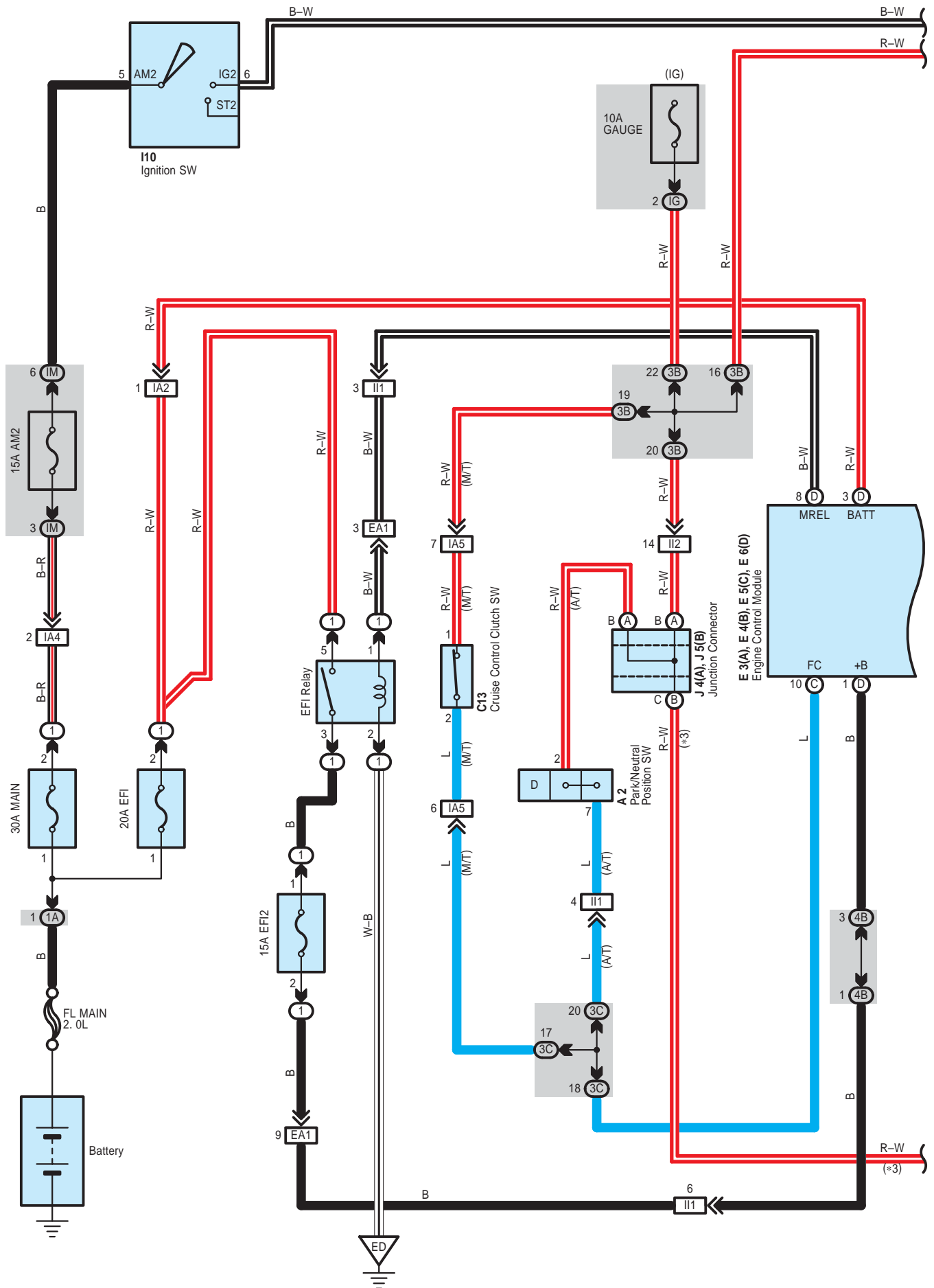
