SYSTEM OUTLINE

With the ignition SW turned to on, the current flows through **GAUGE** fuse to **TERMINAL (B) 5** of the cruise control indicator light. The current through **ECU–IG** fuse flows to **TERMINAL B** of the cruise control ECU. When the ignition SW is on and the cruise SW is turned on, a signal is input from **TERMINAL 5** of the cruise control SW to **TERMINAL CMS** 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 through the **GAUGE** fuse flows from **TERMINAL (B) 5** of cruise control indicator light to **TERMINAL (C) 6** 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 SW is turned on and the set SW is pushed with the vehicle speed within the set limit (Approx. **36** km/h, **23** 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 cruise control ECU as the new set speed.

2. SET SPEED CONTROL

During cruise control driving, the cruise control ECU compares the set speed memorized in the actual vehicle speed input into **TERMINAL SPD** of the cruise control ECU from the vehicle speed sensor, 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 cruise control ECU to **TERMINAL 2** of 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 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. **36** km/h, **23** 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 safety magnetic clutch of the actuator turns off and the motor rotates to close the throttle valve and the cruise control is released.

- Move the shift lever except to "**D**" range. (Park/Neutral position SW is off.) (A/T) "A signal is not input to **TERMINAL D** of the cruise control ECU."
- Pressing the clutch pedal. (Cruise control clutch SW is off.) (M/T) "A signal is not input to **TERMINAL D** of the cruise control ECU."
- Depressing the brake pedal (Stop light SW on). "A signal is input to **TERMINAL STP–** of the cruise control ECU"
- Pushing the cancel SW (Cancel SW on). "A signal is input to **TERMINAL CCS** of the cruise control ECU"

7. AUTO CANCEL FUNCTION

A) If any of the following operating conditions occurs during cruise control operation, the set speed is erased, current flow to the safety magnetic clutch is stopped and the cruise control is released. (Main SW turns off).
When this occurs, the ignition SW must be turned off once before the cruise SW will turn on.

* Over current to transistor driving motor and/or Safety magnetic clutch.
* Current to control the throttle valve in motor becomes always ”ON”.
* Open circuit in safety 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.

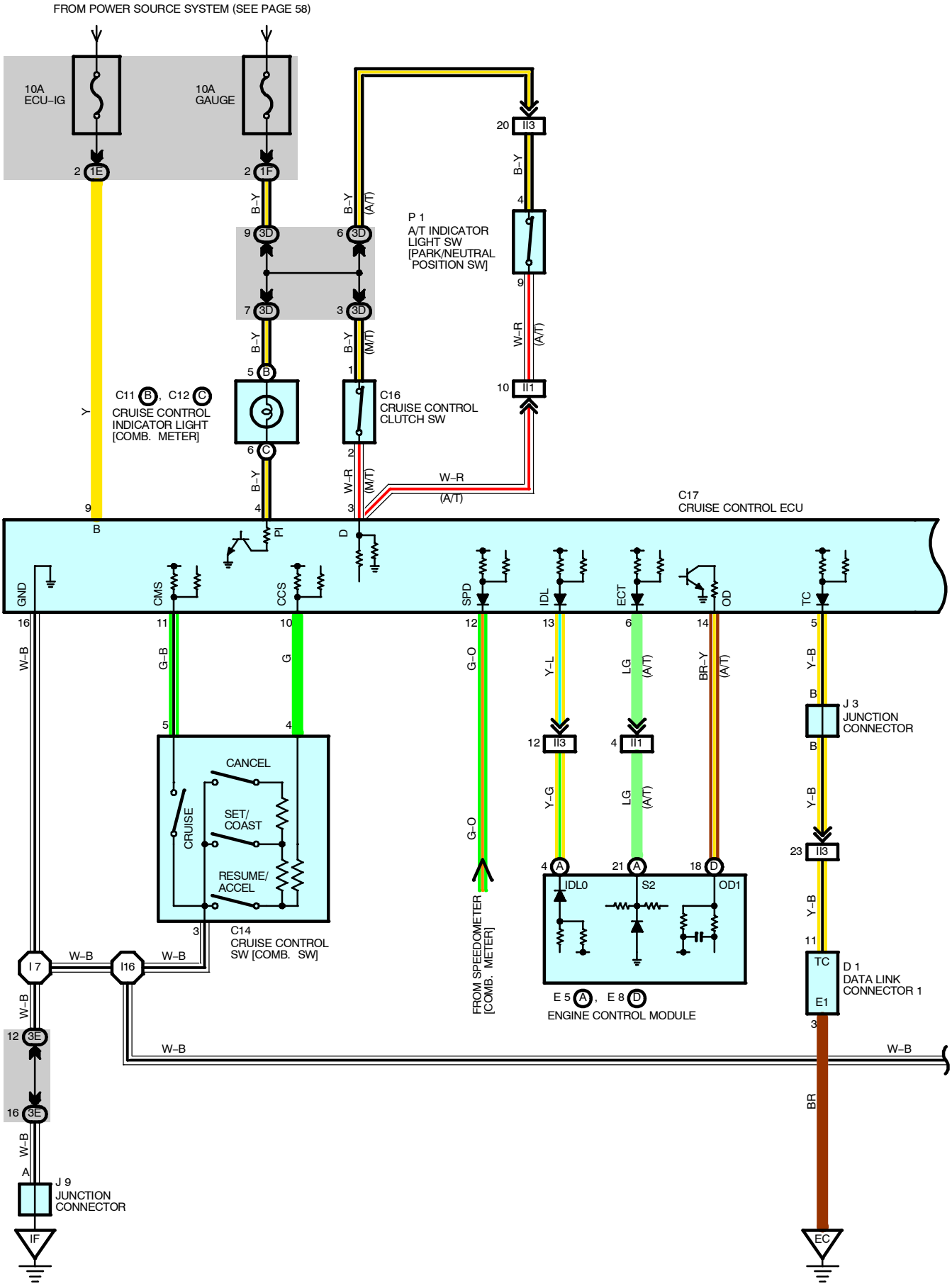
C) If any of the following condition occurs during cruise control operation, the cruise control is released. But in this case, the set speed is not erased. If the vehicle speed is more than the minimum speed limit (Approx. **40** km/h **25** mph), cruise control operation is possible using ”SET” or ”RESUME”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

