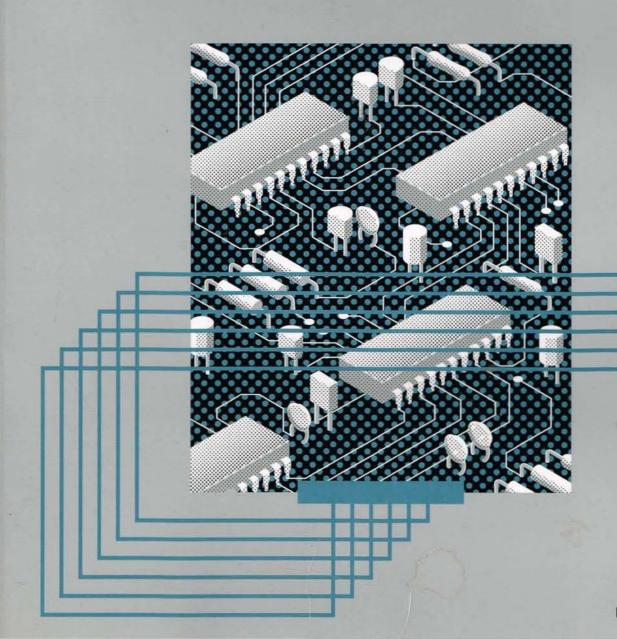
TOYOTA RAV4 EV

ELECTRICAL WIRING DIAGRAM

2002 MODEL



Pub. No. EWD467U

FOREWORD

This wiring diagram manual has been prepared to provide information on the electrical system of the 2002 RAV4 EV.

Applicable models: BEA11 Series

For service specifications and repair procedures of the above models other than those listed in this manual, refer to the following manuals;

Manual Name	Pub. No.
2002 RAV4 EV Repair Manual	RM892U

All information in this manual is based on the latest product information at the time of publication. However, specifications and procedures are subject to change without notice.

TOYOTA MOTOR CORPORATION

CAUTION

When repairing the electric vehicle (EV), always follow the direction given in the repair manual listed above to prevent electrical shock, leakage or explosion.

NOTICE

When handling supplemental restraint system components (removal, installation or inspection, etc.), always follow the direction given in the repair manuals listed above to prevent accidents and supplemental restraint system malfunction.

2002 RAV4 EV ELECTRICAL WIRING DIAGRAM

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A INTRODUCTION

This manual consists of the following 13 sections:

No.	Section	Description		
nais 9	INDEX	Index of the contents of this manual.		
Α	INTRODUCTION	Brief explanation of each section.		
В	HOW TO USE THIS MANUAL	Instructions on how to use this manual.		
С	TROUBLE- SHOOTING	Describes the basic inspection procedures for electrical circuits.		
D	ABBREVIATIONS	Defines the abbreviations used in this manual.		
E	GLOSSARY OF TERMS AND SYMBOLS	Defines the symbols and functions of major parts.		
F	RELAY LOCATIONS	Shows position of the Electronic Control Unit, Relays, Relay Block, etc. This section is closely related to the system circuit.		
G	ELECTRICAL WIRING ROUTING	Describes position of Parts Connectors, Splice points, Ground points, etc. This section is closely related to the system circuit.		
्ट	INDEX	Index of the system circuits.		
H	SYSTEM CIRCUITS	Electrical circuits of each system are shown from the power supply through ground points. Wiring connections and their positions are shown and classified by code according to the connection method. (Refer to the section, "How to use this manual"). The "System Outline" and "Service Hints" useful for troubleshooting are also contained in this section.		
1	GROUND POINT	Shows ground positions of all parts described in this manual.		
J	POWER SOURCE (Current Flow Chart)	Describes power distribution from the power supply to various electrical loads.		
K	CONNECTOR LIST Describes the form of the connectors for the parts appeared in this book. This section is closely related to the system circuit.			
L	PART NUMBER OF CONNECTORS Indicates the part number of the connectors used in this manual.			
M	OVERALL ELECTRICAL WIRING DIAGRAM	Provides circuit diagrams showing the circuit connections.		

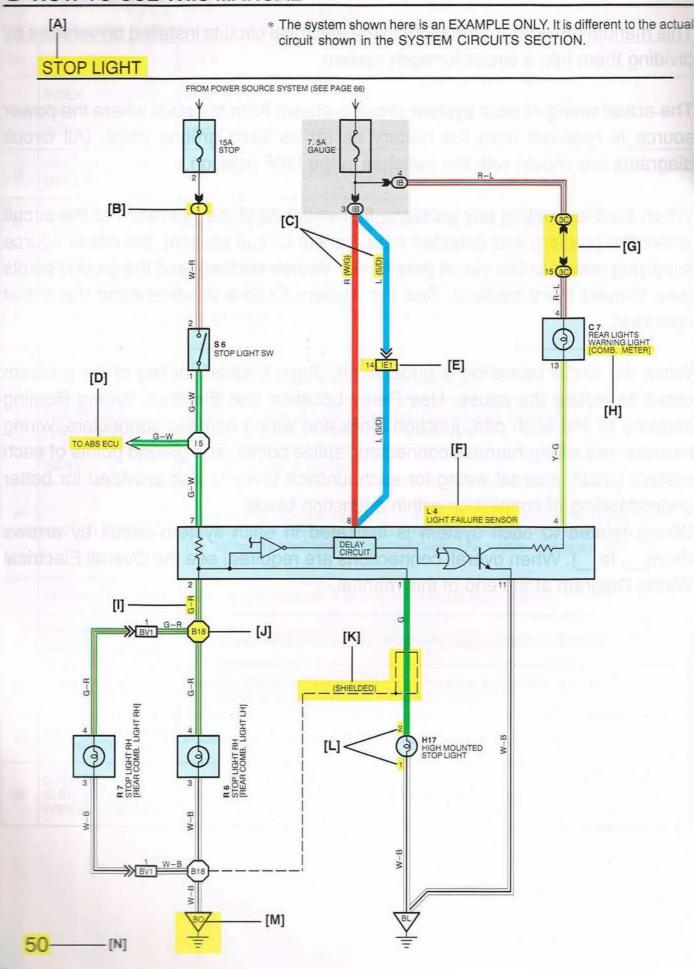
This manual provides information on the electrical circuits installed on vehicles by dividing them into a circuit for each system.

The actual wiring of each system circuit is shown from the point where the power source is received from the battery as far as each ground point. (All circuit diagrams are shown with the switches in the OFF position.)

When troubleshooting any problem, first understand the operation of the circuit where the problem was detected (see System Circuit section), the power source supplying power to that circuit (see Power Source section), and the ground points (see Ground Point section). See the System Outline to understand the circuit operation.

When the circuit operation is understood, begin troubleshooting of the problem circuit to isolate the cause. Use Relay Location and Electrical Wiring Routing sections to find each part, junction block and wiring harness connectors, wiring harness and wiring harness connectors, splice points, and ground points of each system circuit. Internal wiring for each junction block is also provided for better understanding of connection within a junction block.

Wiring related to each system is indicated in each system circuit by arrows (from__, to__). When overall connections are required, see the Overall Electrical Wiring Diagram at the end of this manual.

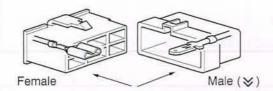


- [A] : System Title
- [B] : Indicates a Relay Block. No shading is used and only the Relay Block No. is shown to distinguish it from the J/B

Example: 1 Indicates Relay Block No.1

- [C] : () is used to indicate different wiring and connector, etc. when the vehicle model, engine type, or specification is different.
- [D] : Indicates related system.
- [E] : Indicates the wiring harness and wiring harness connector. The wiring harness with male terminal is shown with arrows (\bowtie).

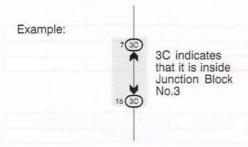
Outside numerals are pin numbers.



The first letter of the code for each wiring harness and wiring harness connector(s) indicates the component's location, e.g, "E" for the Engine Compartment, "I" for the Instrument Panel and Surrounding area, and "B" for the Body and Surrounding area.

When more than one code has the first and second letters in common, followed by numbers (e.g. IH1, IH2), this indicates the same type of wiring harness and wiring harness connector.

- [F] : Represents a part (all parts are shown in sky blue). The code is the same as the code used in parts position.
- [G] : Junction Block (The number in the circle is the J/B No. and the connector code is shown beside it). Junction Blocks are shaded to clearly separate them from other parts.



[H]: When 2 parts both use one connector in common, the parts connector name used in the wire routing section is shown in square brackets [].

[I] : Indicates the wiring color.

Wire colors are indicated by an alphabetical code.

B = Black W = White BR = Brown

L = Blue V = Violet SB = Sky Blue

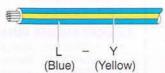
R = Red G = Green LG = Light Green

P = Pink Y = Yellow GR = Gray

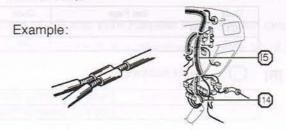
O = Orange

The first letter indicates the basic wire color and the second letter indicates the color of the stripe.

