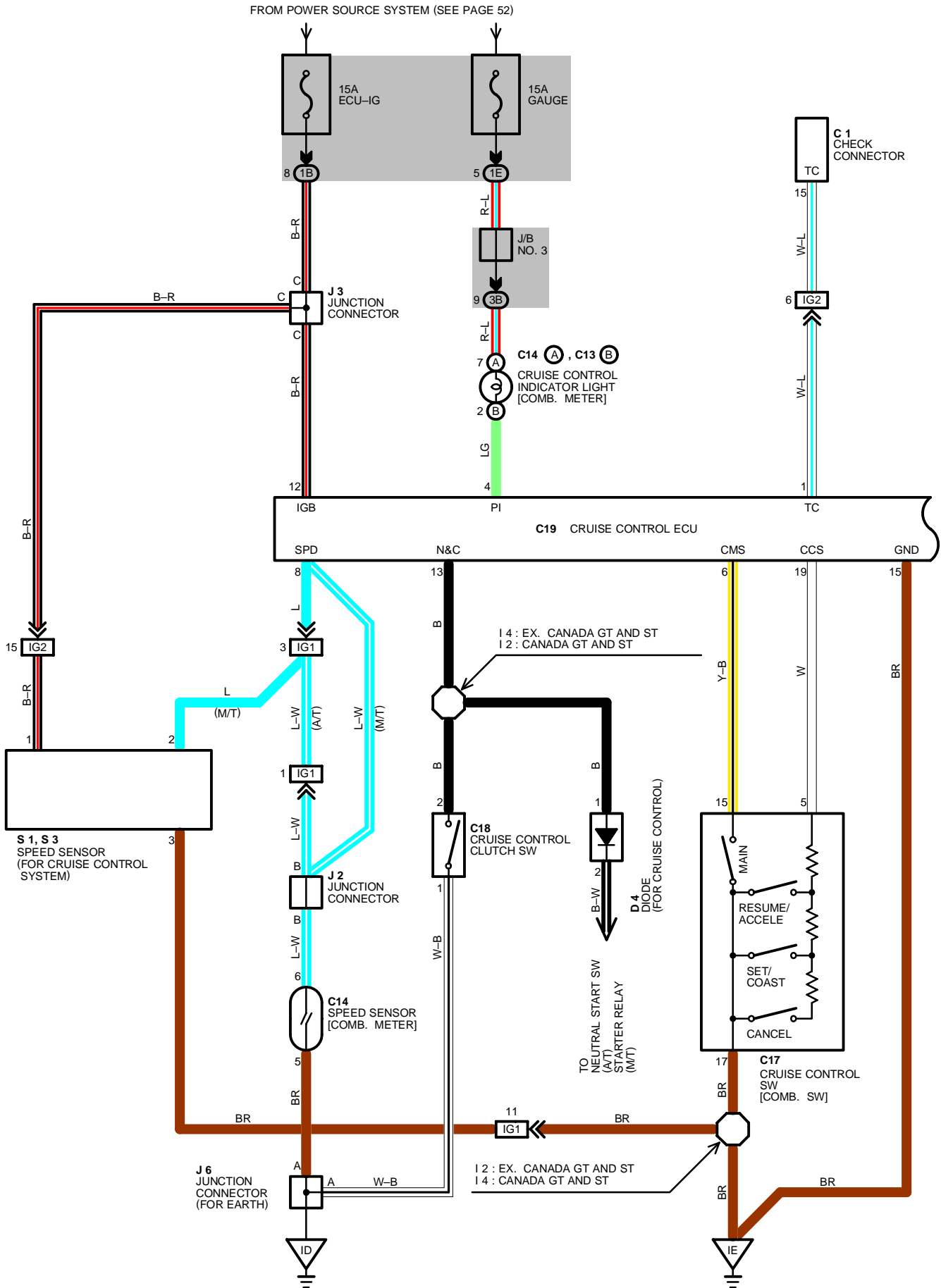
