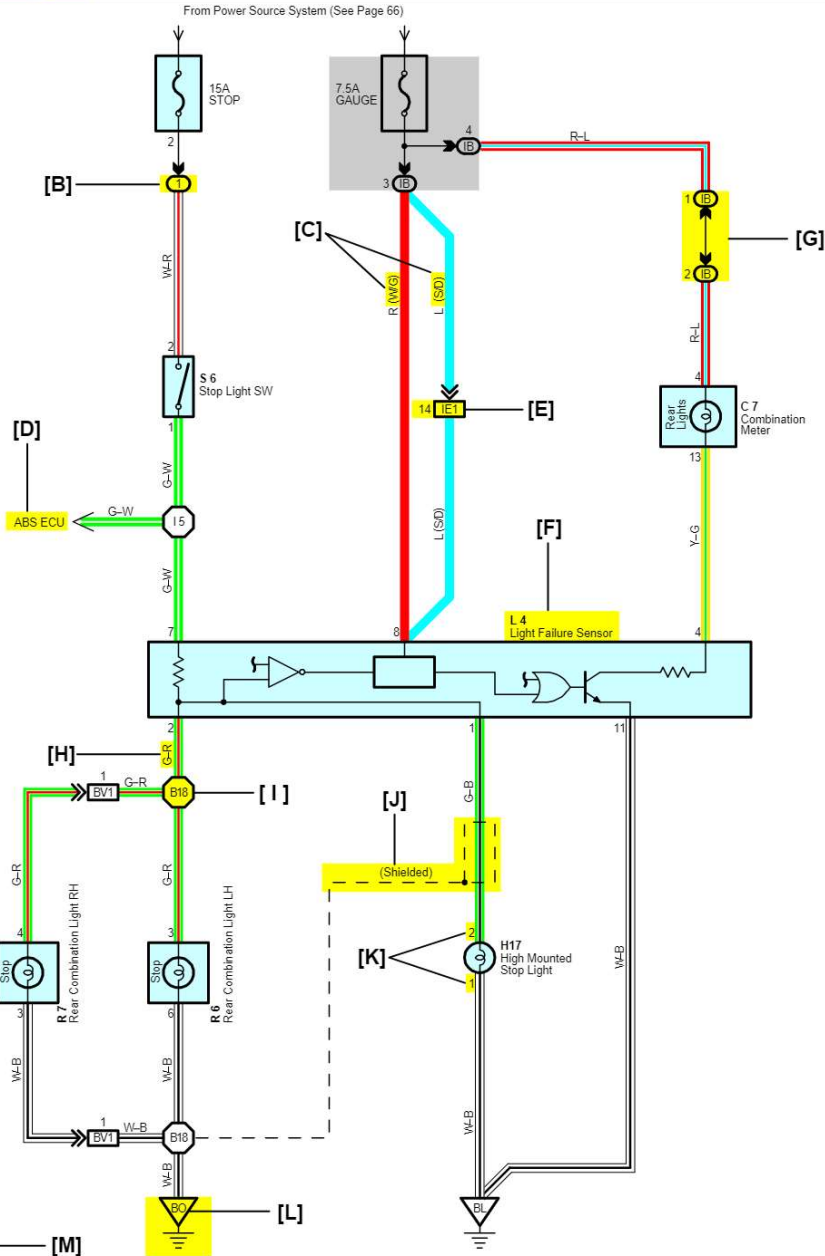


# B HOW TO USE THIS MANUAL

[A]

\* The system shown here is an EXAMPLE ONLY. It is different to the actual circuit shown in the SYSTEM CIRCUITS SECTION.

## Stop Light



4 50 [M]

## B HOW TO USE THIS MANUAL

### [N] System Outline

Current is applied at all times through the STOP fuse to TERMINAL 2 of the stop light SW. When the ignition SW is turned on, current flows from the GAUGE fuse to TERMINAL 8 of the light failure sensor, and also flows through the rear lights warning light to TERMINAL 4 of the light failure sensor.

#### Stop Light Disconnection Warning

When the ignition SW is turned on and the brake pedal is pressed (Stop light SW on), if the stop light circuit is open, the current flowing from TERMINAL 7 of the light failure sensor to TERMINALS 1, 2 changes, so the light failure sensor detects the disconnection and the warning circuit of the light failure sensor is activated.

As a result, the current flows from TERMINAL 4 of the light failure sensor to TERMINAL 11 to GROUND and turns the rear lights warning light on. By pressing the brake pedal, the current flowing to TERMINAL 8 of the light failure sensor keeps the warning circuit on and holds the warning light on until the ignition SW is turned off.

### [O] Service Hints

#### S6 Stop Light SW

2-1 : Closed with the brake pedal depressed

#### L4 Light Failure Sensor

1, 2, 7-Ground : Approx. 12 volts with the stop light SW on  
4, 8-Ground : Approx. 12 volts with the ignition SW at ON position  
11-Ground : Always continuity

### [P] ○ : Parts Location

Code	See Page	Code	See Page	Code	See Page
C7	34	L4	36	R7	37
H17	36	R6	37	S6	35

### [Q] ○ : Relay Blocks

Code	See Page	Relay Blocks (Relay Block Location)
1	18	R/B No.1 (Instrument Panel Brace LH)

### [R] ○ : Junction Block and Wire Harness Connector

Code	See Page	Junction Block and Wire Harness (Connector Location)
IB	20	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
3C	22	Instrument Panel Wire and J/B No.3 (Instrument Panel Brace LH)

### [S] □ : Connector Joining Wire Harness and Wire Harness

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IE1	42	Floor Wire and Instrument Panel Wire (Left Kick Panel)
BV1	50	Luggage Room Wire and Floor Wire (Luggage Room Left)

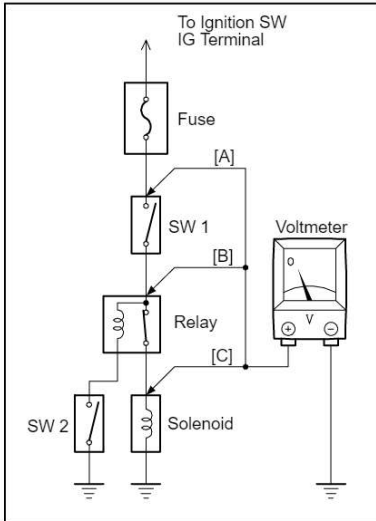
### [T] ▽ : Ground Points

Code	See Page	Ground Points Location
BL	50	Under the Left Center Pillar
BO	50	Back Panel Center