Example: L-Y



[J] : Indicates a wiring Splice Point (Codes are "E" for the Engine Room, "I" for the Instrument Panel, and "B" for the Body).

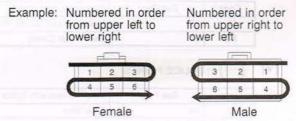


The Location of splice Point I 5 is indicated by the shaded section.

[K] : Indicates a shielded cable.



[L] : Indicates the pin number of the connector. The numbering system is different for female and male connectors.



[M]: Indicates a ground point.

The first letter of the code for each ground point(s) indicates the component's location, e.g, "E" for the Engine Compartment, "I" for the Instrument Panel and Surrounding area, and "B" for the Body and Surrounding area.

[N] : Page No.

B HOW TO USE THIS MANUAL

[0]

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.

[P]

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

[Q] O : PARTS LOCATION

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

IR1 : RELAY BLOCKS

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

[S] : 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 Left Side)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

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

[U] : GROUND POINTS

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

[V] : SPLICE POINTS

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
15	44	Cowl Wire	B18	50	Luggage Room Wire

- [O]: Explains the system outline.
- [P]: Indicates values or explains the function for reference during troubleshooting.
- [Q]: Indicates the reference page showing the position on the vehicle of the parts in the system circuit.

Example: Part "L4" (Light Failure Sensor) is on page 36 of the manual.

* The letter in the code is from the first letter of the part, and the number indicates its order in parts starting with that letter.

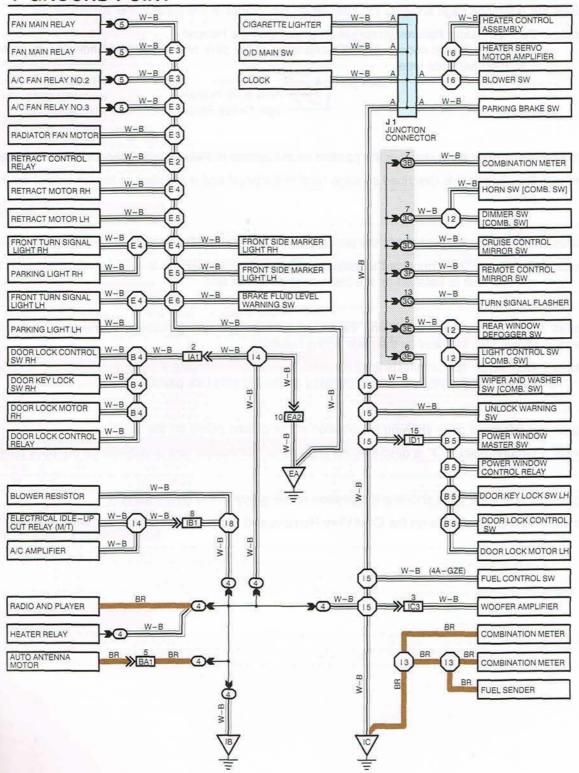
Example : L 4
Parts is 4th in order
Light Failure Sensor

- [R]: Indicates the reference page showing the position on the vehicle of Relay Block Connectors in the system circuit.
 - Example: Connector "1" is described on page 18 of this manual and is installed on the left side of the instrument panel.
- [S]: Indicates the reference page showing the position on the vehicle of J/B and Wire Harness in the system circuit.
 - Example: Connector "3C" connects the Instrument Panel Wire and J/B No.3. It is described on page 22 of this manual, and is installed on the instrument panel left side.
- [T]: Indicates the reference page describing the wiring harness and wiring harness connector (the female wiring harness is shown first, followed by the male wiring harness).
 - Example: Connector "IE1" connects the floor wire (female) and Instrument panel wire (male). It is described on page 42 of this manual, and is installed on the left side kick panel.
- [U]: Indicates the reference page showing the position of the ground points on the vehicle.
 - Example: Ground point "BO" is described on page 50 of this manual and is installed on the back panel center.
- [V]: Indicates the reference page showing the position of the splice points on the vehicle.
 - Example: Splice point "I5" is on the Cowl Wire Harness and is described on page 44 of this manual.

B HOW TO USE THIS MANUAL

The ground points circuit diagram shows the connections from all major parts to the respective ground points. When troubleshooting a faulty ground point, checking the system circuits which use a common ground may help you identify the problem ground quickly. The relationship between ground points () and) and) shown below) can also be checked this way.

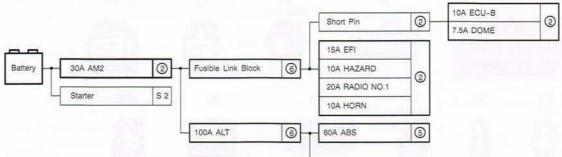
I GROUND POINT



The "Current Flow Chart" section, describes which parts each power source (fuses, fusible links, and circuit breakers) transmits current to. In the Power Source circuit diagram, the conditions when battery power is supplied to each system are explained. Since all System Circuit diagrams start from the power source, the power source system must be fully understood.

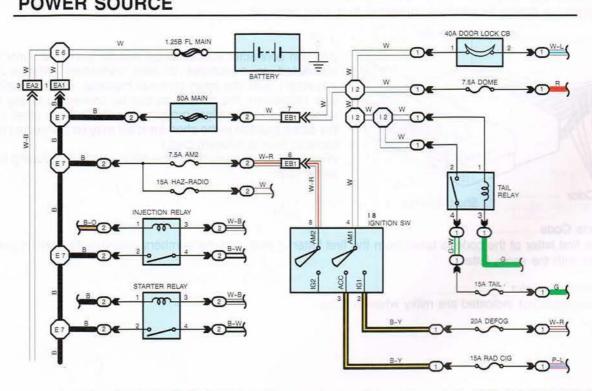
J POWER SOURCE (Current Flow Chart)

The chart below shows the route by which current flows from the battery to each electrical source (Fusible Link, Circuit Breaker, Fuse, etc.) and other parts.



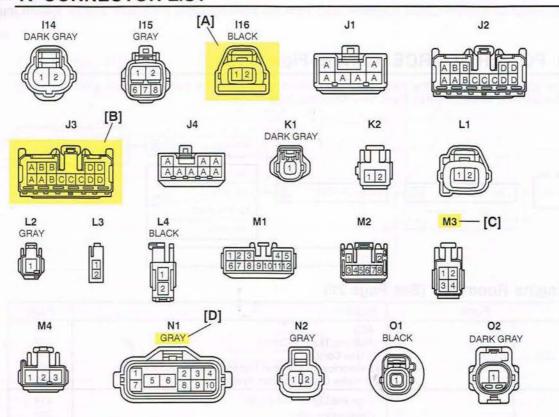
Engine Room R/B (See Page 20)

Fuse		Fuse System	
20A	STOP	ABS ABS and Traction Control Cruise Control Electronically Controlled Transmission and A/T Indicator Multiplex Communication System	194 187 180 166 210
10A	DOME	Cigarette Lighter and Clock Combination Meter Headlight Interior Light Key Reminder and Seat Belt Warning	214 230 112 122



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

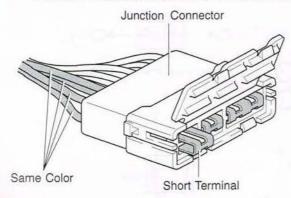
K CONNECTOR LIST



[A]: Indicates connector to be connected to a part. (The numeral indicates the pin No.)

[B]: Junction Connector

Indicates a connector which is connected to a short terminal.



Junction connector in this manual include a short terminal which is connected to a number of wire harnesses. Always perform inspection with the short terminal installed. (When installing the wire harnesses, the harnesses can be connected to any position within the short terminal grouping. Accordingly, in other vehicles, the same position in the short terminal may be connected to a wire harness from a different part.)

Wire harness sharing the same short terminal grouping have the same color.

[C]: Parts Code

The first letter of the code is taken from the first letter of part, and the numbers indicates its order in parts which start with the same letter.

[D]: Connector Color

Connectors not indicated are milky white in color.

L PART NUMBER OF CONNECTORS

Code	Part Name	Part Number	Code	Part Name	Part Number		
A 1	A/C Ambient Temp. Sensor	90980-11070	D 4	Diode (Door Courtesy Light)	90980-11608		
A 2	A/C Condenser Fan Motor	90980-11237	D 5	Diode (Key Off Operation)	90980-10962		
А3	A/C Condenser Fan Relay	90980-10940	D6	Diode (Luggage Compartment Light)	90980-11608		
	A/C Triple Pressure SW (A/C Dual and		D7	Door Lock Control Relay	90980-10848		
A 4	Single Pressure SW)	90980-10943	D 8	Door Courtesy Light LH			
[A] [~]	A/T Oil Temp. Sensor [B]	909 [C] ₄₁₃	D9	Door Courtesy Light RH	90980-11148		
A 6	ABS Actuator	90980-11151	D10	Door Courtesy SW LH			
A 7	ABS Actuator	90980-11009	D11	Door Courtesy SW RH	90980-11097		
A 8	ABS Speed Sensor Front LH	90980-10941	D12	Door Courtesy SW Front LH	dani i i		
A 9	ABS Speed Sensor Front RH	90980-11002	D13	Door Courtesy SW Front RH			
A10	Airbag Sensor Front LH		D14	Door Courtesy SW Rear LH	90980-11156		
A11	Airbag Sensor Front RH	90980-11856	D15	Door Courtesy SW Rear RH			
Ala		90980-11194	Die	Unlock SW LH	n liait pi		
		90980		Han	90980-11170		

[A]: Part Code

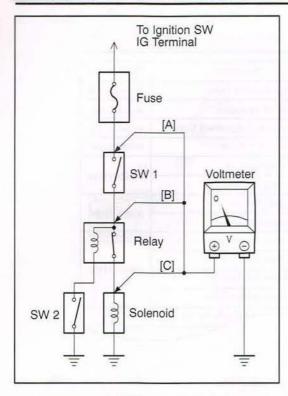
[B]: Part Name

[C]: Part Number

Toyota Part Number are indicated.