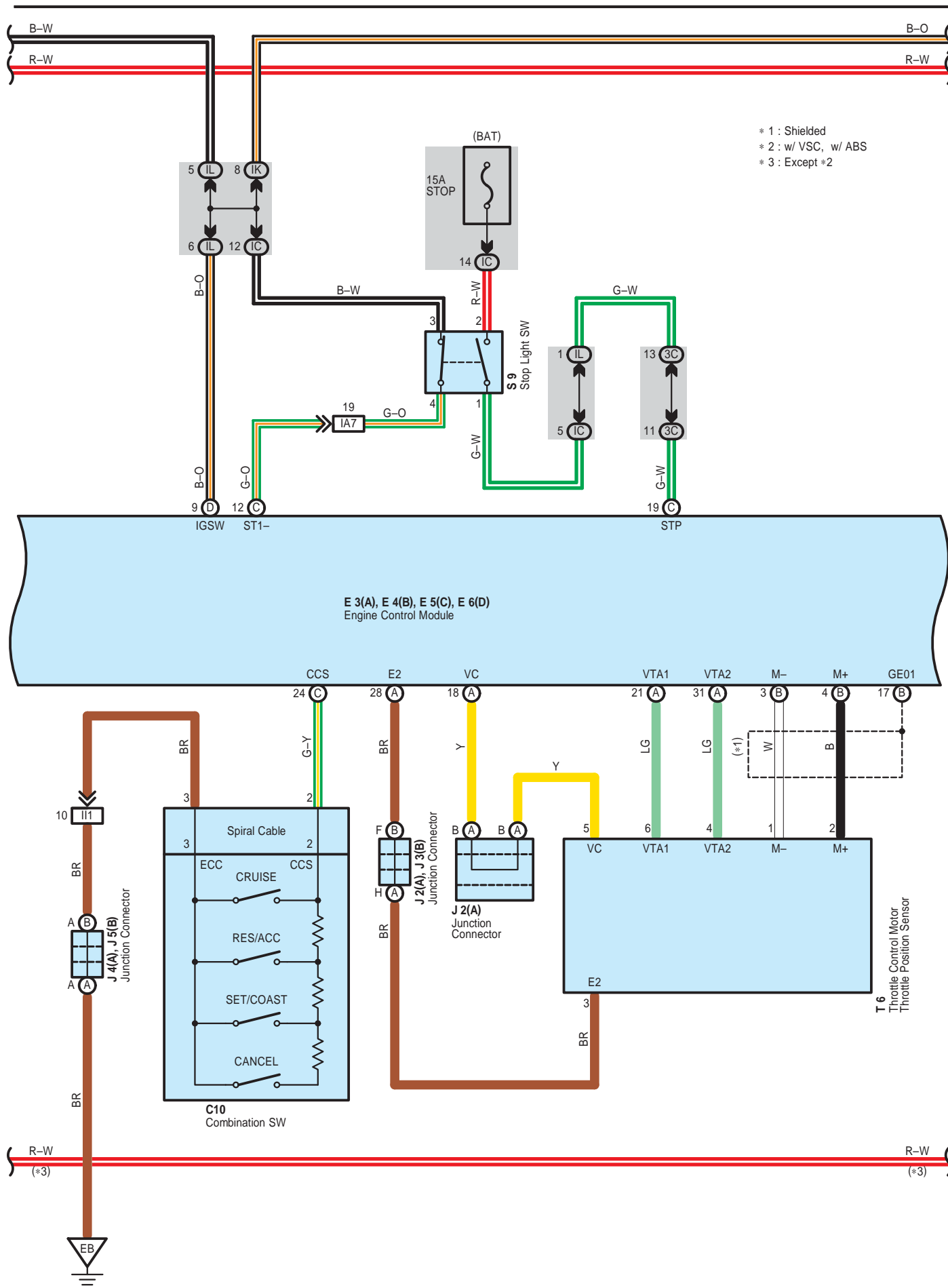