### [U] ○ : Splice Points

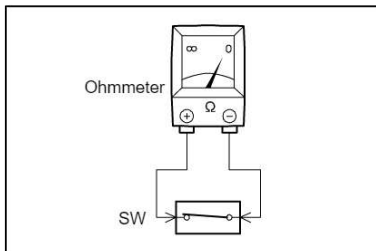
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
I5	44	Cowl Wire	B18	50	Luggage Room Wire

## C TROUBLESHOOTING



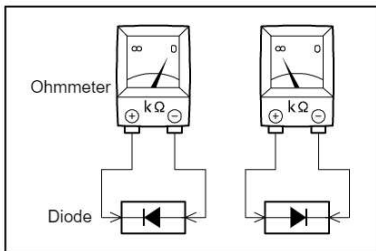
### VOLTAGE CHECK

- Establish conditions in which voltage is present at the check point.  
Example:  
[A] - Ignition SW on  
[B] - Ignition SW and SW 1 on  
[C] - Ignition SW, SW 1 and Relay on (SW 2 off)
- Using a voltmeter, connect the negative lead to a good ground point or negative battery terminal, and the positive lead to the connector or component terminal.  
This check can be done with a test light instead of a voltmeter.

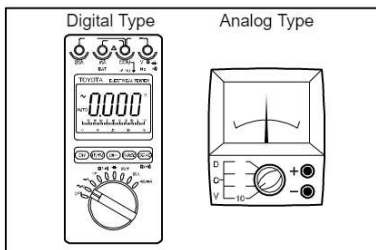


### CONTINUITY AND RESISTANCE CHECK

- Disconnect the battery terminal or wire so there is no voltage between the check points.
- Contact the two leads of an ohmmeter to each of the check points.



If the circuit has diodes, reverse the two leads and check again.  
When contacting the negative lead to the diode positive side and the positive lead to the negative side, there should be continuity.  
When contacting the two leads in reverse, there should be no continuity.

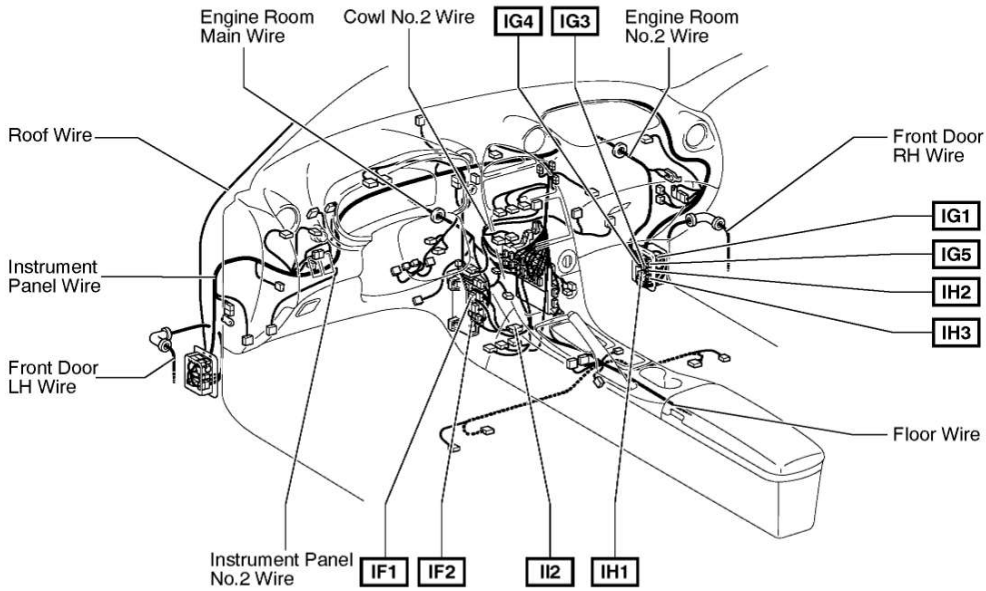


- Use a volt/ohmmeter with high impedance (10 k $\Omega$ /V minimum) for troubleshooting of the electrical circuit.