Not all of the above part numbers of the connector are established for the supply. In case of ordering a connector or terminal with wire, please confirm in advance if there is supply for it using "Parts Catalog News" (published by Parts Engineering Administration Dept.).

C TROUBLESHOOTING



VOLTAGE CHECK

(a) Establish conditions in which voltage is present at the check point.

Example:

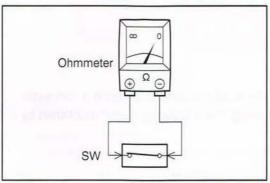
[A] - Ignition SW on

[B] - Ignition SW and SW 1 on

[C] - Ignition SW, SW 1 and Relay on (SW 2 off)

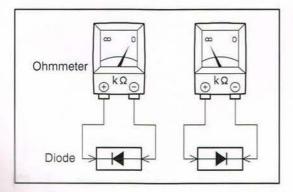
(b) Using a voltmeter, connect the negative lead to a good ground point or negative battery terminal, and the positive lead to the connector or component terminal.

This check can be done with a test light instead of a voltmeter.



CONTINUITY AND RESISTANCE CHECK

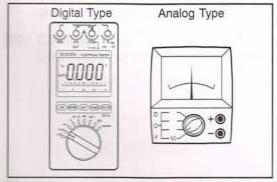
- (a) Disconnect the battery terminal or wire so there is no voltage between the check points.
- (b) Contact the two leads of an ohmmeter to each of the check points.



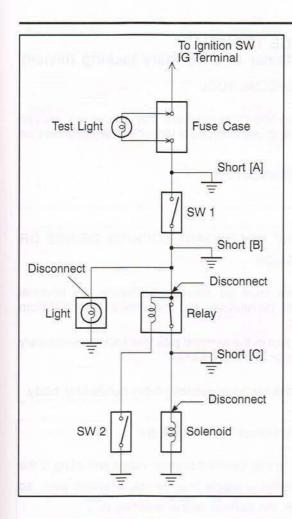
If the circuit has diodes, reverse the two leads and check again.

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.



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



FINDING A SHORT CIRCUIT

- (a) Remove the blown fuse and disconnect all loads of the fuse.
- (b) Connect a test light in place of the fuse.
- (c) Establish conditions in which the test light comes on.

Example:

[A] - Ignition SW on

[B] - Ignition SW and SW 1 on

- [C] Ignition SW, SW 1 and Relay on (Connect the Relay) and SW 2 off (or Disconnect SW 2)
- (d) Disconnect and reconnect the connectors while watching the test light.The short lies between the connector where the test light

stays lit and the connector where the light goes out.

(e) Find the exact location of the short by lightly shaking the problem wire along the body.

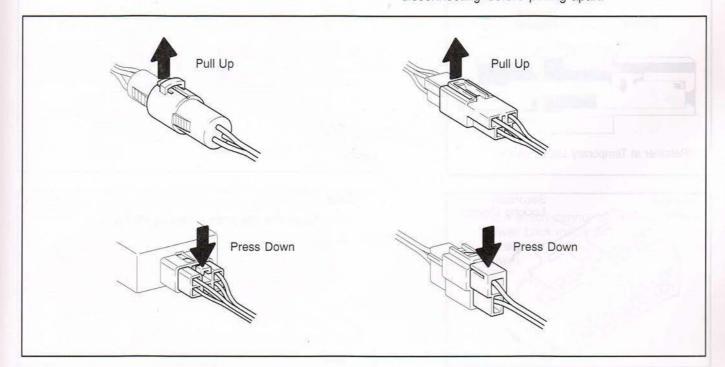
CAUTION:

- (a) Do not open the cover or the case of the ECU unless absolutely necessary. (If the IC terminals are touched, the IC may be destroyed by static electricity.)
- (b) When replacing the internal mechanism (ECU part) of the digital meter, be careful that no part of your body or clothing comes in contact with the terminals of leads from the IC, etc. of the replacement part (spare part).

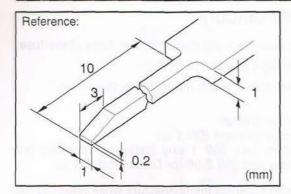
DISCONNECTION OF MALE AND FEMALE CONNECTORS

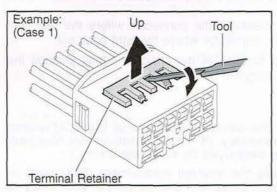
To pull apart the connectors, pull on the connector itself, not the wire harness.

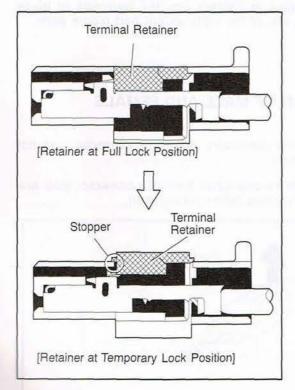
HINT: Check to see what kind of connector you are disconnecting before pulling apart.

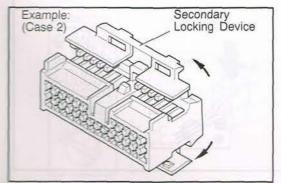


C TROUBLESHOOTING









HOW TO REPLACE TERMINAL (with terminal retainer or secondary locking device)

1. PREPARE THE SPECIAL TOOL

HINT: To remove the terminal from the connector, please construct and use the special tool or like object shown on the left.

2. DISCONNECT CONNECTOR

- DISENGAGE THE SECONDARY LOCKING DEVICE OR TERMINAL RETAINER.
 - (a) Locking device must be disengaged before the terminal locking clip can be released and the terminal removed from the connector.
 - (b) Use a special tool or the terminal pick to unlock the secondary locking device or terminal retainer.

NOTICE:

Do not remove the terminal retainer from connector body.

[A] For Non-Waterproof Type Connector

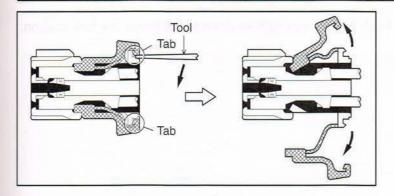
HINT: The needle insertion position varies according to the connector's shape (number of terminals etc.), so check the position before inserting it.

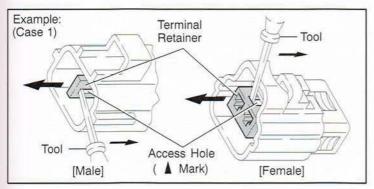
"Case 1"

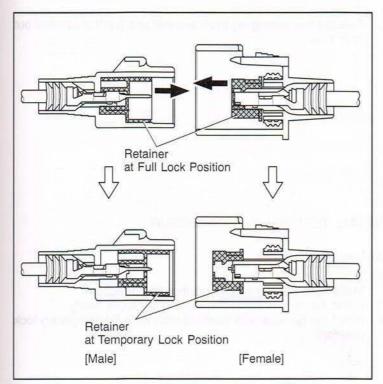
Raise the terminal retainer up to the temporary lock position.

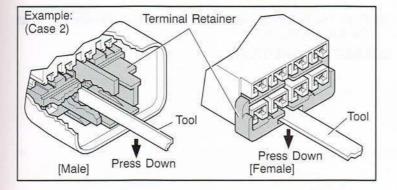
"Case 2"

Open the secondary locking device.









[B] For Waterproof Type Connector

HINT: Terminal retainer color is different according to connector body.

Example:

Terminal Retainer: Connector Body

Black or White : Gray

Black or White : Dark Gray

Gray or White : Black

"Case 1"

Type where terminal retainer is pulled up to the temporary lock position (Pull Type).

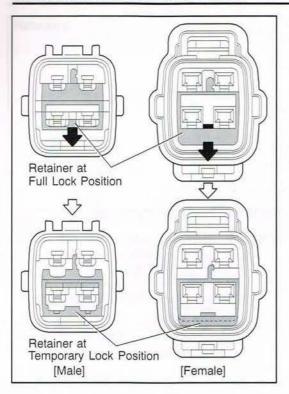
Insert the special tool into the terminal retainer access hole (Mark) and pull the terminal retainer up to the temporary lock position.

