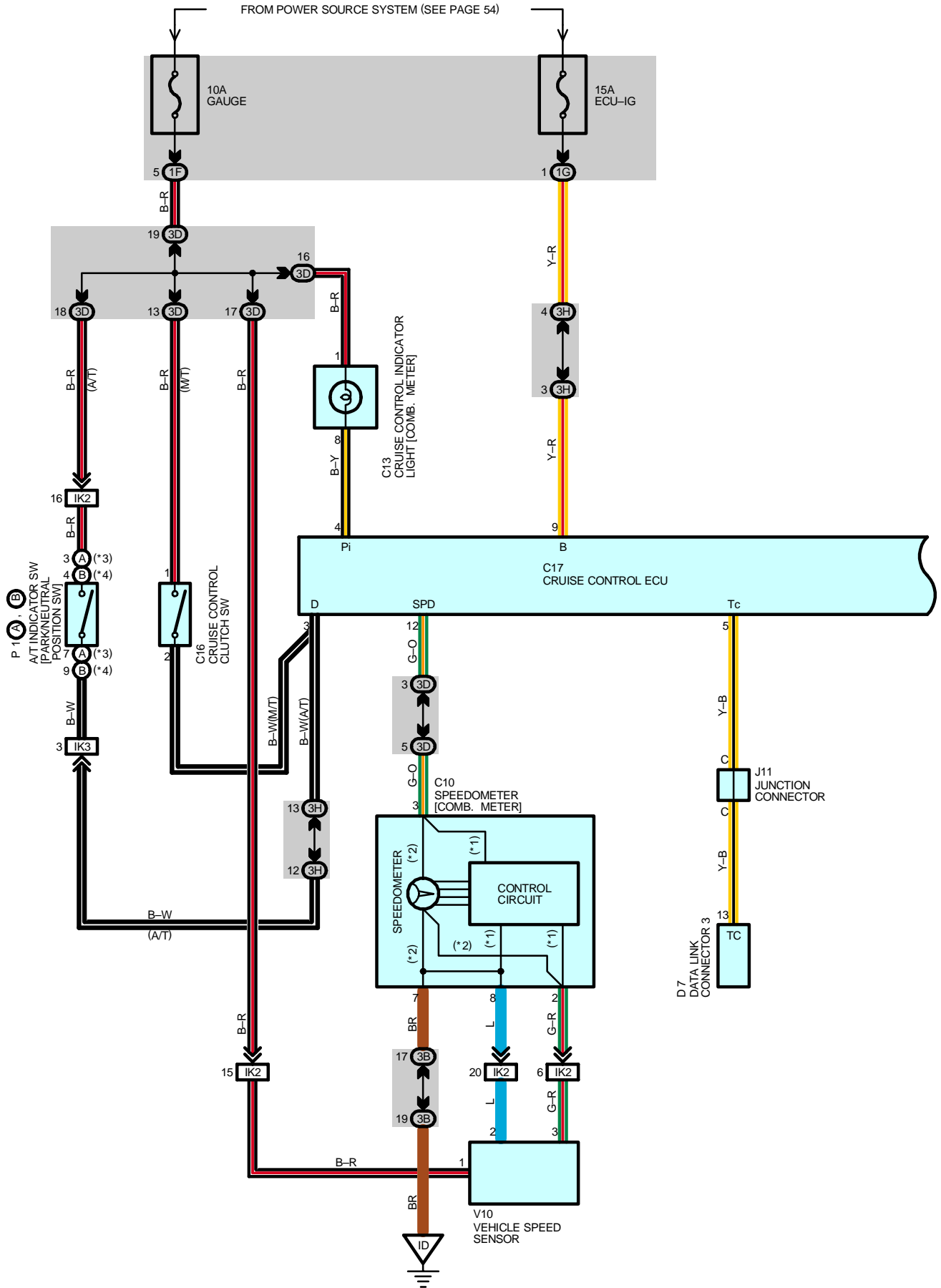
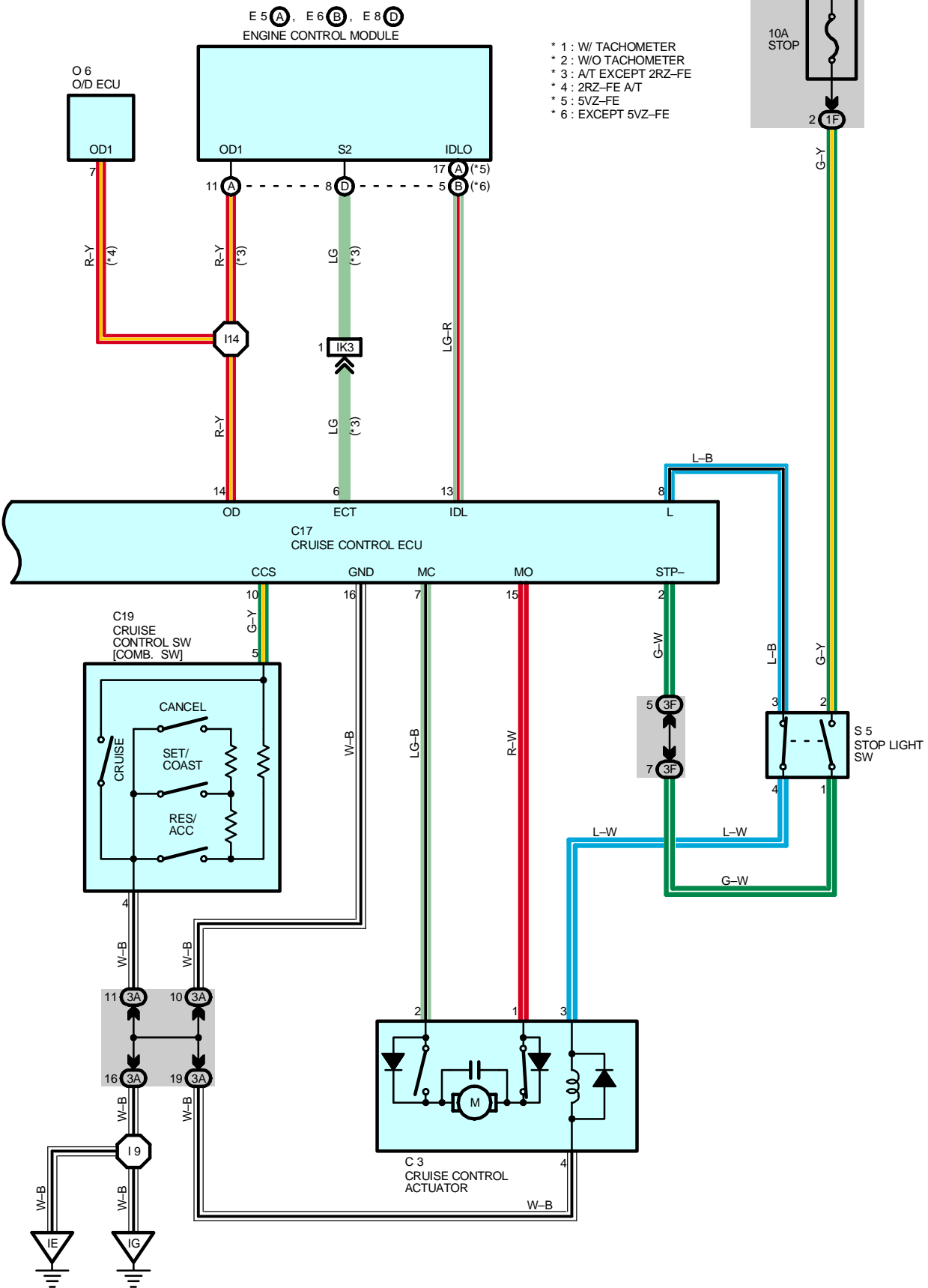