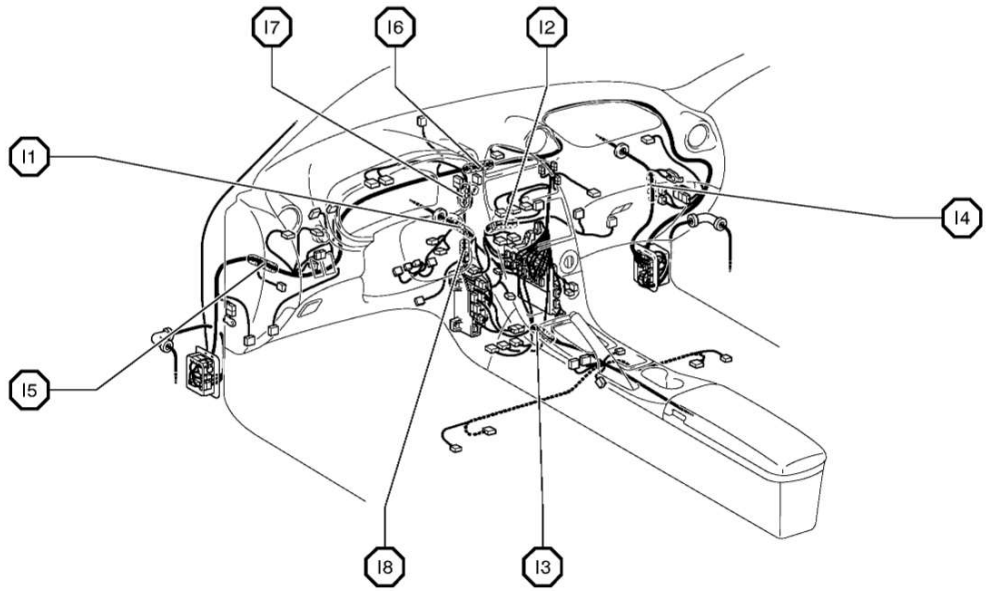


# G ELECTRICAL WIRING ROUTING

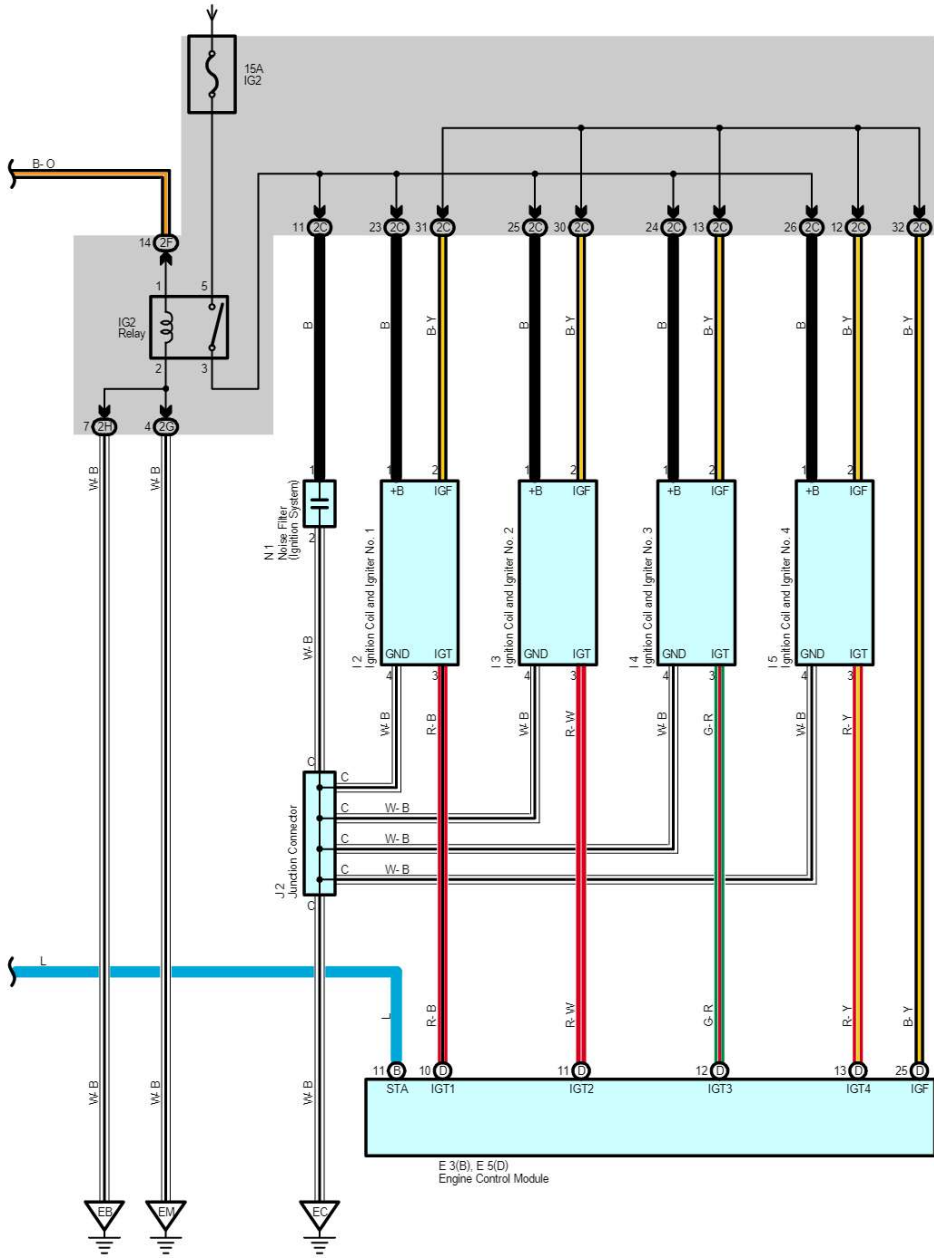
☐ : Location of Connector Joining Wire Harness and Wire Harness