HINT: The needle insertion position varies according to the connector's shape (Number of terminals etc.), so check the position before inserting it.

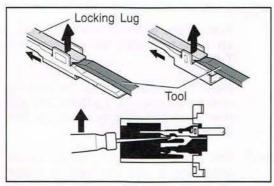
"Case 2"

Type which cannot be pulled as far as Power Lock insert the tool straight into the access hole of terminal retainer as shown.

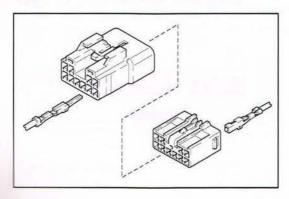
C TROUBLESHOOTING



Push the terminal retainer down to the temporary lock position.



(c) Release the locking lug from terminal and pull the terminal out from rear.

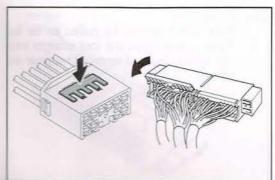


4. INSTALL TERMINAL TO CONNECTOR

(a) Insert the terminal.

HINT:

- 1. Make sure the terminal is positioned correctly.
- 2. Insert the terminal until the locking lug locks firmly.
- Insert the terminal with terminal retainer in the temporary lock position.



- (b) Push the secondary locking device or terminal retainer in to the full lock position.
- 5. CONNECT CONNECTOR

ABBREVIATIONS

The following abbreviations are used in this manual.

ABS = Anti-Lock Brake System

AC = Alternating Current

A/C = Air Conditioning

COMB. = Combination

DC = Direct Current

EB = Electrical Brake

ECU = Electronic Control Unit

EHPS = Electro-Hydraulic Power Steering

EV = Electric Vehicle

HWS = Heat Windshield

J/B = Junction Block

LH = Left-Hand

R/B = Relay Block

RH = Right-Hand

SMR = System Main Relay

SOC = State of Charge

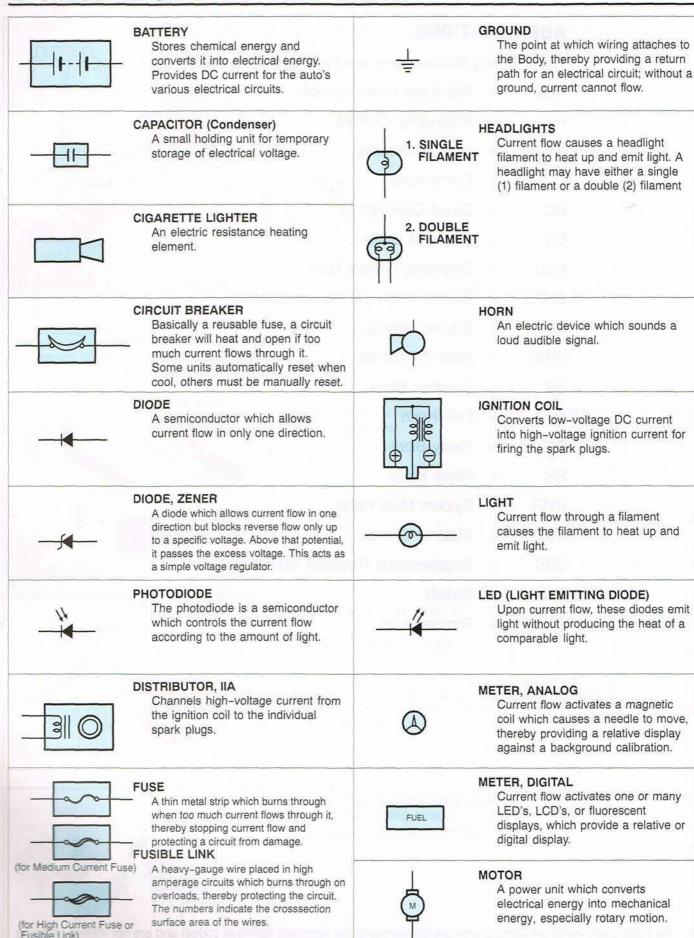
SRS = Supplemental Restraint System

SW = Switch

TEMP. = Temperature

^{*} The titles given inside the components are the names of the terminals (terminal codes) and are not treated as being abbreviations.

E GLOSSARY OF TERMS AND SYMBOLS

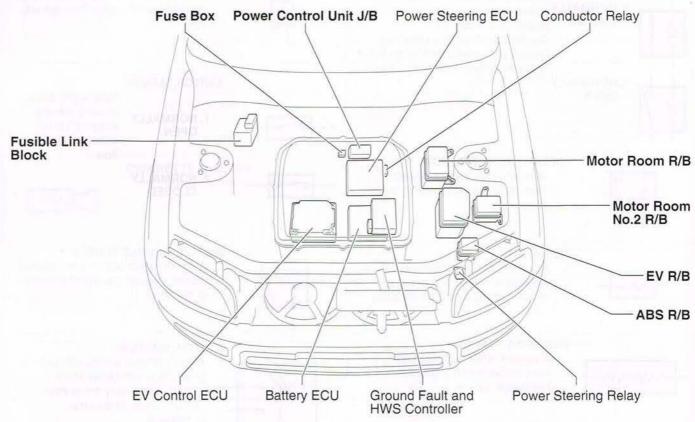


10

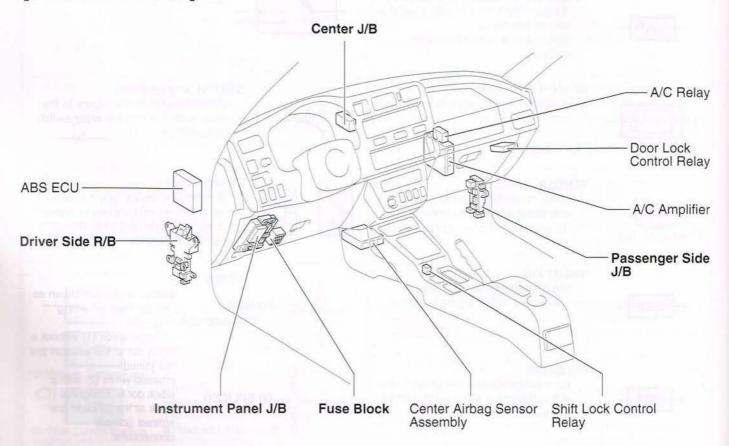
RELAY SPEAKER An electromechanical device which Basically, an electrically operated 1. NORMALLY switch which may be normally creates sound waves from current CLOSED closed (1) or open (2). flow. Current flow through a small coil creates a magnetic field which either opens or closes an attached switch. 2. NORMALLY SWITCH, MANUAL **OPEN** Opens and closes circuits, thereby 1. NORMALLY stopping (1) or **OPEN** allowing (2) current flow. RELAY, DOUBLE THROW A relay which passes current 2. NORMALLY through one set of contacts or the CLOSED other. SWITCH, DOUBLE THROW RESISTOR A switch which continuously passes An electrical component with a fixed current through one set of contacts resistance, placed in a circuit to reduce voltage to a specific value. or the other. RESISTOR, TAPPED SWITCH, IGNITION A resistor which supplies two or A key operated switch with several more different non adjustable positions which allows various resistance values. circuits, particularly the primary ignition circuit, to become operational. RESISTOR, VARIABLE or RHEOSTAT A controllable resistor with a variable rate of resistance. Also called a potentiometer or rheostat. SENSOR (Thermistor) SWITCH, WIPER PARK A resistor which varies its resistance Automatically returns wipers to the with temperature. stop position when the wiper switch is turned off. TRANSISTOR SENSOR, SPEED Uses magnetic impulses to open A solidstate device typically used as an electronic relay; stops or passes and close a switch to create a signal for activation of other components. current depending on the voltage (Reed Switch Type) applied at "base". SHORT PIN WIRES Used to provide an unbroken Wires are always drawn as connection within a junction block. (1) NOT straight lines on wiring CONNECTED diagrams. Crossed wires (1) without a black dot at the junction are not joined: SOLENOID crossed wires (2) with a An electromagnetic coil which forms black dot or octagonal (O) (2) SPLICED a magnetic field when current flows, mark at the junction are to move a plunger, etc. spliced (joined)

connections.