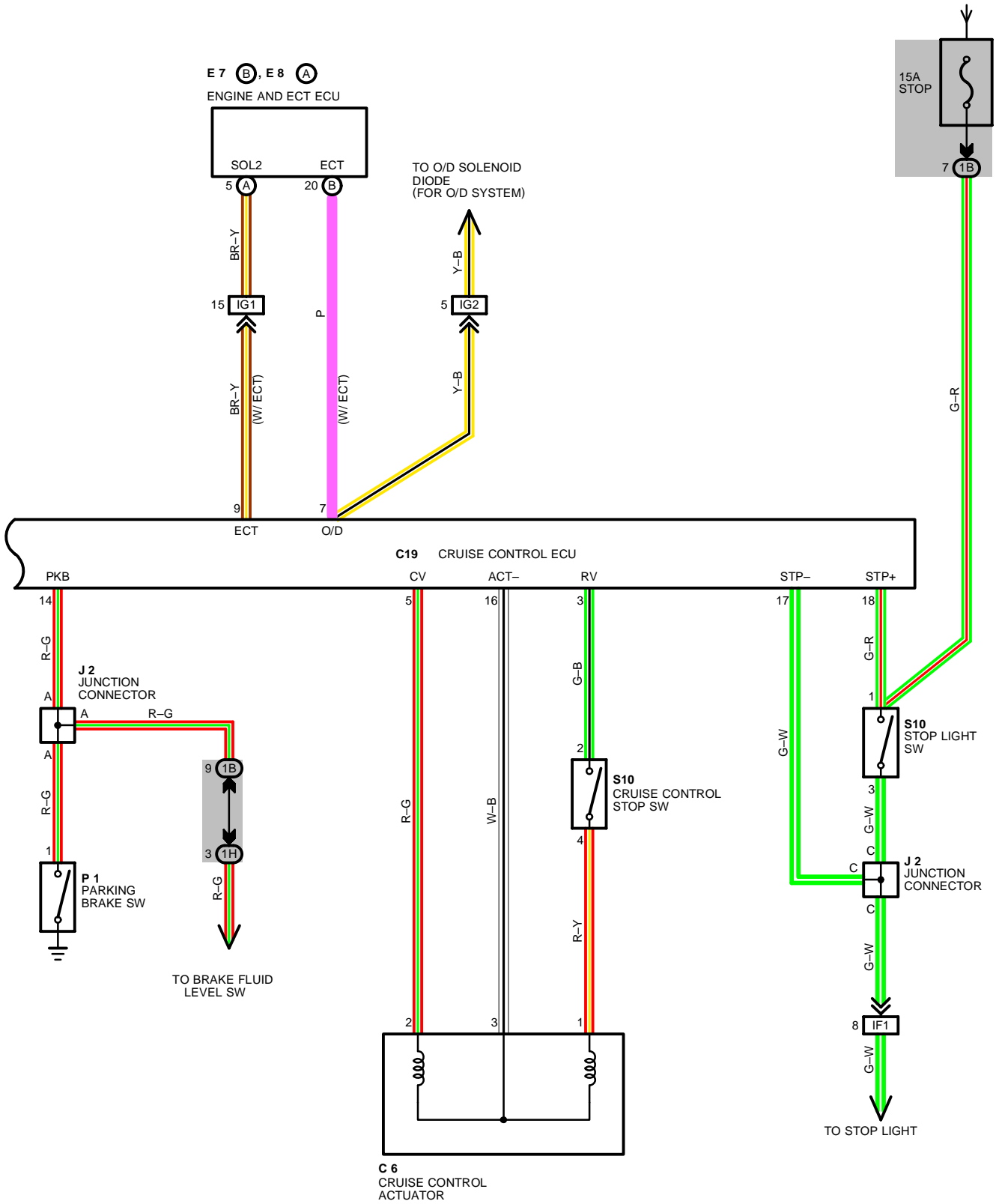