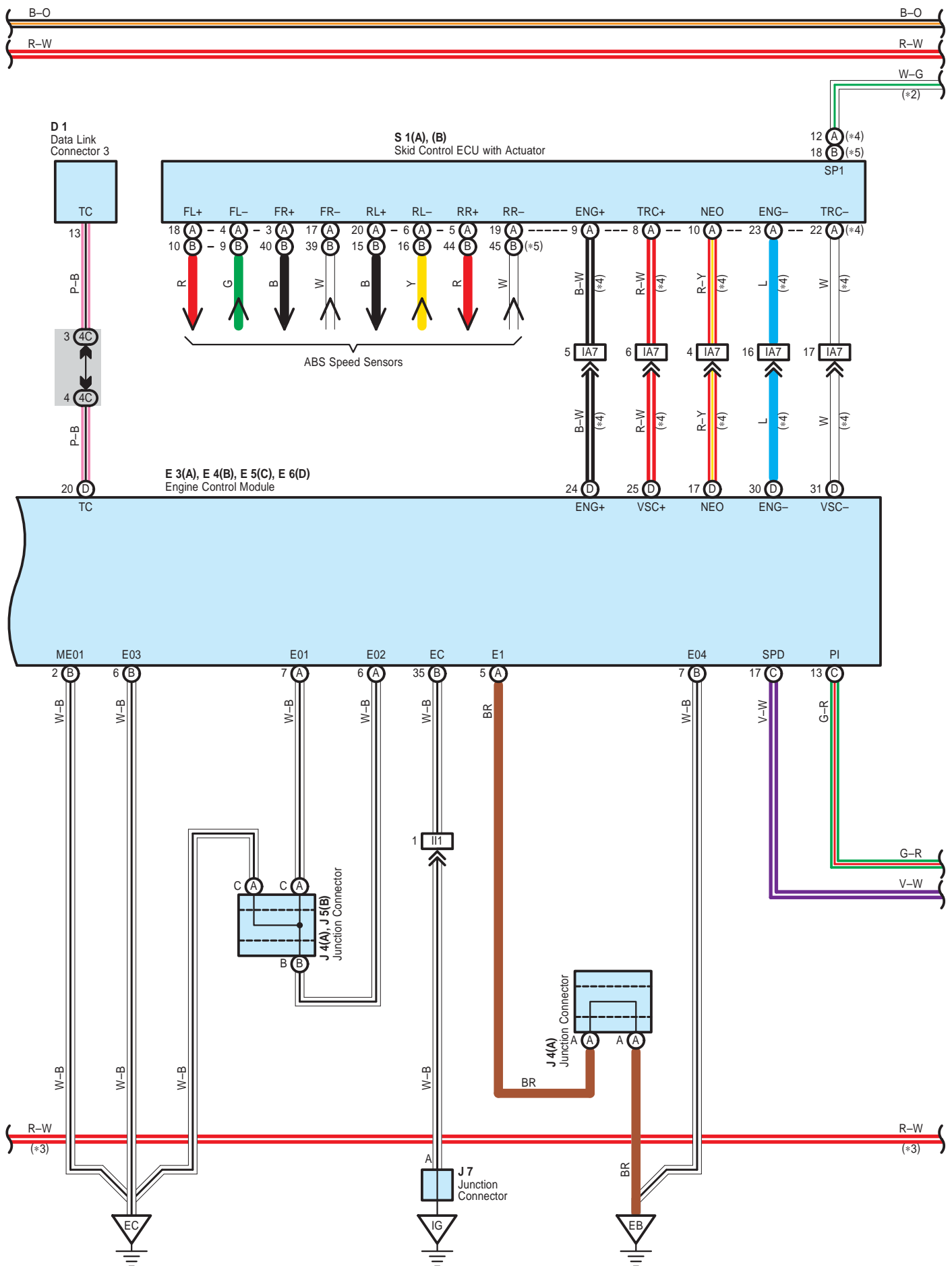