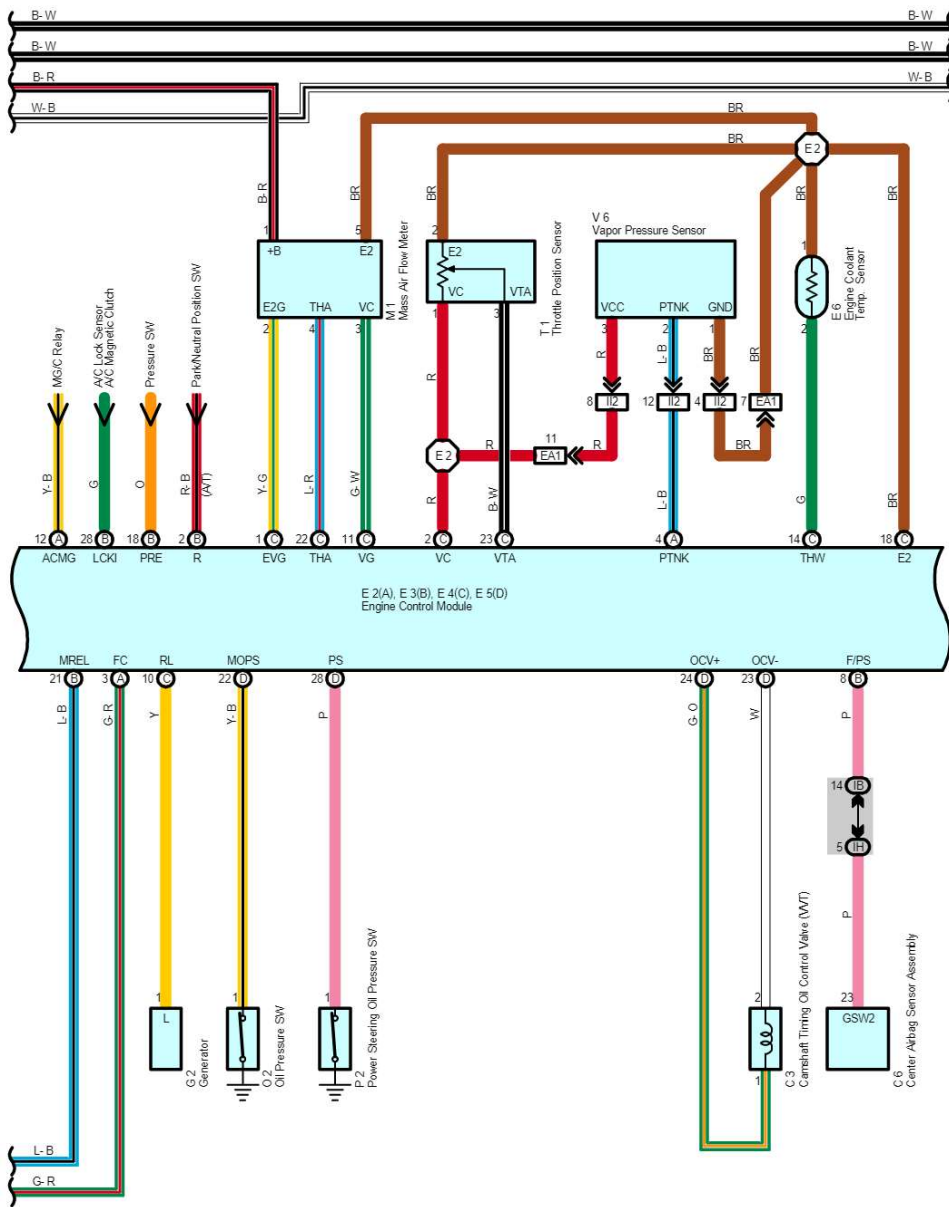


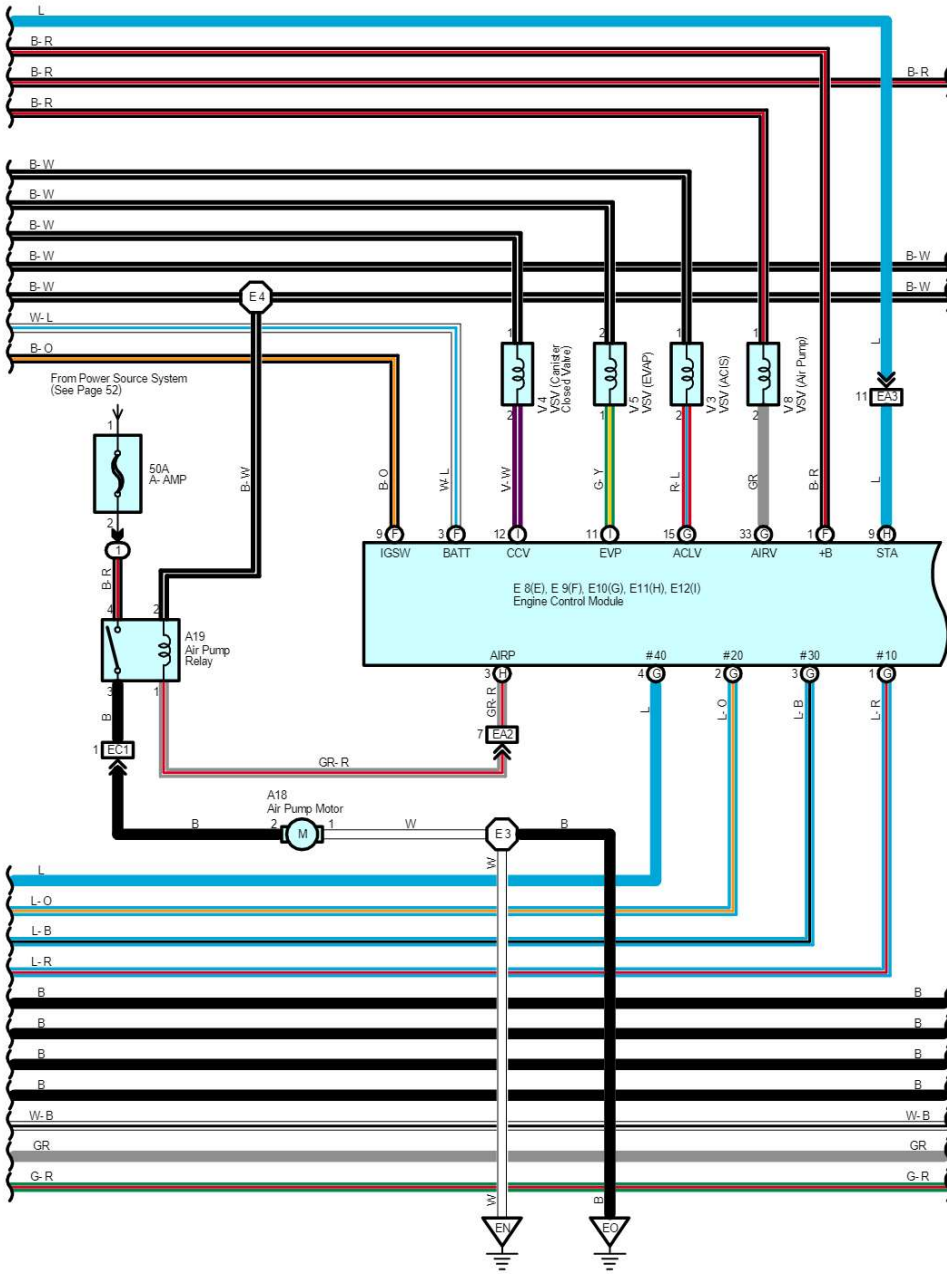
○ : Location of Splice Points



From Power Source System (See Page 52)









### System Outline

This system utilizes an engine control module and maintains overall control of the engine, transmission and so on. An outline of the engine control is explained here.

#### 1. Input Signals

##### (1) Engine coolant temp. signal circuit

The engine coolant temp. sensor detects the engine coolant temp. and has a built-in thermistor with a resistance which varies according to the engine coolant temp. The engine coolant temp. is input into TERMINAL THW of the engine control module as a control signal.

##### (2) Intake air temp. signal circuit

The intake air temp. sensor is installed in the mass air flow meter and detects the intake air temp., which is input as a control signal to TERMINAL THA of the engine control module.

##### (3) Oxygen sensor signal circuit

The oxygen density in the exhaust emission is detected and is input as a control signal from the heated oxygen sensors (Bank 1 sensor 1, bank 1 sensor 2) to TERMINALS OX1A, OX1B of the engine control module.