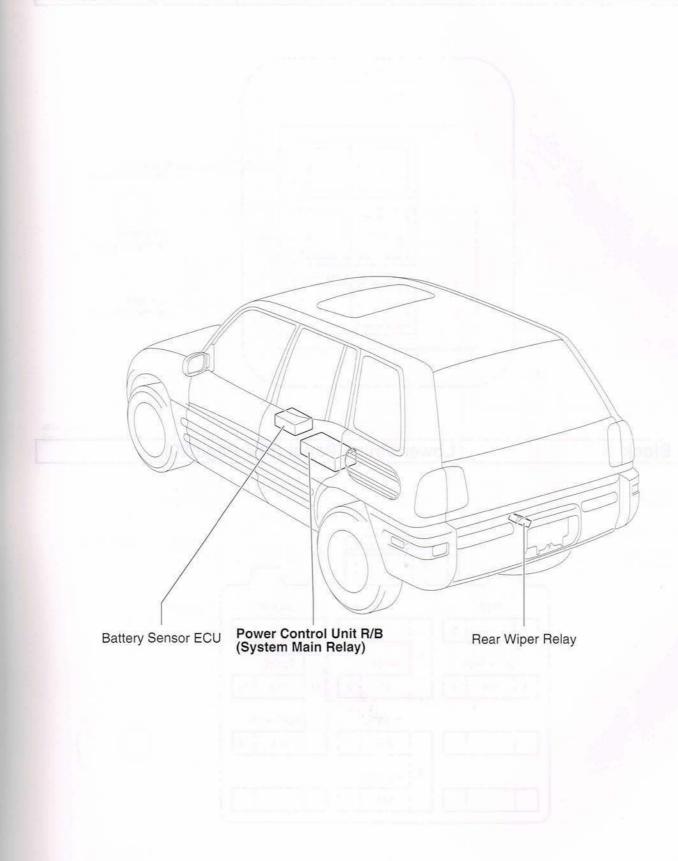
[Motor Compartment]



[Instrument Panel]

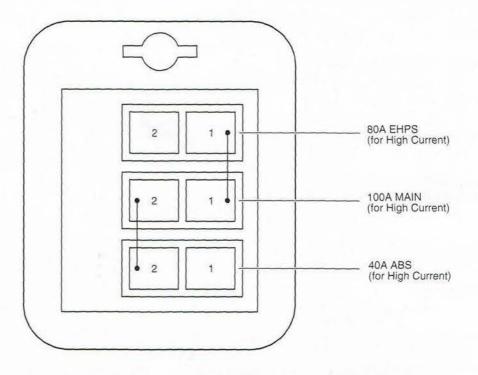


[Body]



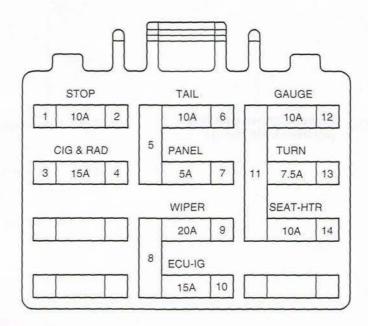
Fusible Link Block

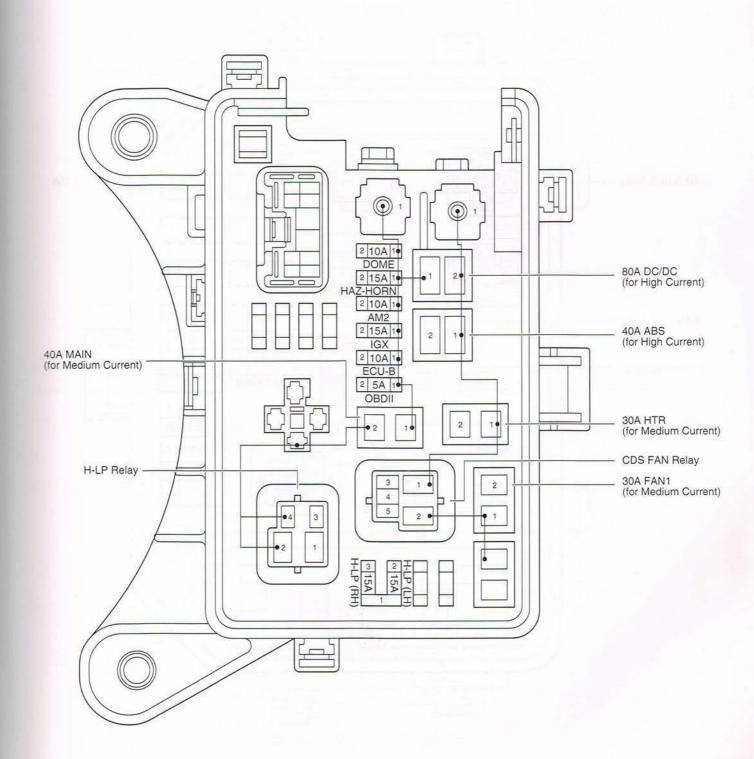
Near the Auxiliary Battery (See Page 20)



Fuse Block

Lower Finish Panel (See Page 20)

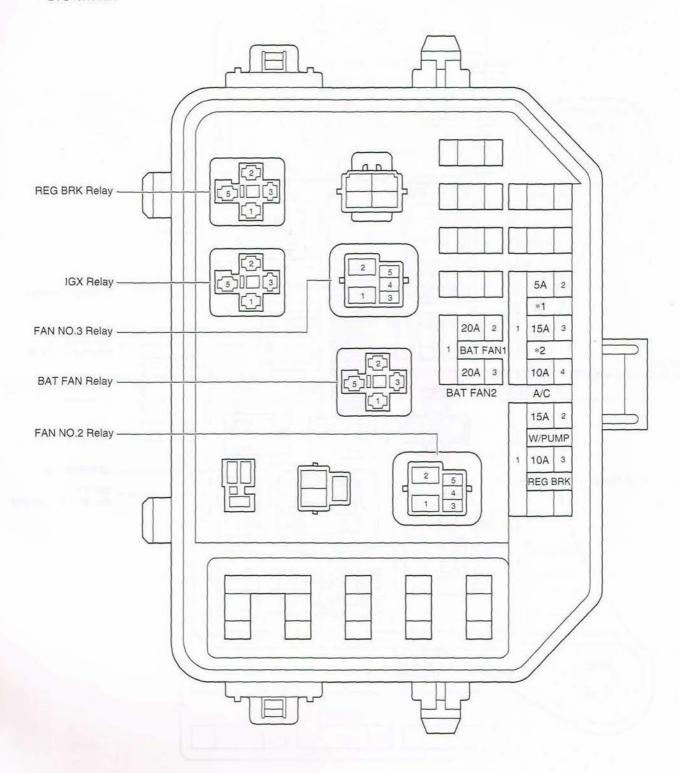


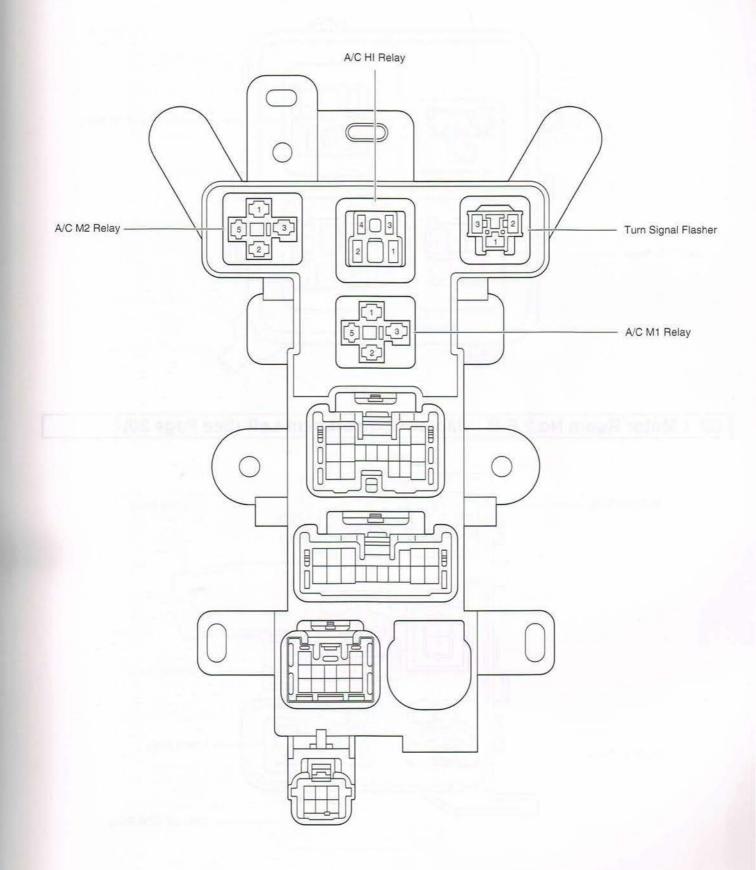


③ : EV R/B

Motor Compartment Left (See Page 20)