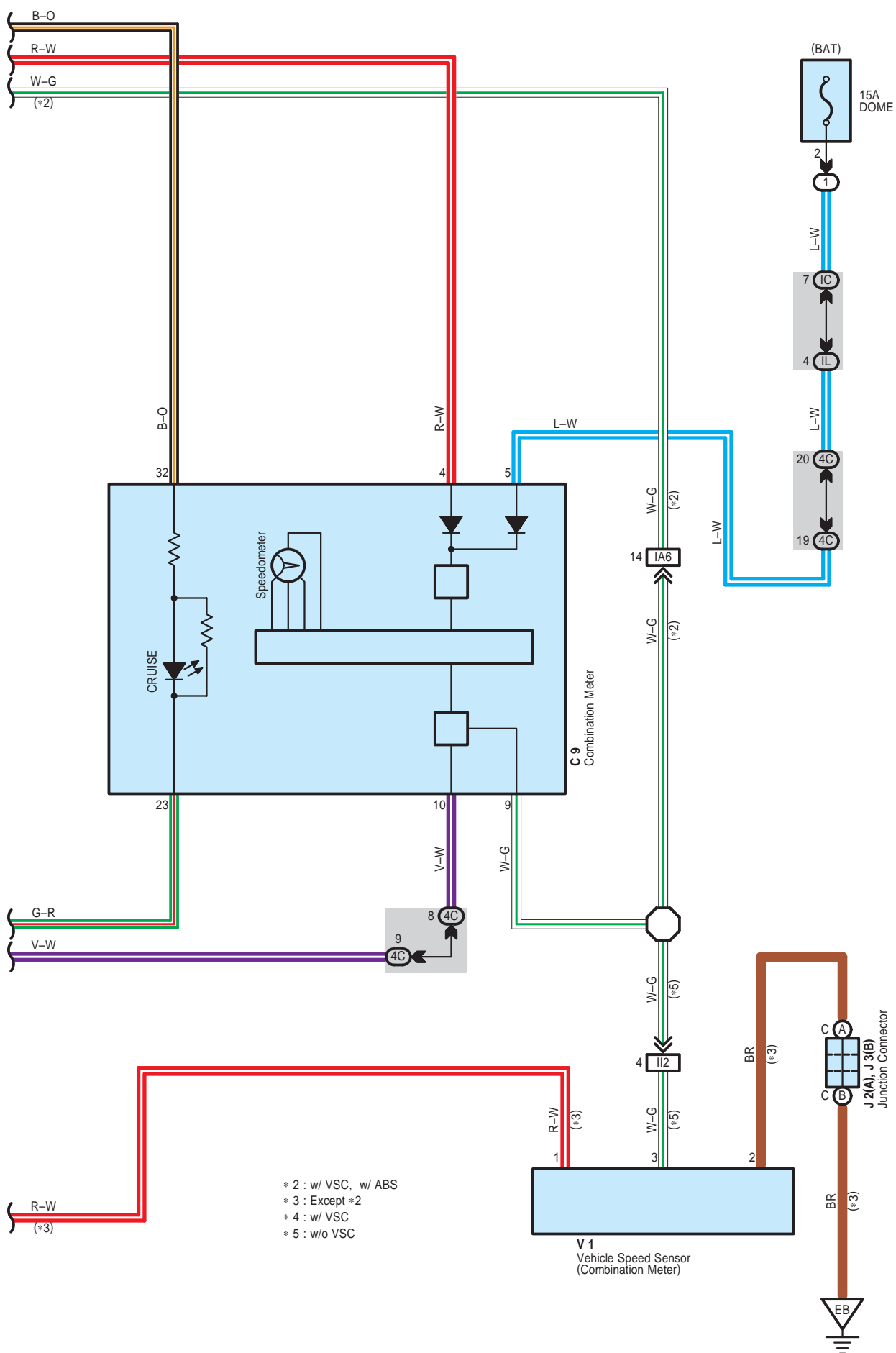
Cruise Control for 1ZZ-FE





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System Outline

The cruise control system is a constant vehicle speed controller in which control of the switch on the instrument panel makes it possible to automatically adjust the opening of the engine throttle valve without depressing of the accel pedal.

1. Set Operation

When the CRUISE SW is turned on and the SET SW 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 CCS of the engine control module, and the vehicle speed at the time the SET SW 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 SPD of the engine control module from the combination meter, and controls the throttle control motor to maintain the set speed.

When the actual speed is lower than the set speed, the ECU causes the current to the throttle control motor to flow from TERMINAL M+ of the engine control module to TERMINAL 2 of the throttle control motor to TERMINAL 1 to TERMINAL M- of the engine control module. As a result, the motor in the throttle control motor is rotated to open the throttle valve to increase the vehicle speed. When the actual driving speed is higher than the set speed, the current to the throttle control motor flows from TERMINAL M- of the ECU to TERMINAL 1 of the throttle control motor to TERMINAL 2 to TERMINAL M+ of the engine control module.