To stabilize detection performance by the heated oxygen sensors, the heated oxygen sensors are warmed. This heater is also controlled by the engine control module (HT1A, HT1B).

##### (4) RPM signal circuit

Camshaft position is detected by the camshaft position sensor and its signal is input to TERMINAL G2 of the engine control module as a control signal. Also, the engine RPM is detected by the crankshaft position sensor installed in the cylinder block and the signal is input into TERMINAL NE+ of the engine control module as a control signal.

##### (5) Throttle signal circuit

The throttle position sensor detects the throttle valve opening angle as a control signal, which is input into TERMINALS VTA, VTA2 of the engine control module.

##### (6) Vehicle speed circuit

The vehicle speed sensor, installed inside the transmission, detects the vehicle speed and inputs a control signal into TERMINAL SPD of the engine control module.

##### (7) A/C SW signal circuit

The operating voltage of the A/C magnetic clutch is detected and the signal is input into TERMINAL ACMG of the engine control module as a control signal.

##### (8) Battery signal circuit

Voltage is constantly applied to TERMINAL BATT of the engine control module. With the ignition SW turned on, Voltage for engine control module start-up power supply is applied to TERMINAL +B of the engine control module via the EFI relay.

##### (9) Intake air volume signal circuit

Intake air volume is detected by the mass air flow meter and the signal is input to TERMINAL VG of the engine control module as a control signal.

##### (10) Stop light SW signal circuit

The stop light SW is used to detect whether or not the vehicle is braking and the signal is input into TERMINAL STP of the engine control module as a control signal.