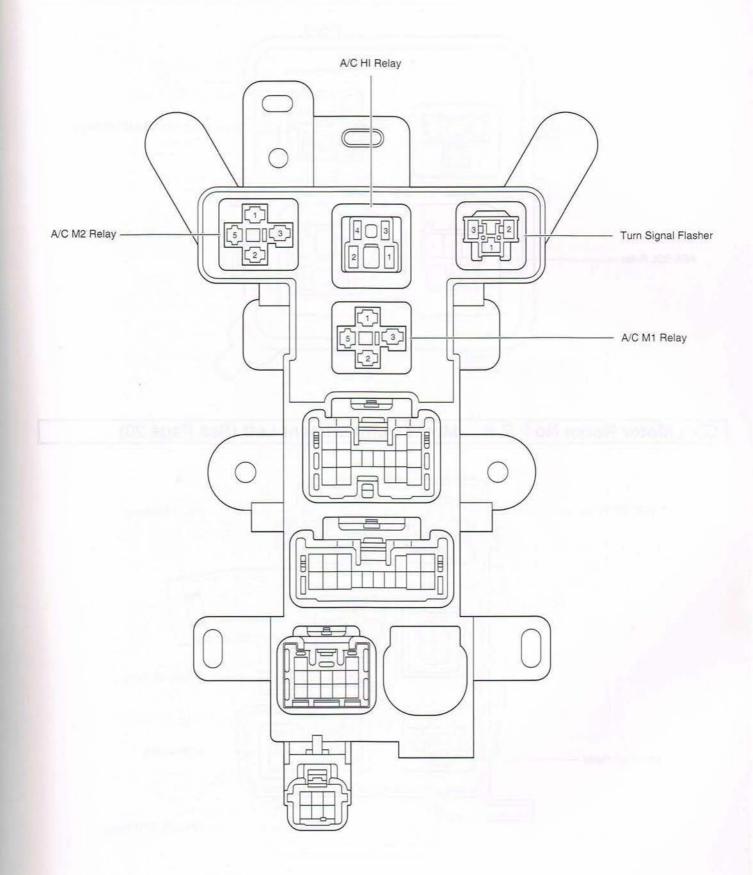
* 1 : CHG LID OPN * 2 : S-HTR R.R





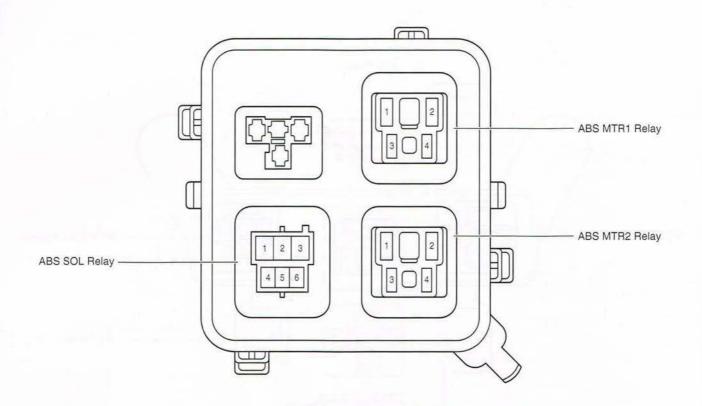
① : Driver Side R/B

Left Kick Panel (See Page 20)

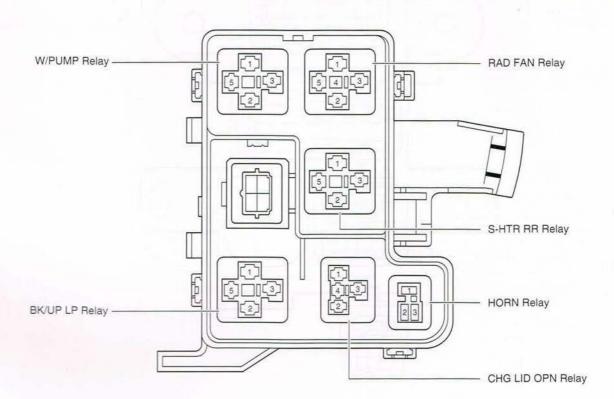


① : ABS R/B

Motor Compartment Left (See Page 20)

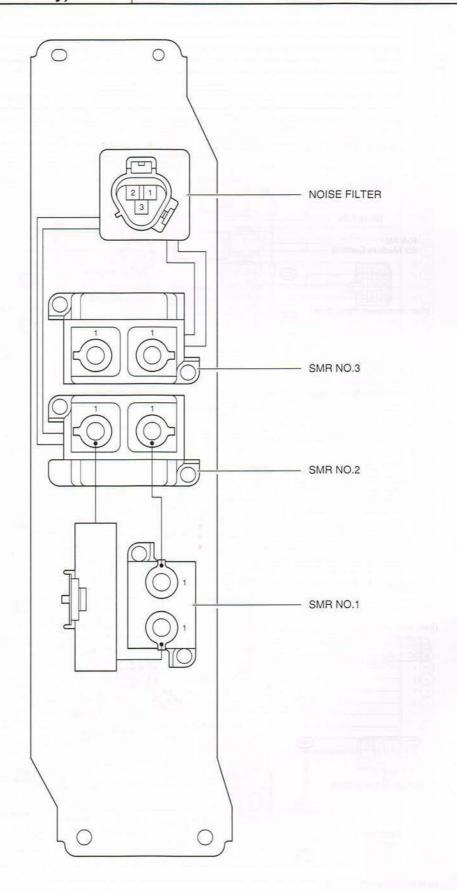


(5) : Motor Room No.2 R/B | Motor Compartment Left (See Page 20)

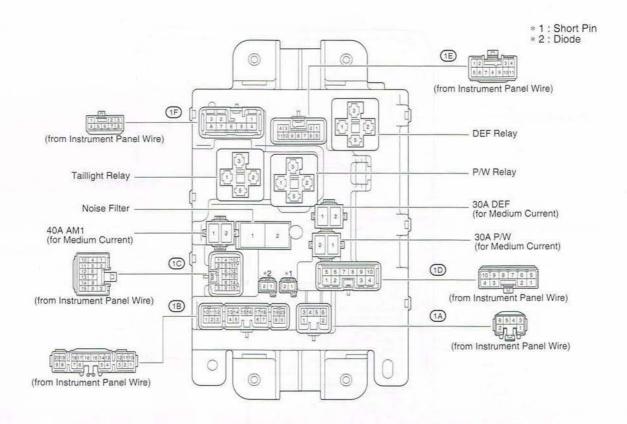


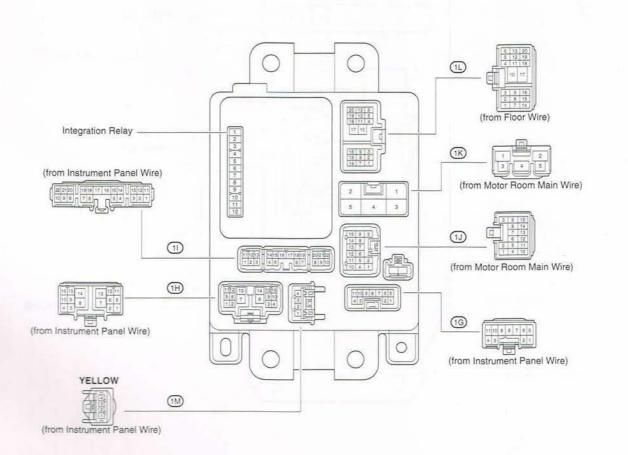
P : Power Control Unit R/B (System Main Relay)

In the Battery Tray (See Page 21)

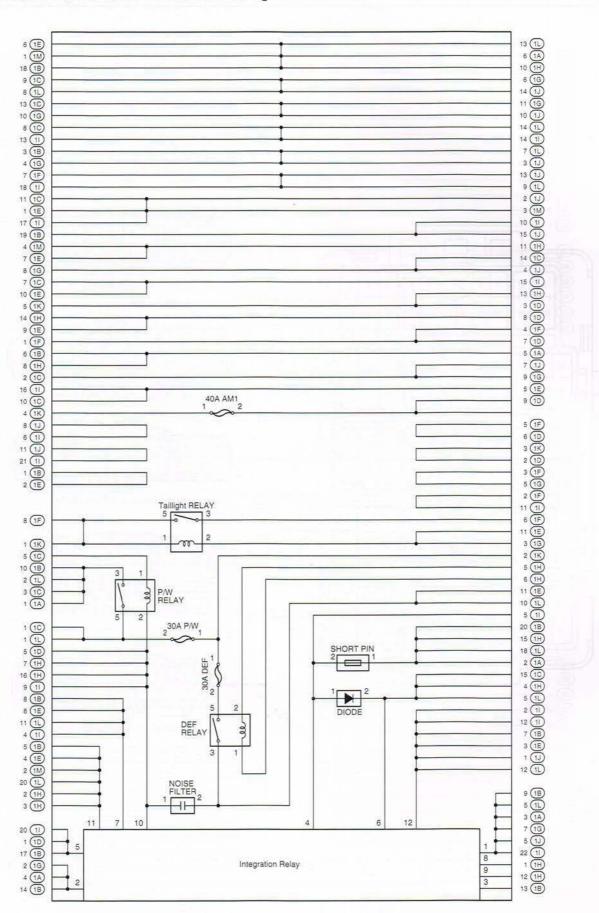


: Instrument Panel J/B Lower Finish Panel (See Page 20)



