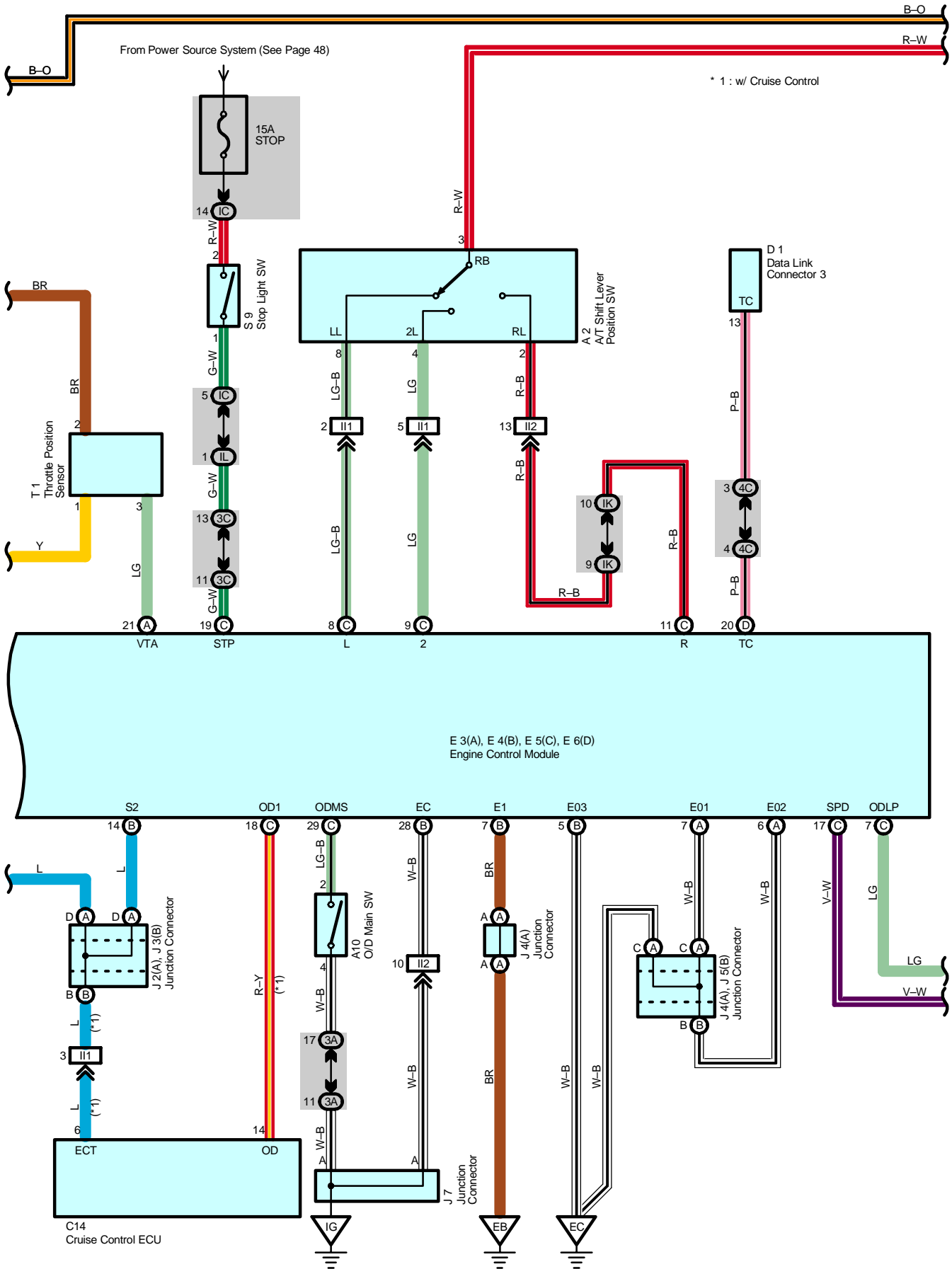


Electronically Controlled Transmission





System Outline

Previous automatic transaxle have selected each gear shift using mechanically controlled throttle hydraulic pressure, governor hydraulic pressure and lock-up hydraulic pressure. The electronically controlled transmission, however, controls the line pressure and lock-up pressure etc. electrically, through the solenoid valve. The 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 SPD of the engine control module from the vehicle speed sensor devoted to the electronically controlled transmission. Current is then output to the electronically controlled transmission solenoid. When shifting to 1st speed, the current flows from TERMINAL S1 of the engine control module to TERMINAL 3 of the solenoid to GROUND, and from TERMINAL S2 of the engine control module to TERMINAL 6 of the electronically controlled transmission solenoid to GROUND, and continuity to the No.1 and No.2 solenoid causes the shift.

For 2nd speed, the current flows from TERMINAL S1 of the engine control module to TERMINAL 3 of the solenoid to GROUND, and from TERMINAL S2 of the engine control module to TERMINAL 6 of the solenoid to 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 both No.1 and No.2 solenoid.

2. 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.

3. 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.

Service Hints

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

S1, S2-E1 : 9.0-14.0 volts with the ignition SW on and the solenoid on

0-1.5 volts with the ignition SW on and the solenoid off

L-E1 : 7.5-14.0 volts with the ignition SW on and the shift lever at L position

2-E1 : 7.5-14.0 volts with the ignition SW on and the shift lever at 2 position

R-E1 : 7.5-14.0 volts with the ignition SW on and the shift lever at R position

STP-E1 : 9.0-14.0 volts with the brake pedal depressed

THW-E2 : 0.2-1.0 volts with the engine coolant temp. 60°C (140°F) -120°C (248°F) and engine idling

VTA-E2 : 0.3-0.8 volts with the ignition SW on and the throttle valve fully closed

3.2-4.9 volts with the ignition SW on and the throttle valve fully open

VC-E2 : 4.5-5.5 volts with the ignition SW on

ODMS-E1 : 9.0-14.0 volts with the ignition SW on

0-3.0 volts with the ignition SW on and press continuously the O/D main SW

+B-E1 : 9.0-14.0 volts with the ignition SW on

ODLP-E1 : Approx. 12 volts with the ignition SW on and the O/D main SW turned off

A2 A/T Shift Lever Position SW

3-2 : Closed with the shift lever in R position

3-4 : Closed with the shift lever in 2 position

3-8 : Closed with the shift lever in L position

Electronically Controlled Transmission

: Parts Location

Code	See Page	Code	See Page	Code	See Page
A2	32	E3	A 34	J4	A 35
A10	34	E4	B 34	J5	B 35
C9	34	E5	C 34	J7	35
C14	34	E6	D 34	S1	33
D1	34	I10	35	S9	35
E1	32	J2	A 35	T1	33
E2	32	J3	B 35	V1	33

: 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)
IC	25	Engine Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
IG	25	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
IK	24	
IL		
IM		
1A	22	Engine Wire and Engine Room J/B (Engine Compartment Left)
3A	28	Instrument Panel Wire and RH J/B (Right Side of the Instrument Panel Reinforcement)
3B		
3C		
4B	30	Instrument Panel Wire and Center J/B (Behind the Combination Meter)
4C		

: Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	38	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B)
IA2	40	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel Reinforcement)
IA4		
IA6		
II1	42	Engine Wire and Instrument Panel Wire (Blower Unit RH)
II2		

: Ground Points

Code	See Page	Ground Points Location
EB	38	Left Side of the Cylinder Head
EC		
ED	38	Front Left Suspension Tower
IG	40	Right Kick Panel

: Splice Points

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I2	42	Instrument Panel Wire			