This causes the motor in the throttle control motor to rotate to close the throttle valve to decrease the vehicle speed.

3. Coast Control

During cruise control driving, while the COAST SW is on, the throttle control motor is rotated to close the throttle valve and decrease the driving speed. The vehicle speed when the COAST SW is turned off is memorized, and the vehicle continues at the new set speed.

4. Accel Control

During cruise control driving, while the ACC SW is turned on, the throttle control motor is rotated to open the throttle valve and increase the driving speed.

The vehicle speed when the ACC SW is turned off is memorized and the vehicle continues at the new set speed.

5. Resume Control

If the vehicle speed is approximately 40 km/h (25 mph) or above after canceling the set speed with the CANCEL SW, pushing the RES SW will cause the vehicle to resume the speed set before the cancellation.

6. Manual Cancel Mechanism

If any of the following signals is input during cruise control travelling, the cruise control is cancelled.

- * Depressing the clutch pedal (Cruise control clutch SW off). "Signal is not input to TERMINAL FC of the ECU"
- * Placing the shift lever to positions except "D" position (Park/Neutral position SW except "D" position) (A/T), depressing the brake pedal (Stop light SW on) (M/T). "Signal input to TERMINAL STP of the ECU"
- * Pushing the CANCEL SW (CANCEL SW on). "Signal input to TERMINAL CCS of the ECU"
- * Pushing the CRUISE SW off "signal input to TERMINAL CCS of the ECU".

7. Tap-Up Control Function

When the difference between the actual vehicle speed and the set speed is less than 5 km/h (3 mph), the set speed can be increased 1.6 km/h (1 mph) each time by operating the RES/ACC SW quickly within 0.5 seconds.

8. Tap-Down Control Function

When the difference between the actual vehicle speed and the set speed is less than 5 km/h (3 mph), the set speed can be lowered 1.6 km/h (1 mph) each time by operating the SET COAST SW quickly within 0.5 seconds.

9. Auto Cancel Function

A) If any of the following operating conditions occurs during cruise control operation, the set speed is erased and the cruise control is released, (CRUISE SW turns off).

When this occurs, the ignition SW must be turned off once before the CRUISE SW will turn on.

- * When abnormality is found in the stop light SW input circuit.
- * When abnormality is found in the cancel circuit.

B) If any of the following operating conditions occurs during cruise control operation, the set speed is erased and the cruise control is released. (CRUISE SW turn off).

When this occurs, the cancel state is cleared as the CRUISE SW will turn on again.

- * When abnormality is found in electronic throttle parts.
- * Open circuit in the stop light SW.
- * Momentary interruption of vehicle speed signal.
- * Short circuit in the stop light SW.

C) If any of the following conditions occurs during cruise control operation, the set speed is erased and the cruise control is released. (The power to the magnetic clutch is cut off until the SET SW is "ON" again.)

- * When power to the cruise control system is momentarily cut off.

10. Overdrive Control Function

The overdrive control may be cancelled if the vehicle travels on the slope during cruise control travelling. After the overdrive control has been cancelled it is decided that the slope is finished, the vehicle returns to the overdrive control mode again.

: Parts Location

Code	See Page	Code	See Page	Code	See Page
A2	32 (1ZZ-FE)	E5	C	36	J7
C9	36	E6	D	36	S1
C10	36	I10		37	
C13	36	J2	A	37	S9
D1	36	J3	B	37	T6
E3	A	J4	A	37	V1
E4	B	J5	B	37	

: 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)
3B	28	Instrument Panel Wire and RH J/B (Right Side of the Instrument Panel Reinforcement)
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	42 (1ZZ-FE)	Engine Wire and Engine Room Main Wire (Inside of the Engine Room R/B)
IA2	44	Engine Room Main Wire and Instrument Panel Wire (Left Side of the Instrument Panel Reinforcement)
IA4		
IA5		
IA6		
IA7		
II1	45	Engine Wire and Instrument Panel Wire (Blower Unit RH)
II2		

: Ground Points

Code	See Page	Ground Points Location
EB	42 (1ZZ-FE)	Left Side of the Cylinder Head
EC		
ED	42 (1ZZ-FE)	Front Left Suspension Tower
IG	44	Right Kick Panel