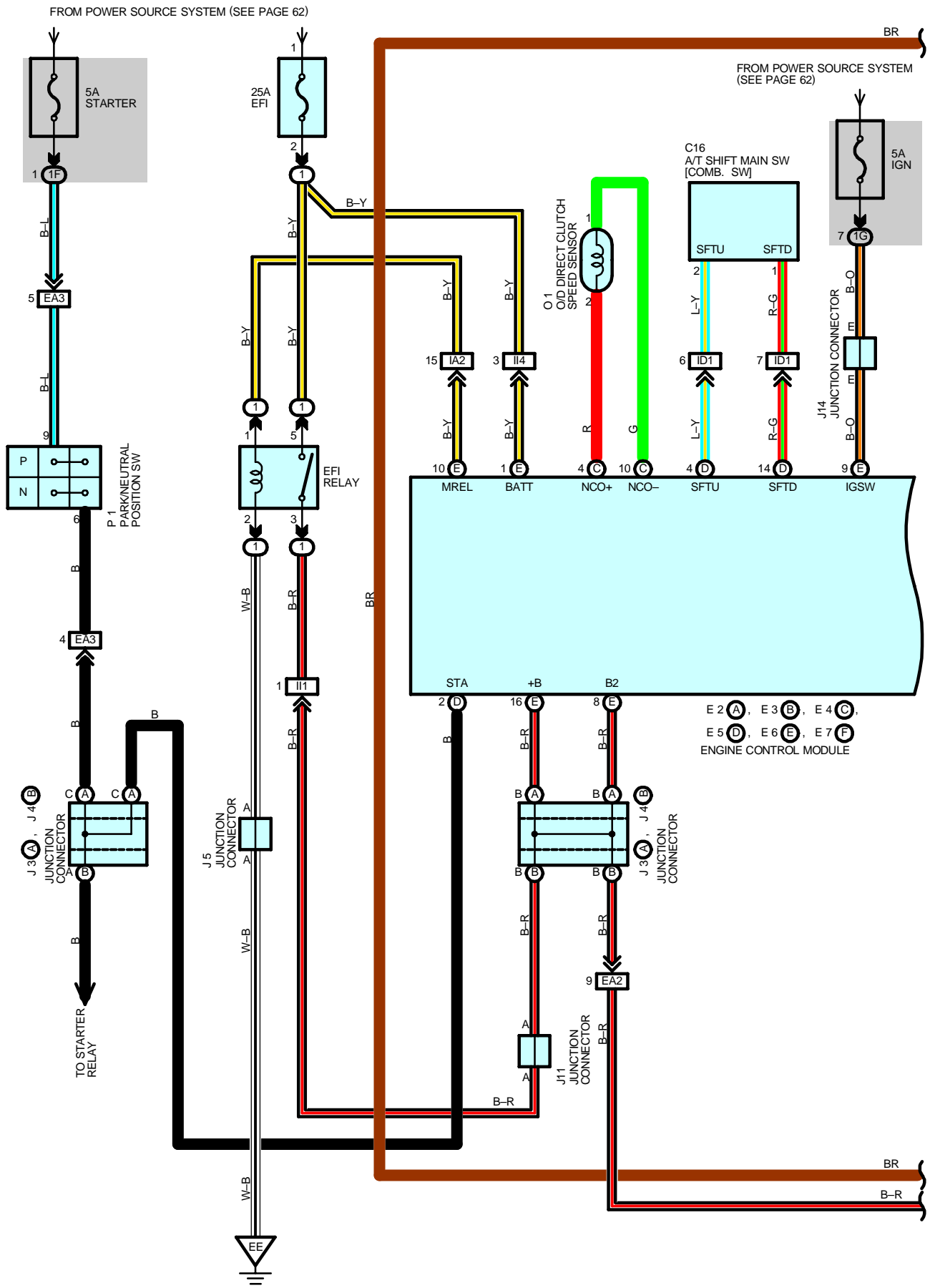