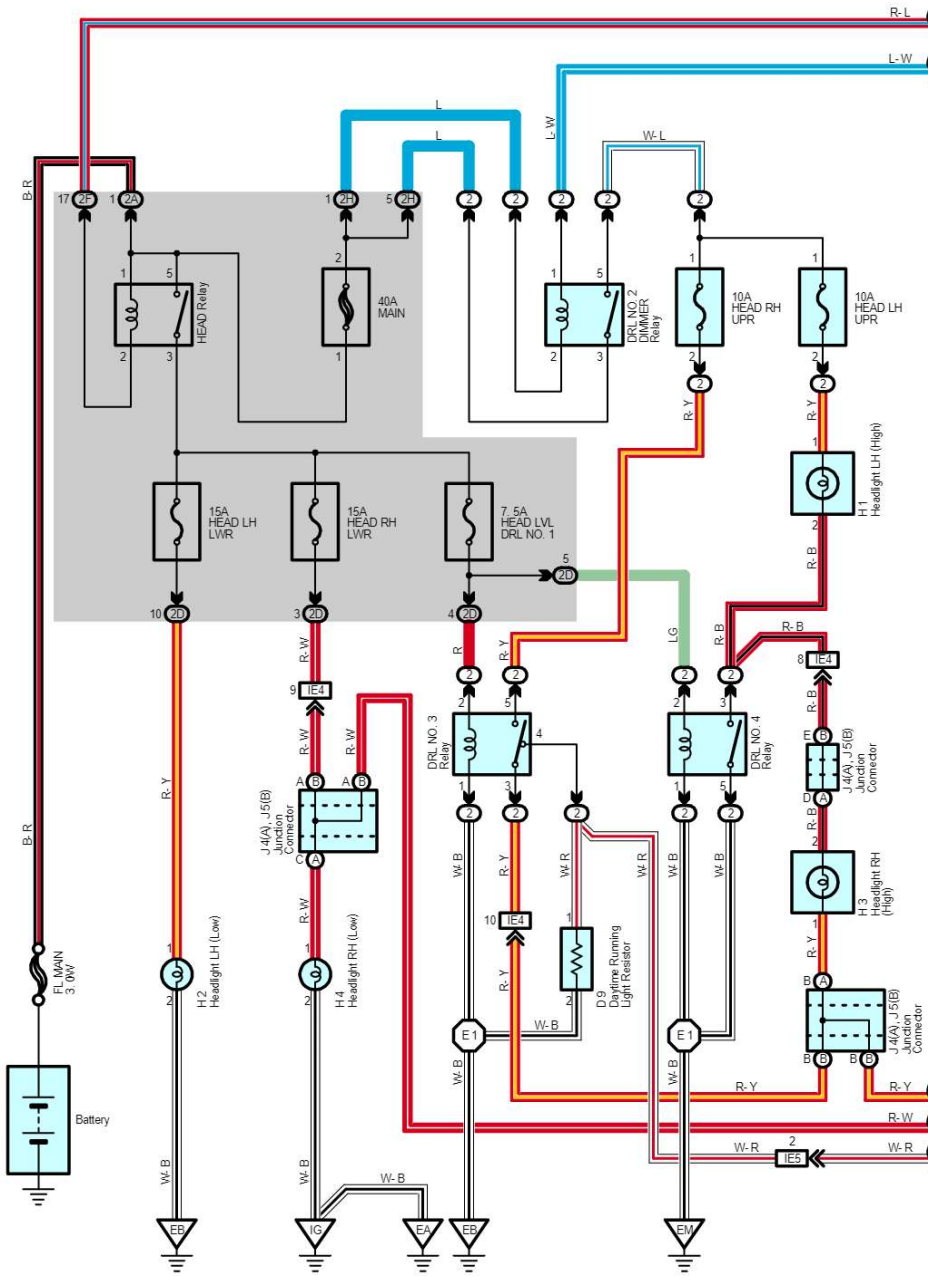
##### (11) Starter signal circuit

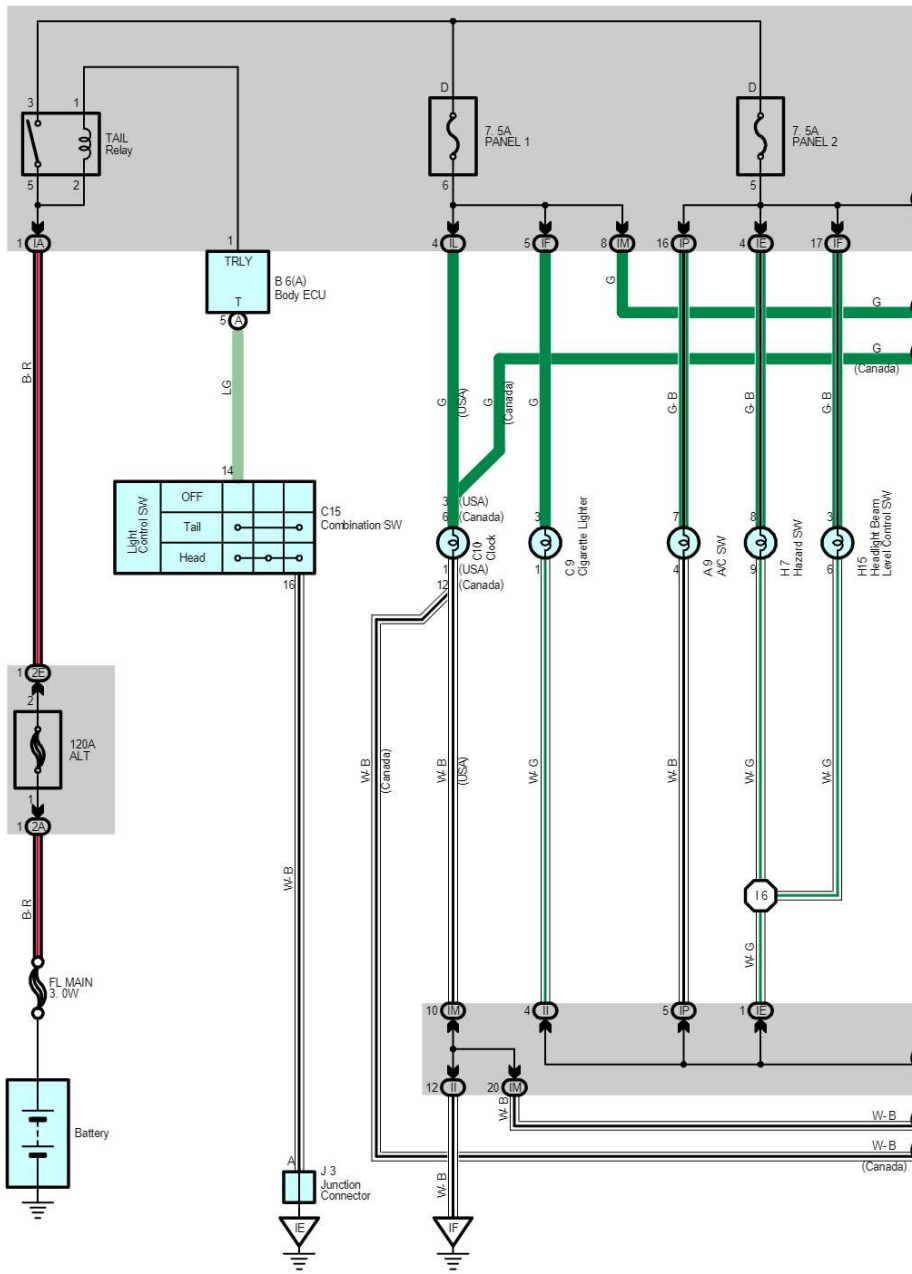
To confirm whether the engine is cranking, the voltage applied to the starter motor during cranking is detected and the signal is input into