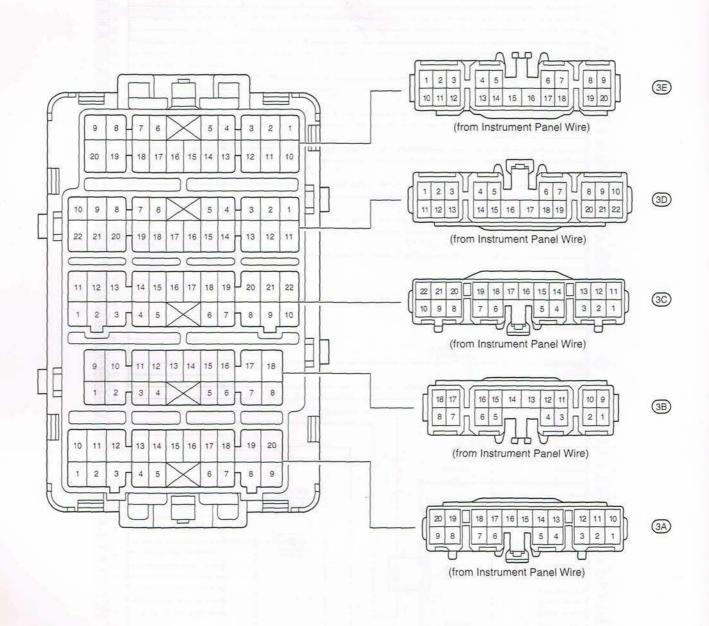


[Instrument Panel J/B Inner Circuit]

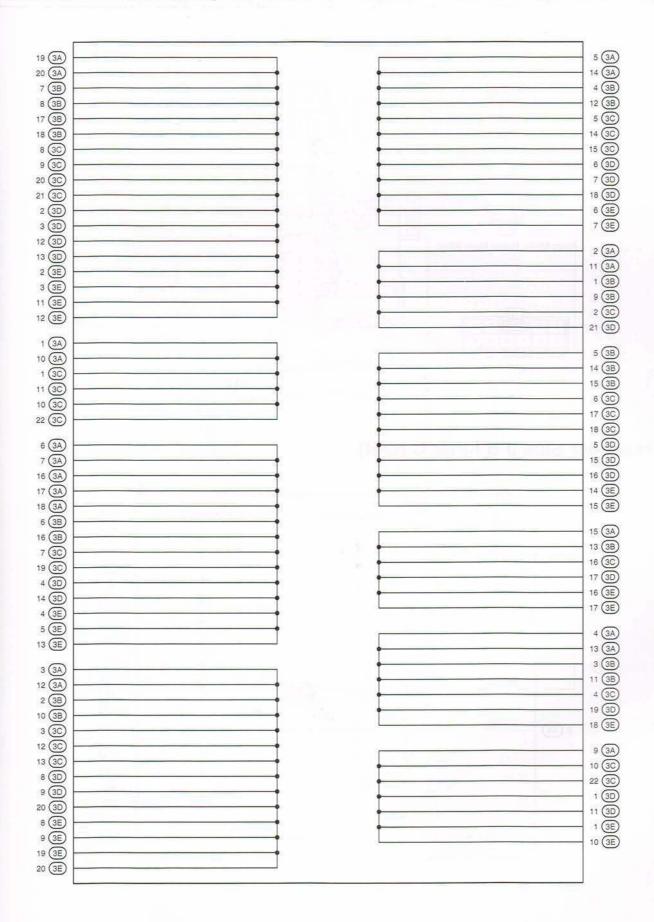


: Center J/B

Instrument Panel Center (See Page 20)

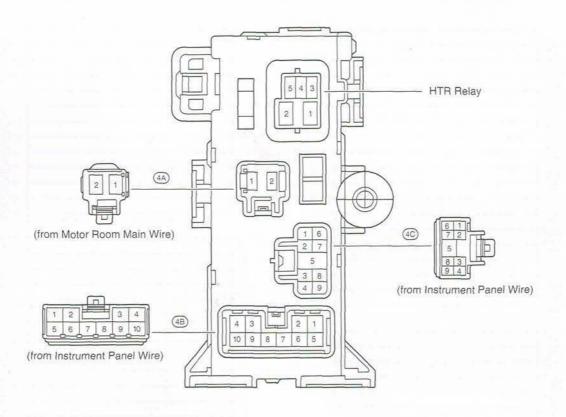


[Center J/B Inner Circuit]

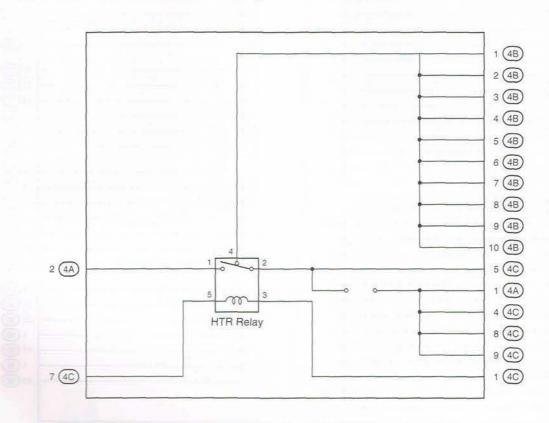


: Passenger Side J/B

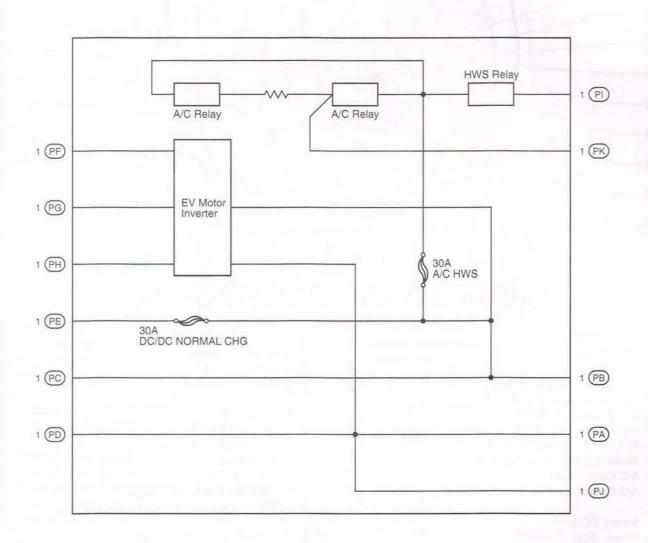
Right Kick Panel (See Page 20)



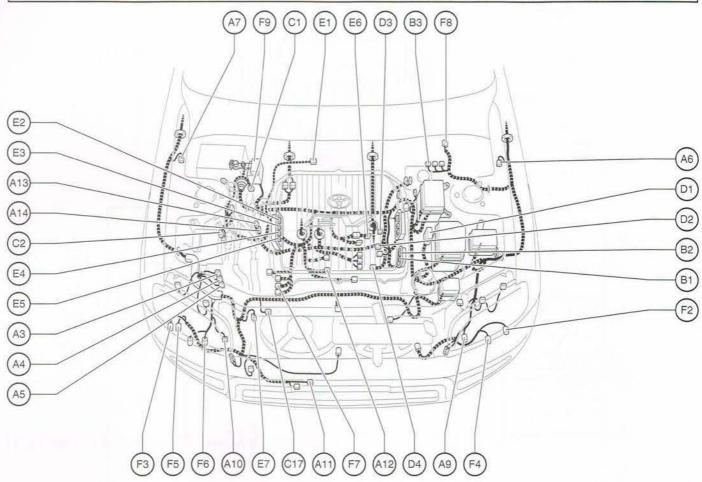
[Passenger Side J/B Inner Circuit]



[Power Control Unit J/B Inner Circuit]



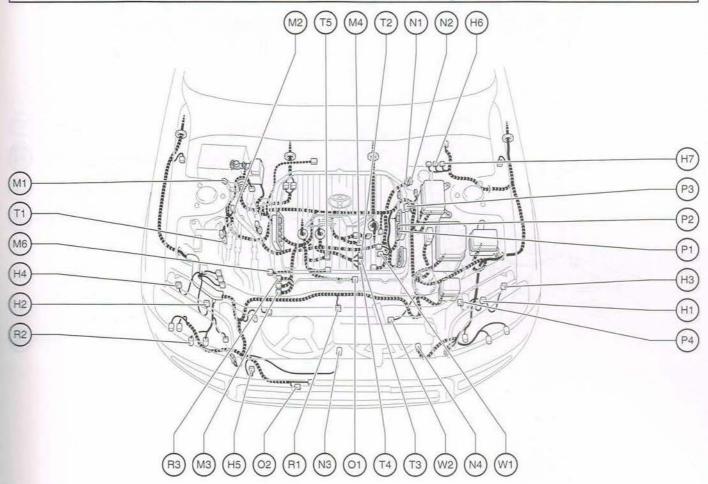
Position of Parts in Motor Compartment



- A 3 ABS Actuator
- A 4 ABS Actuator
- A 5 ABS Actuator
- A 6 ABS Speed Sensor Front LH
- A 7 ABS Speed Sensor Front RH
- A 9 Airbag Sensor Front LH
- A10 Airbag Sensor Front RH
- A 11 Ambient Temp. Sensor (A/C)
- A12 Ambient Temp. Sensor (Tire Pressure)
- A13 A/C Compressor
- A14 A/C Compressor
- B 1 Battery ECU
- B 2 Battery ECU
- B 3 Brake Fluid Level Warning SW
- C 1 Compressor Discharge Pressure Sensor
- C 2 Compressor Temp. Sensor
- C17 Charge Port