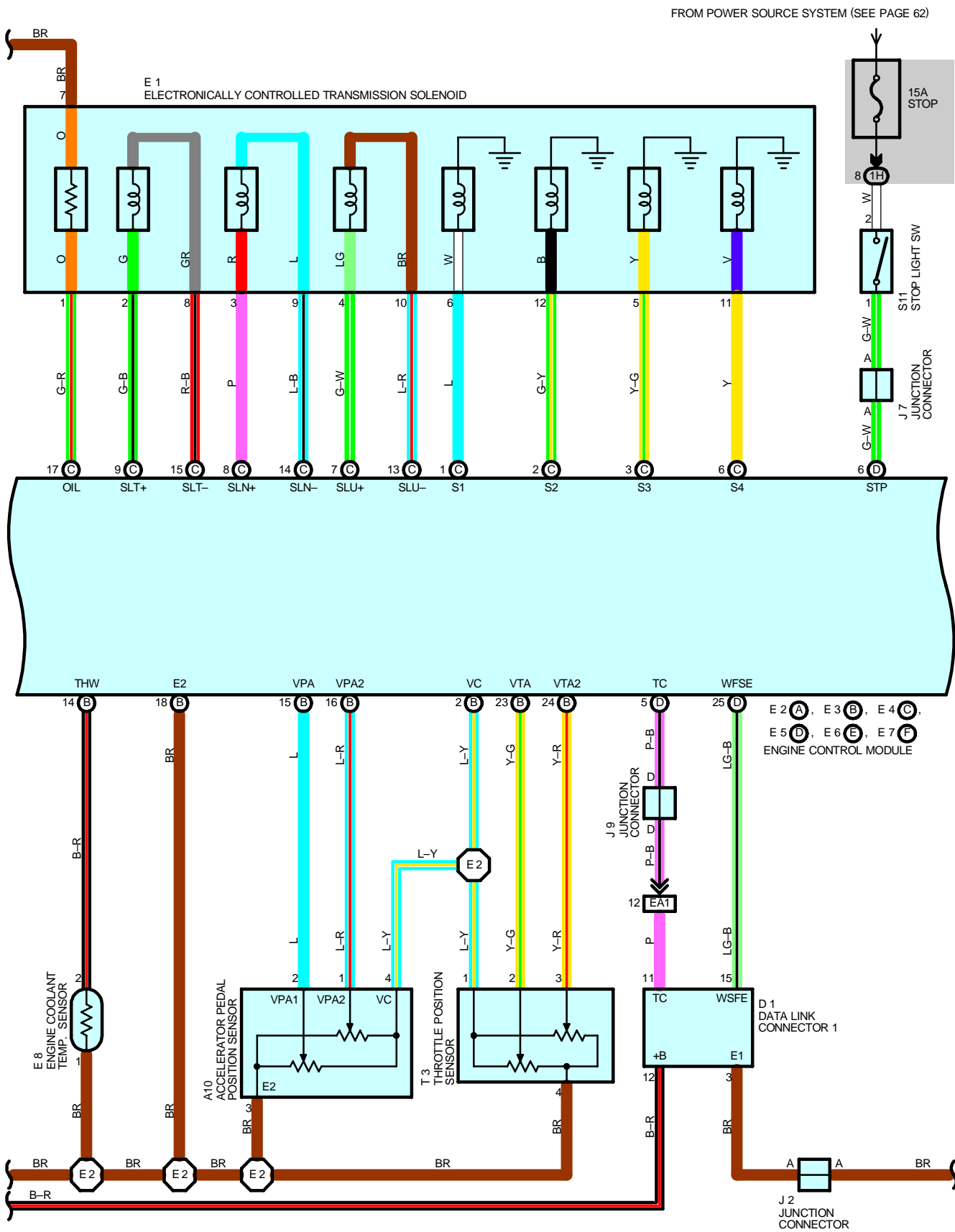