# CRUISE CONTROL (VACUUM TYPE)





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## SYSTEM OUTLINE

CURRENT IS APPLIED AT ALL TIMES THROUGH STOP FUSE TO **TERMINAL 18** OF THE CRUISE CONTROL ECU AND **TERMINAL 1** OF THE STOP LIGHT SW.

WITH THE IGNITION SW TURNED TO ON, THE CURRENT FLOWS THROUGH GAUGE FUSE TO **TERMINAL (A) 7** OF THE COMBINATION METER AND THE CURRENT THROUGH ECU-IG FUSE FLOWS TO **TERMINAL 12** OF THE CRUISE CONTROL ECU.

WHEN THE IGNITION SW IS ON AND THE CRUISE CONTROL MAIN SW IS TURNED ON, A SIGNAL IS INPUT FROM **TERMINAL 15** OF THE CRUISE CONTROL MAIN SW TO **TERMINAL 6** OF THE CRUISE CONTROL ECU. AS A RESULT, THE CRUISE CONTROL ECU FUNCTIONS AND THE CURRENT TO **TERMINAL 12** OF THE CRUISE CONTROL ECU FLOWS TO **TERMINAL 15** OF THE CRUISE CONTROL ECU → **GROUND**, AND THE CRUISE CONTROL SYSTEM IS IN A CONDITION READY FOR OPERATION.

AT THE SAME TIME, THE CURRENT THROUGH GAUGE FUSE FLOWS FROM **TERMINAL (A) 7** → **TERMINAL (B) 2** → **TERMINAL 4** OF CRUISE CONTROL ECU → **TERMINAL 15** → TO **GROUND** AND CAUSING THE CRUISE CONTROL INDICATOR LIGHT TO LIMIT UP IN ORDER TO NOTE THE CRUISE CONTROL CAN START UP.

### 1. CRUISE CONTROL DRIVING

WHEN THE MAIN SW IS TURNED TO ON AND THE SET SW IS PUSHED IN WITH THE VEHICLE SPEED WITHIN THE SET LIMIT (APPROX. 40KM/H, 25MPH TO 200KM/H, 124MPH), A SIGNAL IS INPUT TO **TERMINAL 19** OF THE ECU AND THE VEHICLE SPEED AT THAT TIME IS RECORDED IN THE ECU MEMORY AS THE SET SPEED.

THE ECU COMPARES THE RECORDED SET SPEED WITH THE ACTUAL VEHICLE SPEED INPUT INTO **TERMINAL 8** FROM THE SPEED SENSOR AND CONTROLS THE CRUISE CONTROL ACTUATOR IN ORDER TO MAINTAIN THE SET VEHICLE SPEED.

WHEN THE ACTUAL VEHICLE SPEED IS LOWER THAN THE SET SPEED, ECU OPERATION LENGTHENS THE PERIOD OF CURRENT FLOW FROM **TERMINAL 5** OF THE ECU → **TERMINAL 2** OF THE ACTUATOR → THE CONTROL VALVE → **TERMINAL 3** → **TERMINAL 16** OF THE ECU, THE CABLE IS PULLED IN THE DIRECTION FOR OPENING THROTTLE VALVE AND THE VEHICLE SPEED INCREASES.

WHEN THE ACTUAL VEHICLE SPEED IS HIGHER THAN THE SET SPEED, A SHORTER PERIOD OF CURRENT FLOW TO THE CONTROL VALVE RETURNS THE CABLE IN THE DIRECTION FOR CLOSING THE THROTTLE VALVE AND THE VEHICLE SPEED DECREASES.

(ACTUATOR OPERATION)

WHEN THE CRUISE CONTROL SYSTEM OPERATES (THE SET SIGNAL IS INPUT), CURRENT FLOWS FROM THE ECU TO THE RELEASE VALVE, CLOSING THE ATMOSPHERIC INTAKE PORT.

WHEN THERE IS CONTINUITY TO THE CONTROL VALVE, VACUUM IS INTRODUCED INSIDE THE ACTUATOR, AND WHEN THERE IS NO CONTINUITY, VACUUM INTAKE STOPS AND ATMOSPHERE IS INTRODUCED. IN OTHER WORDS, THE ACTUATOR (THROTTLE VALVE) IS CONTROLLED BY CHANGING THE RATIO OF CONTINUITY AND NON-CONTINUITY TO THE CONTROL VALVE WITHIN A SPECIFIED PERIOD OF TIME.