TERMINAL STA of the engine control module as a control signal.

##### (12) Engine knock signal circuit

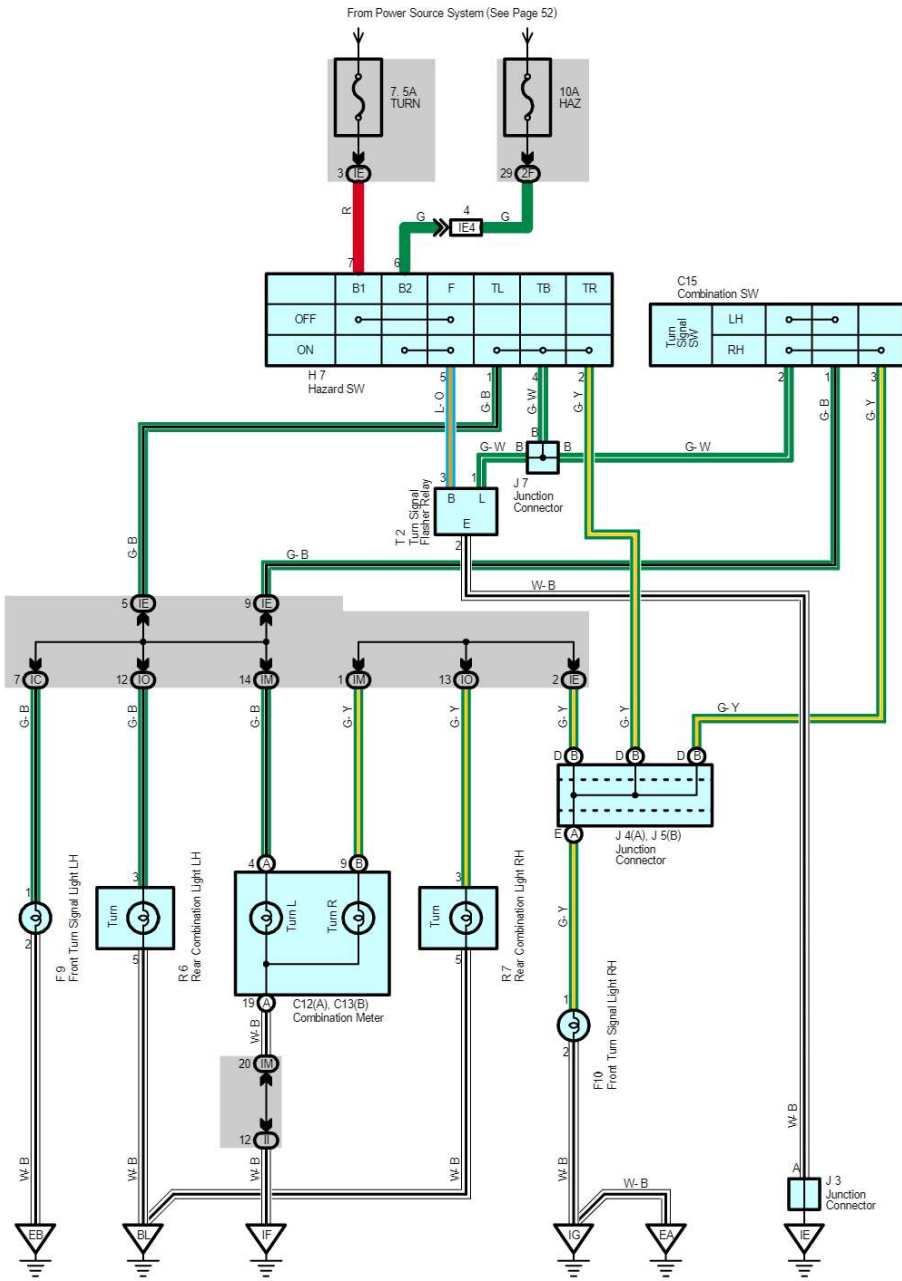
Engine knocking is detected by knock sensor (Bank 1) and the signal is input into TERMINAL KNK1 as a control signal.