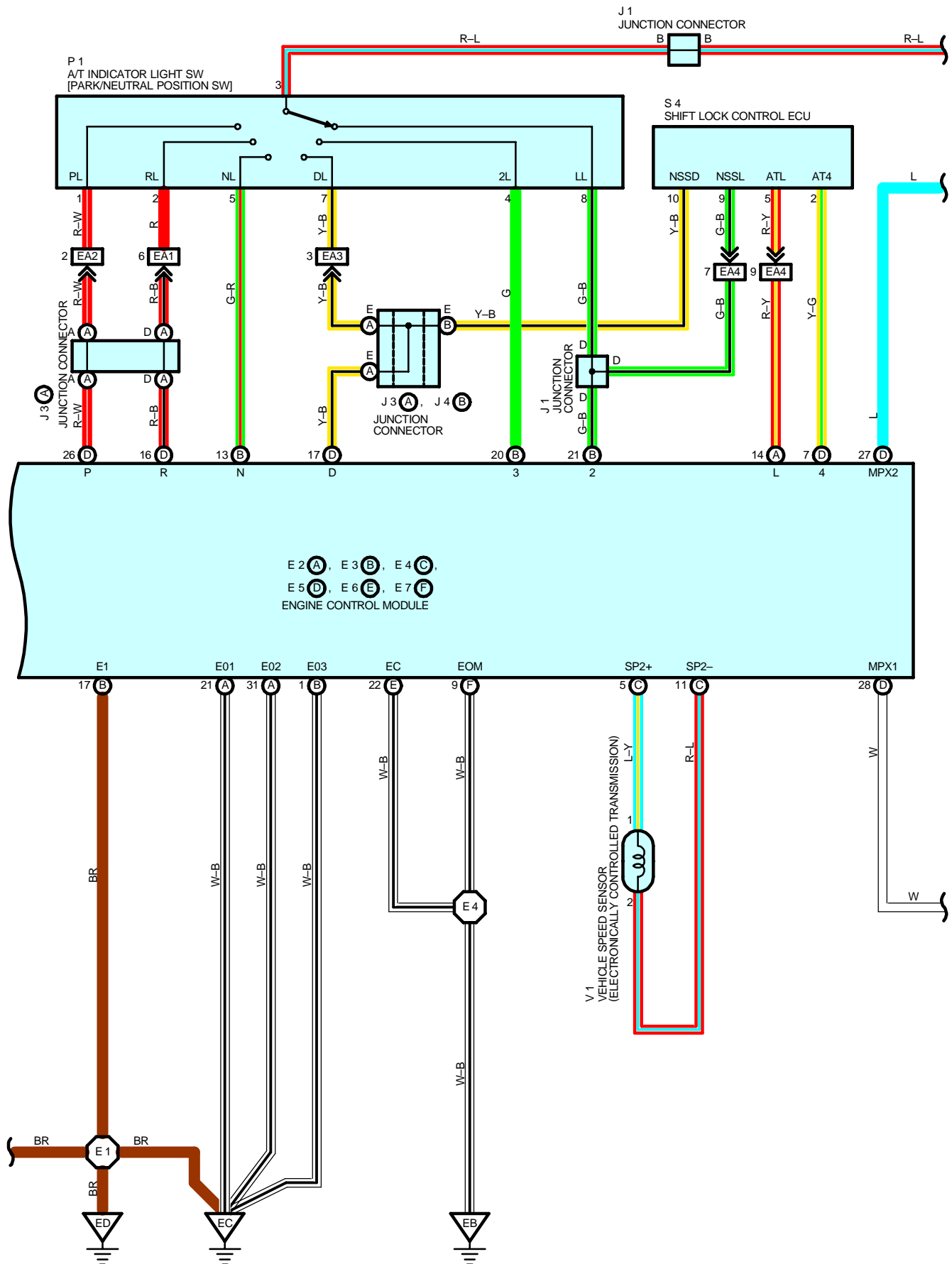
ELECTRONICALLY CONTROLLED TRANSMISSION AND A/T INDICATOR