# CRUISE CONTROL (5VZ-FE 2WD M/T, 3RZ-FE AND 2RZ-FE)



FROM POWER SOURCE SYSTEM (SEE PAGE 54)

- \* 1 : W/ TACHOMETER
- \* 2 : W/O TACHOMETER
- \* 3 : A/T EXCEPT 2RZ-FE
- \* 4 : 2RZ-FE A/T
- \* 5 : 5VZ-FE
- \* 6 : EXCEPT 5VZ-FE



# CRUISE CONTROL (5VZ-FE 2WD M/T, 3RZ-FE AND 2RZ-FE)

## SYSTEM OUTLINE

With the ignition SW turned to on, current flows from GAUGE fuse to TERMINAL 1 of the cruise control indicator light and from ECU-IG fuse to TERMINAL B of the cruise control ECU. When the ignition SW is on and the cruise control SW is turned on, a signal is input from TERMINAL 5 of the cruise control SW to TERMINAL CCS of the cruise control ECU. As a result, the cruise control ECU functions and the current to TERMINAL B of the cruise control ECU flows to TERMINAL GND to GROUND, and the cruise control system is ready for operation.

At the same time, the current from the GAUGE fuse flows to TERMINAL 1 of the cruise control indicator light to TERMINAL 8 to TERMINAL Pi of the cruise control ECU to TERMINAL GND to GROUND, causing the cruise control indicator light to light up, indicating that the cruise control is ready for operation.

### 1. SET OPERATION

When the cruise control main 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 cruise control ECU 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 cruise control ECU from the speedometer, and controls the cruise control actuator to maintain the set speed.

When the actual vehicle speed is lower than the set speed, the ECU causes the current to the cruise control actuator to flow from TERMINAL MO of the cruise control ECU to TERMINAL 1 of the cruise control actuator to TERMINAL 2 to TERMINAL MC of the cruise control ECU. As a result, the motor in the cruise control actuator is rotated to open the throttle valve and the throttle cable is pulled to increase the vehicle speed.