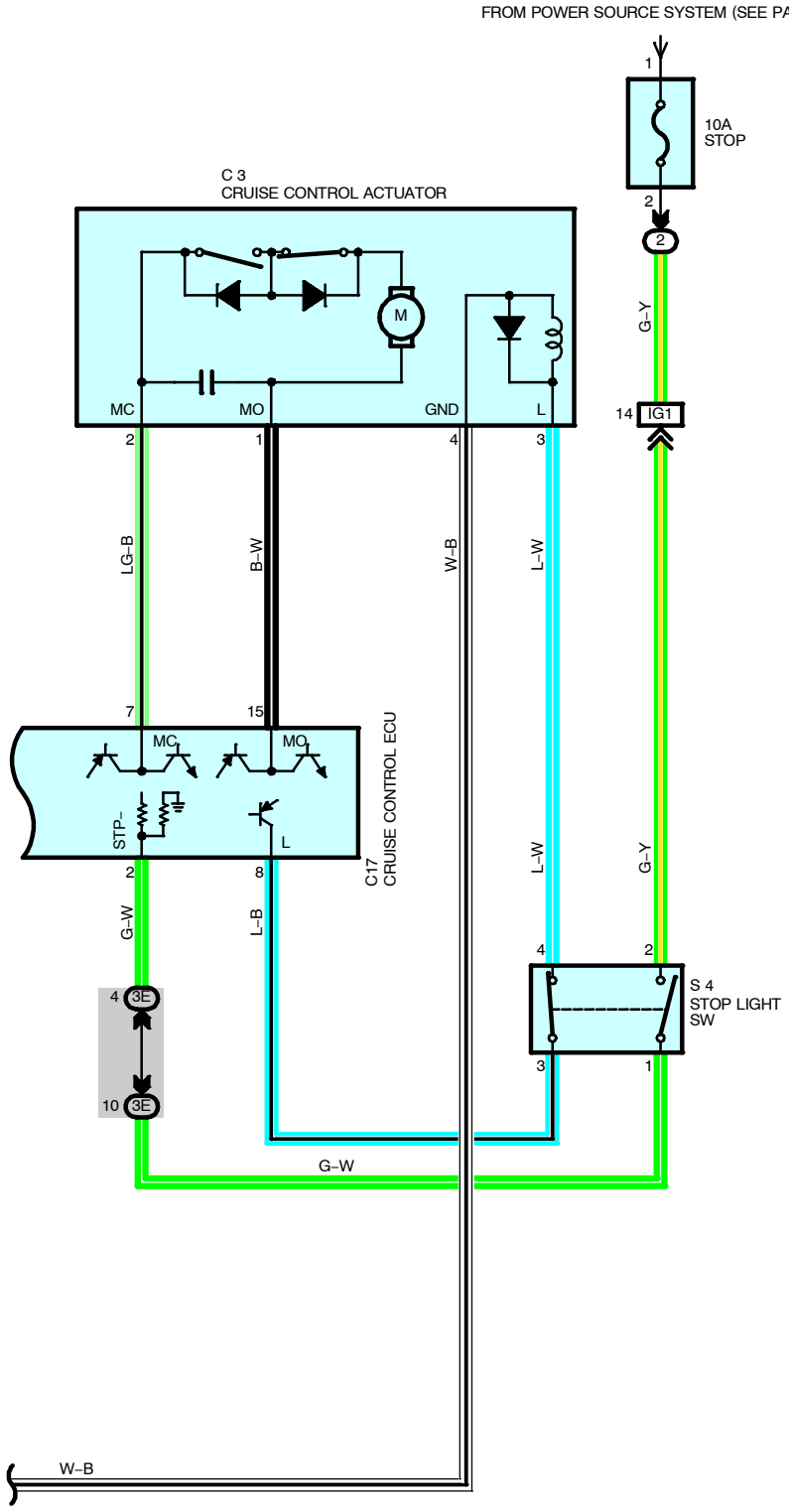
* Open circuit for **TERMINAL L** of the cruise control ECU and **TERMINAL 3** of the stop light SW.