### 2. CANCEL MECHANISM

IF ANY OF THE FOLLOWING OPERATIONS IS PERFORMED DURING CRUISE CONTROL, THEN CONTINUITY TO THE CONTROL VALVE AND THE RELEASE VALVE IS CUT OFF AND CRUISE CONTROL IS RELEASED.

- \* DEPRESSING THE CLUTCH PEDAL (CLUTCH SW ON), SIGNAL INPUT TO **TERMINAL 13** OF THE ECU. (M/T)
- \* PLACING THE NEUTRAL START SW IN "N" RANGE (NEUTRAL START SW ON), SIGNAL INPUT TO **TERMINAL 13** OF THE ECU. (A/T)
- \* DEPRESSING THE BRAKES PEDAL (STOP LIGHT SW ON), SIGNAL INPUT TO **TERMINAL 17** OF THE ECU.
- \* PULLING THE PARKING BRAKE LEVER (PARKING BRAKE SW ON), SIGNAL INPUT TO **TERMINAL 14** OF THE ECU.

### 3. COAST CONTROL

WHILE THE COAST SW IS ON DURING CRUISE CONTROL, CURRENT FLOW TO THE CONTROL VALVE AND RELEASE VALVE IS STOPPED AND THE VEHICLE DECELERATES UNTIL THE SW IS RELEASED. THE VEHICLE SPEED WHEN THE SW IS RELEASED IS THEN RECORDED IN MEMORY.

### 4. RESUME CONTROL

BY TURNING THE RESUME SW TO ON AFTER CANCELLATION OF THE CRUISE CONTROL SYSTEMS, THE VEHICLE SPEED WILL RETURN TO THE SPEED SET BEFORE CANCELLATION. PROVIDED THAT THE VEHICLE SPEED IS WITHIN THE SET LIMITS.

### 5. ACCEL CONTROL

WHEN THE ACCEL SW IS TURNED TO ON DURING CRUISE CONTROL DRIVING, CURRENT CONTINUES TO FLOW TO THE CONTROL VALVE AND THE VEHICLE ACCELERATES. THE VEHICLE SPEED WHEN THE SW IS TURNED OFF IS RECORDED IN MEMORY.

## SERVICE HINTS

### C19 CRUISE CONTROL ECU

(DISCONNECT THE ECU CONNECTOR)

15-GROUND : ALWAYS CONTINUITY

4-GROUND : APPROX. 12 VOLTS WITH IGNITION SW AT **ON** POSITION

8-GROUND : 1 PULSE EACH 40CM, 15.75IN. (DRIVE VEHICLE SLOWLY)

6-GROUND : CONTINUITY WITH MAIN SW ON

18-GROUND : ALWAYS APPROX. 12 VOLTS

17-GROUND : APPROX. 12 VOLTS WITH BRAKE PEDAL DEPRESSED (ONE OF THE CANCEL SW)

13-GROUND : CONTINUITY WITH CLUTCH PEDAL DEPRESSED (M/T)

APPROX. 12 VOLTS WITH IGNITION SW AT **ST** POSITION AND SHIFT LEVER IN **N** OR **P** RANGE (A/T)  
(ONE OF THE CANCEL SW)

14-GROUND : CONTINUITY WITH PARKING BRAKE LEVER PULL UP, (ONE OF THE CANCEL SW) OR BRAKE LEVEL WARNING SW ON

### ○ : PARTS LOCATION

CODE	SEE PAGE	CODE	SEE PAGE	CODE	SEE PAGE
C 1	26 (5S-FE)	C19	28	J 6	29
C 6	26 (5S-FE), 27 (4A-FE)	D 4	28	P 1	29
C13	B 28	E 7	B 29	S 1	27 (4A-FE)
C14	A 28	E 8	A 29	S 3	26 (5S-FE)
C17	28	J 2	29	S10	29
C18	28	J 3	29		

### ○ : JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

CODE	SEE PAGE	JUNCTION BLOCK AND WIRE HARNESS (CONNECTOR LOCATION)
1B	18	COWL WIRE AND J/B NO.1 (LEFT KICK PANEL)
1E		
1H	18	ENGINE ROOM AND J/B NO. 1 (LEFT KICK PANEL)
3B	22	COWL WIRE AND J/B NO.3 (BEHIND COMBINATION METER)