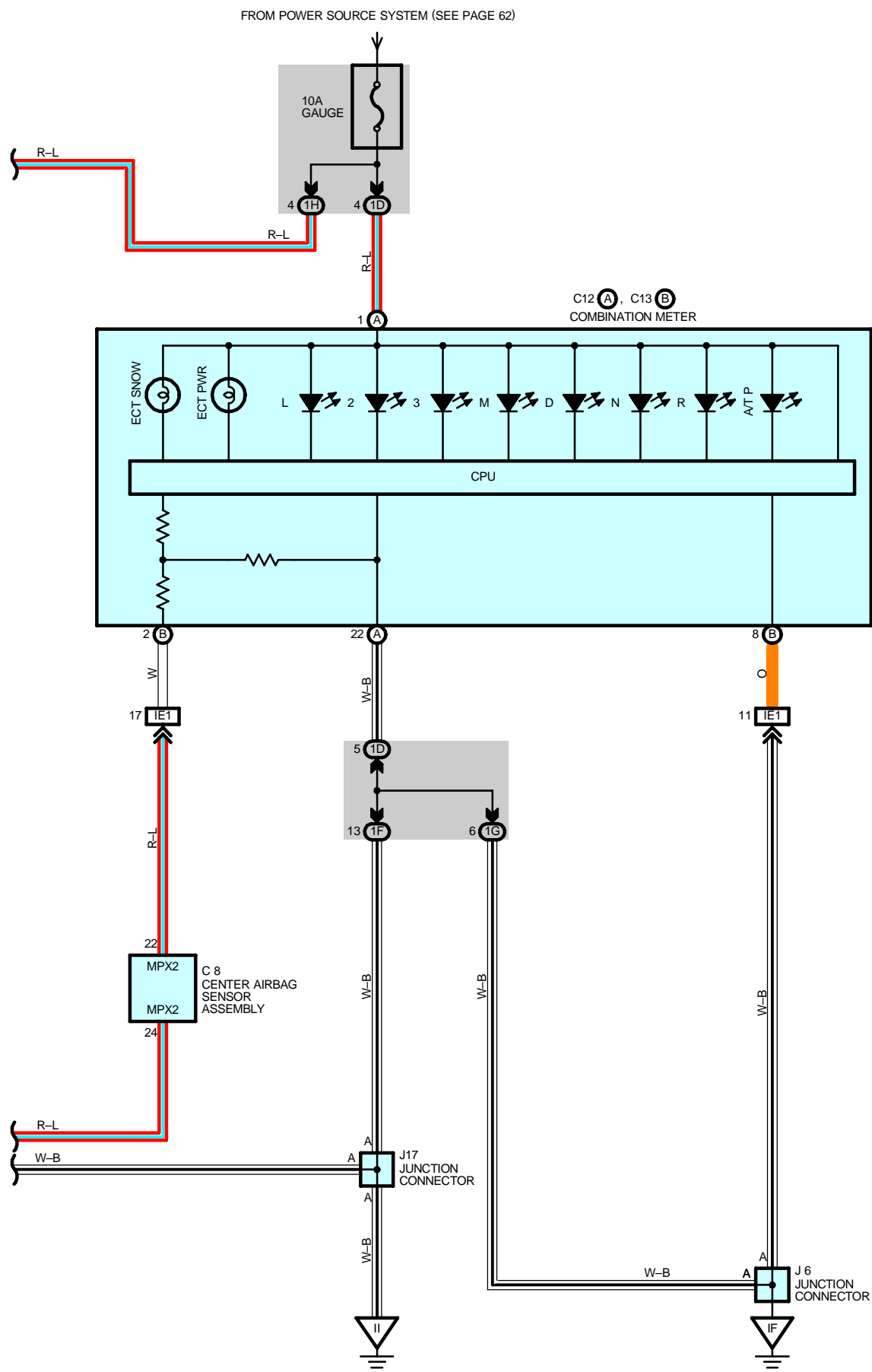
(2JZ-GE)