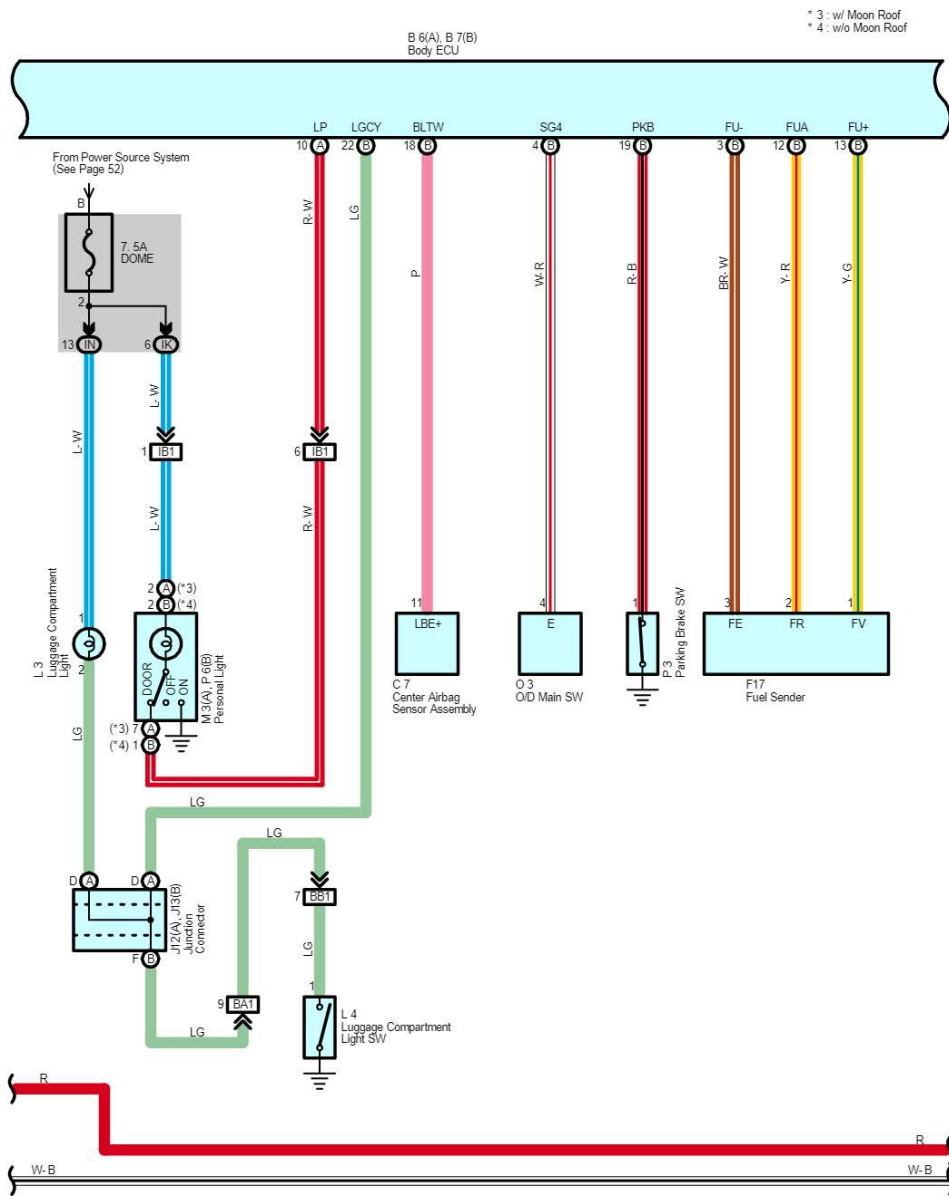
# Headlight without HID



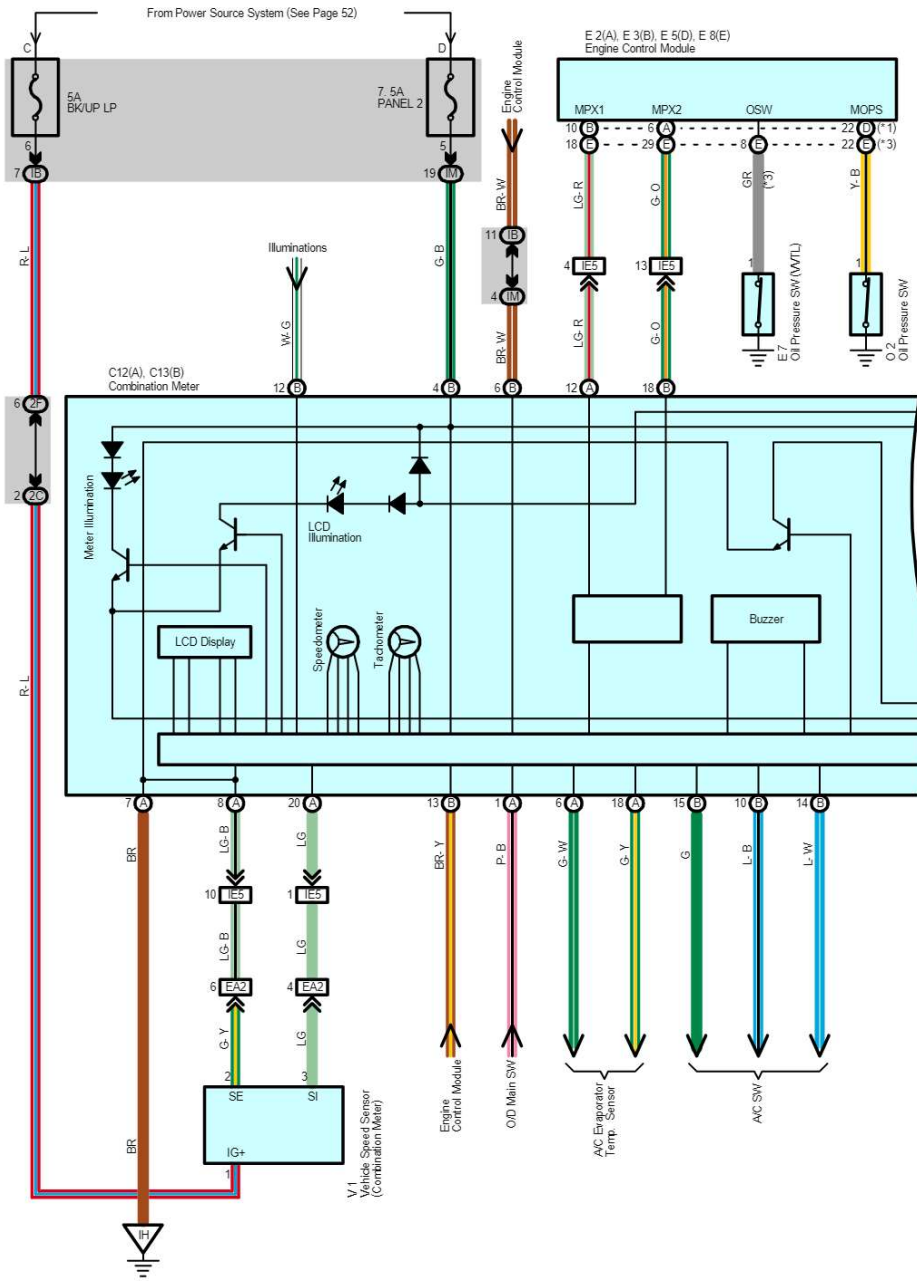


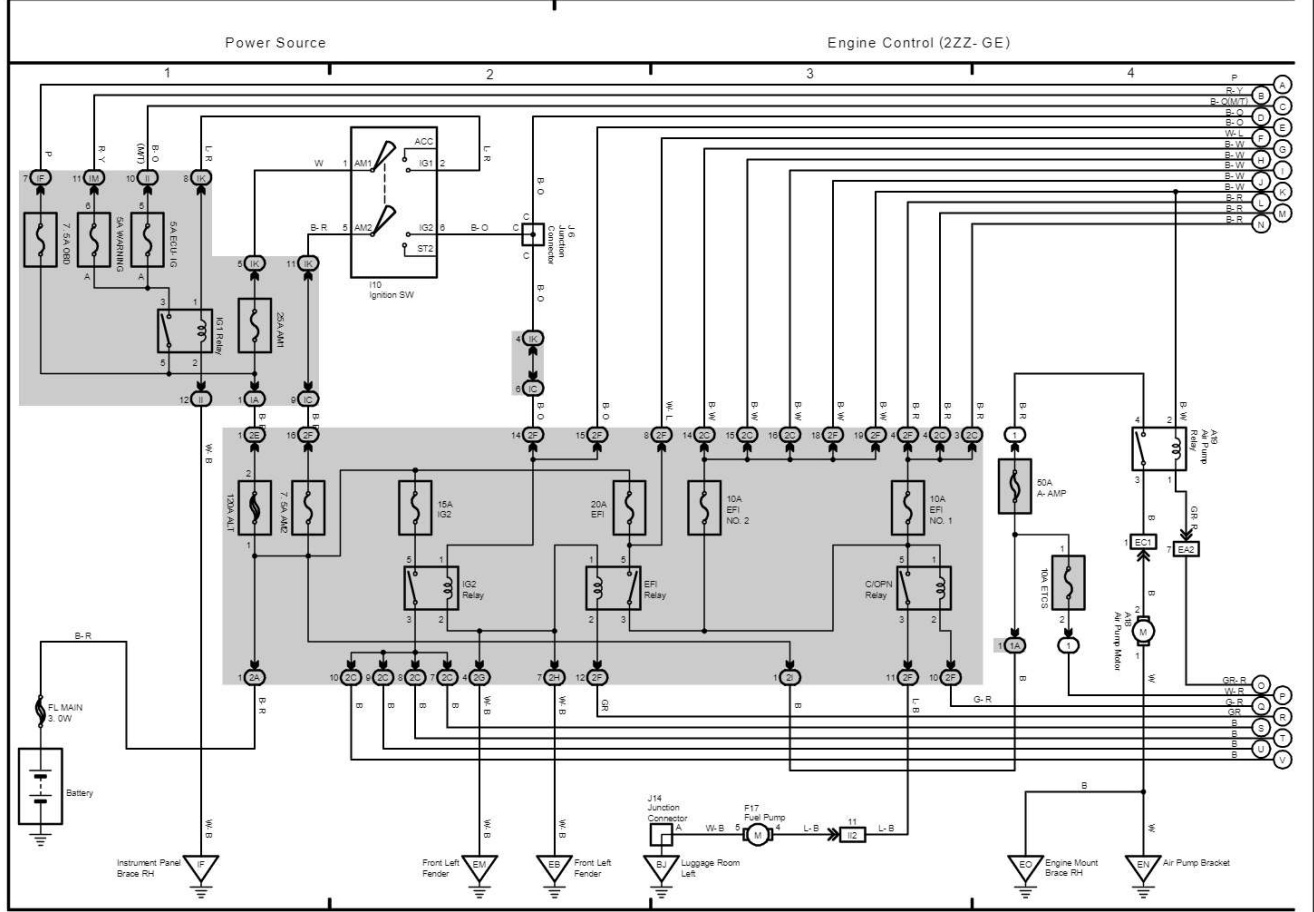
# Turn Signal and Hazard Warning Light





# Combination Meter





2005 CELICA (EMD590U)