### □ : CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

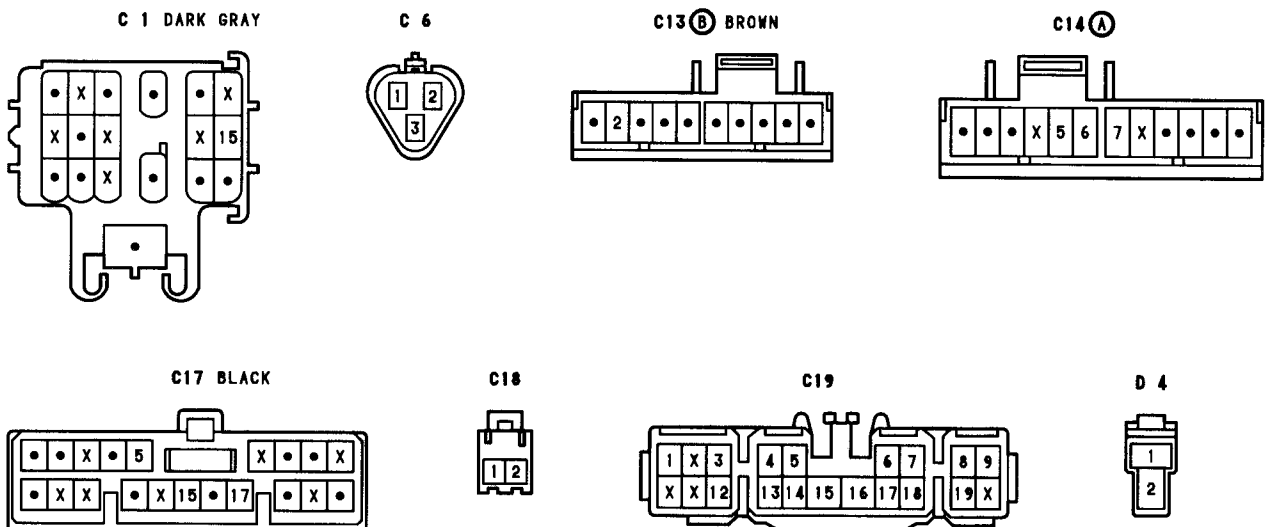
CODE	SEE PAGE	JOINING WIRE HARNESS AND WIRE HARNESS (CONNECTOR LOCATION)
IF1	36	FLOOR WIRE AND COWL WIRE (LEFT KICK PANEL)
IG1	36	ENGINE WIRE AND COWL WIRE (UNDER THE ENGINE ECU)
IG2		

### ▽ : GROUND POINTS

CODE	SEE PAGE	GROUND POINTS LOCATION
ID	36	LEFT KICK PANEL
IE	36	INSTRUMENT PANEL BRACE LH

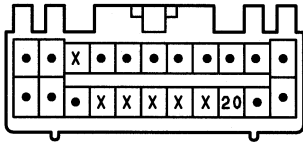
### ○ : SPLICE POINTS

CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS	CODE	SEE PAGE	WIRE HARNESS WITH SPLICE POINTS
I 2	36	COWL WIRE	I 4	36	COWL WIRE

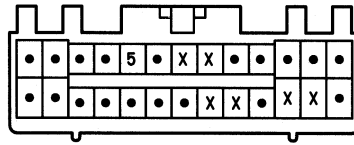


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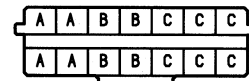
E 7 **(B)** DARK GRAY



E 8 **(A)** DARK GRAY

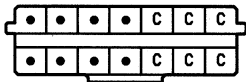


J 2



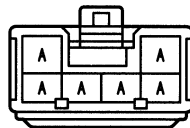
(HINT:SEE PAGE 7)

J 3



(HINT:SEE PAGE 7)

J 6



(HINT:SEE PAGE 7)

P 1 BLACK



S 1, S 3 GRAY



S10