ELECTRONICALLY CONTROLLED TRANSMISSION AND A/T INDICATOR



ELECTRONICALLY CONTROLLED TRANSMISSION AND A/T INDICATOR



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 position sensor is input to TERMINALS VTA 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 SLU+ of the engine control module to TERMINAL 4 of the electronically controlled transmission solenoid to TERMINAL 10 to TERMINAL SLU- of the engine control module to GROUND.

3. STOP LIGHT SW CIRCUIT

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

4. ELECTRONICALLY CONTROLLED TRANSMISSION PATTERN SELECT SW CIRCUIT

When the electronically controlled transmission pattern select SW is switched to PWR, a signal is input to TERMINAL PWR of the body ECU No.1, and control signals are distributed to the engine control module through communication control of the body ECU. This enables shift-up and shift-down at a higher speed range.

5. E-SHIFT SYSTEM

When the shift lever is set to the M position, the shift range can be switched with the UP or DOWN switch on the steering. (This limits to the maximum gear step and enables automatic shift-up and shift-down within the allowable range.)

SERVICE HINTS**E1 ELECTRONICALLY CONTROLLED TRANSMISSION SOLENOID**

2-8 : **5.1-5.5** Ω

3-9 : **3.5-3.9** Ω

4-10 : **5.1-5.5** Ω

5, 6, 11, 12-GROUND : **11-15** Ω

E12 ELECTRONICALLY CONTROLLED TRANSMISSION PATTERN SELECT SW

7-3 : Closed with select SW at **PWR** position

1-3 : Only closed with select SW at **SNOW** position

V1 VEHICLE SPEED SENSOR (ELECTRONICALLY CONTROLLED TRANSMISSION)

1-2 : **560-680** Ω

O1 O/D DIRECT CLUTCH SPEED SENSOR

1-2 : **560-680** Ω

E3 (B), E5 (D), E6 (E) ENGINE CONTROL MODULE

BATT-E1 : Always approx. **12** volts

+B-E1 : Approx. **12** volts with ignition SW **ON** or **ST** position

B2-E1 : Approx. **12** volts with ignition SW **ON** or **ST** position

MREL-E1 : Approx. **12** volts with ignition SW **ON** or **ST** position

STA-E1 : Approx. **12** volts with ignition SW **ST** position and shift lever other than **P** or **N** position

P1 A/T INDICATOR LIGHT SW [PARK / NEUTRAL POSITION SW]

3-1 : Closed with shift lever in **P** position

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

3-5 : Closed with shift lever in **N** position

3-7 : Closed with shift lever in **D** position or **M** position

3-4 : Closed with shift lever in **3** position

3-8 : Closed with shift lever in **2** position or **L** position

ELECTRONICALLY CONTROLLED TRANSMISSION AND A/T INDICATOR (2JZ-GE)

: PARTS LOCATION

Code		See Page	Code		See Page	Code		See Page
A10		40 (2JZ-GE)	E5	D	40 (2JZ-GE)	J9	43	
A13		42	E6	E	40 (2JZ-GE)	J11	43	
B5	A	42	E7	F	40 (2JZ-GE)	J14	43	
C8		42	E8		40 (2JZ-GE)	J17	43	
C12	A	42	E12		42	O1	41 (2JZ-GE)	
C13	B	42	J1		41 (2JZ-GE)	P1	41 (2JZ-GE)	
C16		42	J2		41 (2JZ-GE)	S4	43	
D1		40 (2JZ-GE)	J3	A	41 (2JZ-GE)	S11	43	
E1		40 (2JZ-GE)	J4	B	41 (2JZ-GE)	T3	41 (2JZ-GE)	
E2	A	40 (2JZ-GE)	J5		41 (2JZ-GE)	T5	43	
E3	B	40 (2JZ-GE)	J6		43	V1	41 (2JZ-GE)	
E4	C	40 (2JZ-GE)	J7		43			

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
1	24	Engine Room No.1 R/B (Engine Compartment Right)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1D	28	Instrument Panel Wire and Driver Side J/B (Left Kick Panel)
1F	28	Cowl Wire and Driver Side J/B (Left Kick Panel)
1G	29	
1H		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
EA1	50 (2JZ-GE)	Engine Wire and Cowl Wire (Inside of the ECU Box)
EA2		
EA3		
EA4		
IA2	52	Engine Room Main Wire and Cowl Wire (Near the Driver Side J/B)
ID1	52	Cowl Wire and Cowl Wire (Left Side of the Instrument Panel Reinforcement)
IE1	52	Instrument Panel Wire and Cowl Wire (Left Side of the Steering Column)
II1	52	Engine Room Main Wire and Cowl Wire (Near the Passenger Side R/B)
II4		
IJ1	54	Instrument Panel Wire and Cowl Wire (Left Side of the Blower Unit)

: GROUND POINTS

Code	See Page	Ground Points Location
EB	50 (2JZ-GE)	Left Fender
EC	50 (2JZ-GE)	Front Side of the Intake Manifold
ED	50 (2JZ-GE)	Rear Side of the Intake Manifold
EE	50 (2JZ-GE)	Under the ABS & TRAC & VSC Actuator
IF	52	Left Kick Panel
II	52	Right Side of the Cowl Panel

: SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
E1	50 (2JZ-GE)	Engine Wire	E4	50 (2JZ-GE)	Cowl Wire
E2					