8. AUTOMATIC TRANSMISSION CONTROL FUNCTION

* In overdrive, if the vehicle speed becomes lower than overdrive cut speed (Set speed minus approx. **4** km/h, **2.5** mph) during cruise control operation, such as driving up a hill, the overdrive is released and the power increased to prevent a reduction in vehicle speed.
* After releasing the overdrive, vehicle speed becomes higher than the overdrive return speed (Set speed minimum **2** km/h, **1.2** mph), the ECU judges by the signals from potentiometer of the actuator that the upward slope has finished, and overdrive is resumed after approximately **6** seconds.

CRUISE CONTROL (3RZ–FE)




FROM POWER SOURCE SYSTEM (SEE PAGE 58)
1
10A
STOP
2
C 3
CRUISE CONTROL ACTUATOR
2
G–Y
M
MC
MO
GND
L
14
IG1
2
1
4
3
LG–B
B–W
W–B
L–W
7
15
MC
MO
STP–
L
C17
CRUISE CONTROL ECU
2
8
L–W
G–Y
G–W
L–B
4
2
S 4
STOP LIGHT
SW
4
3E
10
3E
3
1
G–W
W–B

CRUISE CONTROL (3RZ–FE)

SERVICE HINTS

C17 CRUISE CONTROL ECU

16–GROUND : Always continuity
12–GROUND : **4** pulse with **1** rotation of the rotor shaft
2–GROUND : Approx. **12** volts with brake pedal depressed
9–GROUND : Approx. **12** volts with ignition SW at **ON** position
10–GROUND : Approx. **68** Ω with RESUME/ACCEL SW on in cruise control SW
Approx. **198** Ω with SET/COAST SW on in cruise control SW
Approx. **418** Ω with CANCEL SW on in cruise control SW

C14 CRUISE CONTROL SW [COMB. SW]

5–3 : Closed with CRUISE SW on
4–3: 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	28 (3RZ–FE)	C17	30	J9	31
C11 B	30	D1	28 (3RZ–FE)	P1	29 (3RZ–FE)
C12 C	30	E5 A	31	S4	31
C14	30	E8 D	31		
C16	30	J3	31		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	20 (USA) 21 (Canada)	Engine Room R/B (Engine Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E 1F	22	Cowl Wire and Driver Side J/B (Lower Finish Panel)
3D 3E	24	Cowl Wire and Center J/B (Near the Steering Column Tube)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IG1	40	Engine Room Main Wire and Cowl Wire (Left Kick Panel)
II1 II3	40	Engine Wire and Cowl Wire (On the Glove Box)

: GROUND POINTS

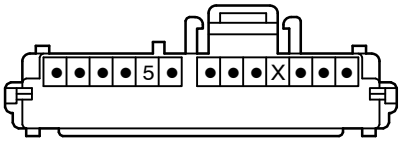
Code	See Page	Ground Points Location
EC	38 (3RZ–FE)	Intake Manifold
IF	40	Cowl Side Panel RH

: SPLICE POINTS

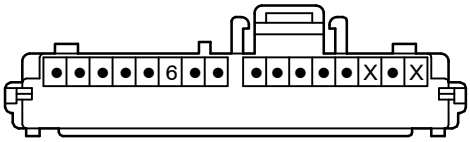
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I7	40	Cowl Wire	I16	40	Cowl Wire

C3 BLACK

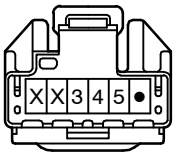
C11 (B) BLUE



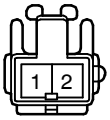
C12 (C)



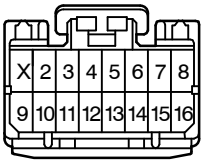
C14 BLACK



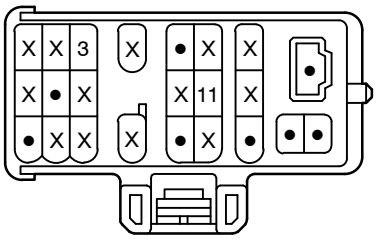
C16



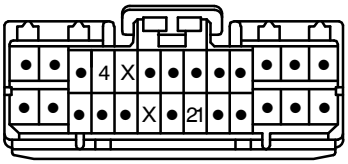
C17



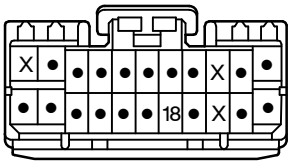
D1 BLACK



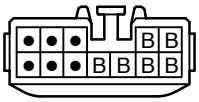
E5 (A)



E8 (D)

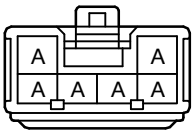


J3



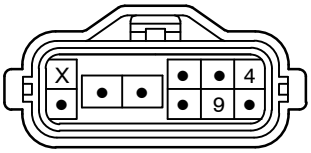
(Hint : See Page 7)

J9



(Hint : See Page 7)

P1 GRAY



S4