When the actual vehicle speed is higher than the set speed, the current to the cruise control actuator flows from TERMINAL MC of the ECU to TERMINAL 2 of the cruise control actuator to TERMINAL 1 to TERMINAL MO of the cruise control ECU. This causes the motor in the cruise control actuator to rotate to close the throttle valve and return the throttle cable to decrease the vehicle speed.

### 3. COAST CONTROL

During cruise control driving, while the coast SW is on, the cruise control actuator returns the throttle cable 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 accel SW is turned on, the cruise control actuator pulls the throttle cable to open the throttle valve and increase the driving speed.

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

### 5. RESUME CONTROL

Unless the vehicle speed falls below the minimum speed limit (Approx. 45 km/h, 25 mph) after canceling the set speed by the cancel SW, pushing the resume SW will cause the vehicle to resume the vehicle speed set before cancellation.

### 6. MANUAL CANCEL MECHANISM

If any of the following operations occurs during cruise control operation, the magnetic clutch of the actuator turns off and the motor rotates to close the throttle valve and the cruise control is released.

- \* Placing the shift lever in except D position (A/T) or cruise control clutch SW off (M/T). "A Signal is not input to TERMINAL D of the ECU"
- \* Depressing the brake pedal (Stop light SW on). "A Signal is input to TERMINAL STP- of the ECU"
- \* Pushing the cancel SW (Cancel SW on). "A Signal is input to TERMINAL CCS of the ECU"

## 7. AUTO CANCEL FUNCTION

A) If any of the following operating conditions occurs during cruise control operation, the set speed is erased, the current flowing to the magnetic clutch is stopped and the cruise control is released (Cruise SW turns off).

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

- \* Over current to transistor driving motor and/or magnetic clutch.
- \* Current to control the throttle valve in motor becomes always ON.
- \* Open circuit in magnetic clutch.
- \* Momentary interruption of vehicle speed signal
- \* Short circuit in cruise control SW.
- \* Motor does not operate despite the motor drive signal being output.

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

- \* When the vehicle speed falls below the minimum speed limit (approx. 40 km/h, 25 mph)
- \* When the vehicle speed falls more than 16 km/h (10 mph) below the set speed, E.G. on an upward slope.
- \* When power to the cruise control system is momentarily cut off.

C) If any of the following condition occurs during cruise control operation, the cruise control is released. But in this case, the set speed is not erased. If the vehicle speed is more than the minimum speed limit (Approx. 40 km/h, 25 mph), cruise control operation is possible using SET or RESUME on the control SW.

- \* Open circuit between TERMINAL L of the cruise control ECU and TERMINAL 3 of the stop light SW.

## SERVICE HINTS

### C17 CRUISE CONTROL ECU

16-GROUND : Always continuity

9-GROUND : Approx. 12 volts with ignition SW at **ON** position

12-GROUND : 4 pulse with 1 rotation of the rotor shaft

2-GROUND : Approx. 12 volts with brake pedal depressed (One of the cancel SW)

### C19 CRUISE CONTROL SW [COMB. SW]

5-4 : Approx. 68 Ω with RESUME/ACCEL SW on

Approx. 198 Ω with SET/COAST SW on

Approx. 418 Ω with CANCEL SW on

### C3 CRUISE CONTROL ACTUATOR

3-4 : Approx. 38.5 Ω

## ○ : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page	
C3	<a href="#">30 (5VZ-FE)</a>	D7		P1	A	<a href="#">33 (3RZ-FE)</a>
	<a href="#">32 (3RZ-FE, 2RZ-FE)</a>	E5	A		B	<a href="#">33 (2RZ-FE)</a>
C10	<a href="#">34</a>	E6	B	S5	<a href="#">35</a>	
C13	<a href="#">34</a>	E8	D	V10	<a href="#">31 (5VZ-FE)</a>	
C16	<a href="#">34</a>	J11			<a href="#">33 (3RZ-FE, 2RZ-FE)</a>	
C17	<a href="#">34</a>	O6				
C19	<a href="#">34</a>	P1	A		<a href="#">31 (5VZ-FE)</a>	

## ○ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	<a href="#">23</a>	Cowl Wire and J/B No.1 (Lower Finish Panel)
1G		
3A	<a href="#">24</a>	Cowl Wire and J/B No.3 (Behind the Instrument Panel Left)
3B		
3D		
3F		
3H	<a href="#">26</a>	Cowl Wire and J/B No.3 (Behind the Instrument Panel Center)

# CRUISE CONTROL (5VZ-FE 2WD M/T, 3RZ-FE AND 2RZ-FE)

 : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IK2	44	Engine Wire and Cowl Wire (Above the Glove Box)
IK3		

 : GROUND POINTS

Code	See Page	Ground Points Location
ID	44	Left Kick Panel
IE	44	Around the Right Edge of the Reinforcement
IG	44	Around the Left Edge of the Reinforcement

 : SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I9	44	Cowl Wire	I14	44	Cowl Wire