- D 1 Data Link Connector 1
- D 2 DC/DC Converter
- D 3 DC/DC Converter
- D 4 DC/DC Converter
- E 1 Electric Expansion Valve
- E 2 EV Control ECU
- E 3 EV Control ECU
- E 4 EV Control ECU
- E 5 EV Control ECU
- E 6 EV Motor Revolution Sensor
- E 7 Exterior Heat Exchange Tube Temp. Sensor
- F 2 Front Side Marker Light LH
- F 3 Front Side Marker Light RH
- F 4 Front Turn Signal Light LH and Front Parking Light LH
- F 5 Front Turn Signal Light RH and Front Parking Light RH
- F 6 Front Washer Motor
- F 7 Front Wheel Cylinder Pressure Sensor
- F 8 Front Wiper Motor
- F 9 Fusible Link Block

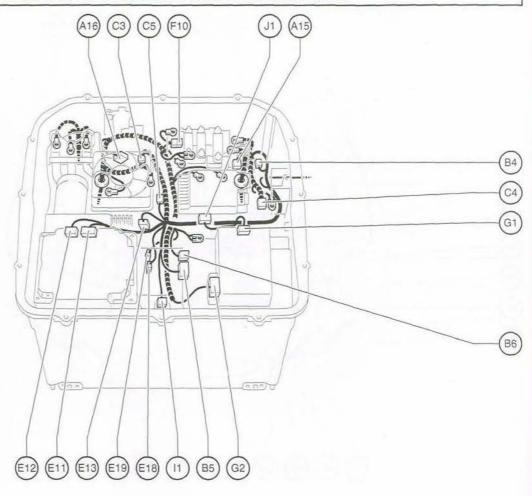
Position of Parts in Motor Compartment



- H 1 Headlight HI LH
- H 2 Headlight HI RH
- H 3 Headlight LO LH
- H 4 Headlight LO RH
- H 5 Horn
- H 6 Hydraulic Brake Booster No.1
- H 7 Hydraulic Brake Booster No.2
- M 1 Magnetic Valve (Cooler)
- M 2 Magnetic Valve (Heater)
- M 3 Master Cylinder Pressure Sensor
- M 4 Motor Temp. Sensor
- M 6 Magnetic Valve
- N 1 Noise Filter No.1
- N 2 Noise Filter No.2
- N 3 No.1 Condenser Fan
- N 4 No.2 Condenser Fan
- 0 1 Outer Temp. Sensor (DC)
- 0 2 Over Temp. Sensor (HWS)

- P 1 Power Steering ECU
- P 2 Power Steering ECU
- P 3 Power Steering Motor
- P 4 Power Steering Relay
- R 1 Radiator Fan Motor
- R 2 Rear Washer Motor
- R 3 Regenerative Brake Solenoid
- T 1 Thermo SW
- T 2 Traction Motor
- T 3 Traction Motor
- T 4 Traction Motor
- T 5 Transmission Revolution Sensor
- W 1 Water Pump Motor
- W 2 Water Temp. SW

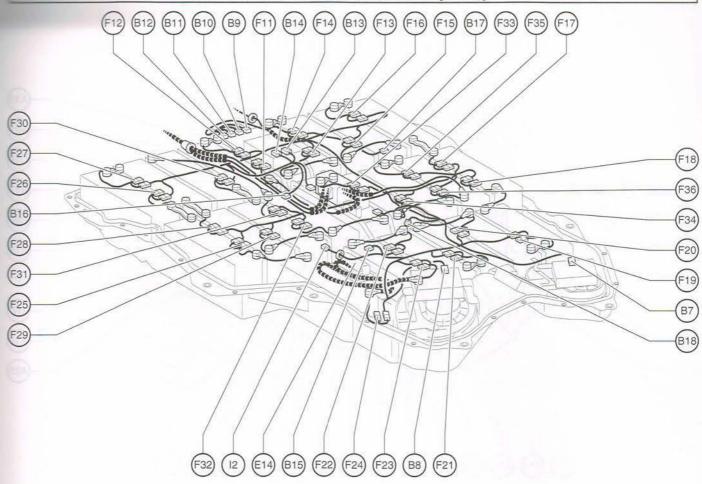
Position of Parts in Power Control Unit



- A15 A/C Inverter A16 A/C Inverter
- B 4 Battery Current Sensor
- B 5 Battery ECU
- B 6 Battery ECU
- C 3 Circuit Breaker Sensor
- C 4 Conductor Relay
- C 5 Cooling Fan Motor

- E 11 EV Control ECU
- E12 EV Control ECU
- E13 EV Motor Inverter
- E18 EV Charger Rectifier
- E19 EV Charger Rectifier
- F10 Fuse Box
- G 1 Ground Fault and HWS Controller
- G 2 Ground Fault and HWS Controller
- 1 1 Interlock SW No.1
- J 1 Junction Connector

Position of Parts in Battery Tray

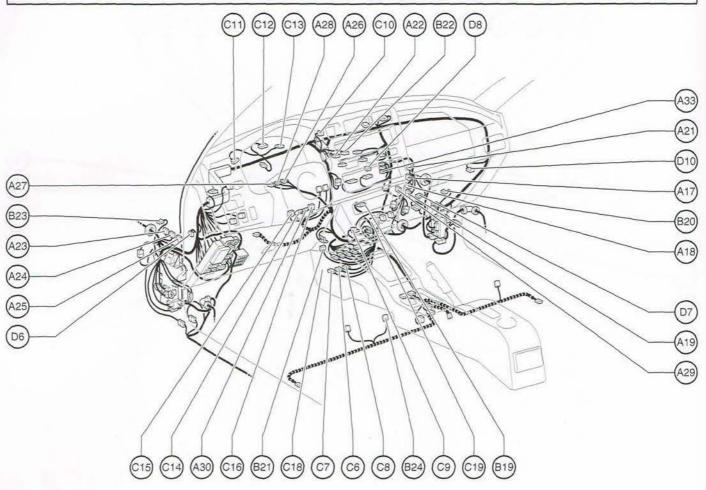


- B 7 Battery Cooling Fan Motor No.1
- B 8 Battery Cooling Fan Motor No.2
- B 9 Battery Sensor ECU
- B10 Battery Sensor ECU
- B 11 Battery Sensor ECU
- B12 Battery Sensor ECU
- B13 Battery Sensor ECU
- B14 Battery Sensor ECU
- B15 Battery Temp. Sensor (No.12)
- B16 Battery Temp. Sensor (No.20)
- B17 Battery Temp. Sensor (No.5)
- B18 Battery Tray Temp. Sensor
- E14 EV Battery Plug

- F 11 Fuse 1 (+)
- F12 Fuse 1 (-)
- F13 Fuse 2 (-)
- F14 Fuse 3 (-)
- F15 Fuse 4 (-)
- F16 Fuse 5 (-)
- F17 Fuse 7 (+)
- F18 Fuse 7 (-)
- F19 Fuse 8 (-)
- F20 Fuse 9 (-)
- F21 Fuse 10 (-)
- F22 Fuse 11 (-)
- F23 Fuse 12 (-)
- F24 Fuse 13 (+)
- F25 Fuse 14 (+)
- F26 Fuse 15 (+)
- F27 Fuse 15 (-)
- F28 Fuse 17 (+)
- F29 Fuse 17 (-)
- F30 Fuse 19 (+)
- F31 Fuse 20 (+)
- F32 Fuse 20 (-) F33 Fuse 21 (-)
- F34 Fuse 22 (-)
- F35 Fuse 23 (-)
- F36 Fuse 24 (-)

^{1 2} Interlock SW No.2

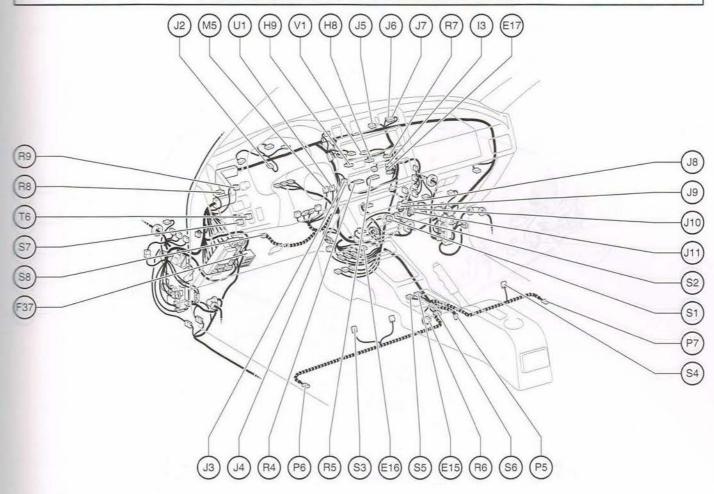
Position of Parts in Instrument Panel



- A17 A/C Amplifier
- A18 A/C Amplifier
- A19 A/C Amplifier
- A21 A/C Relay
- A22 A/C SW
- A23 ABS ECU
- A24 ABS ECU
- A25 ABS ECU
- A26 Accelerator Pedal SW
- A27 Accelerator Position Sensor No. 1
- A28 Accelerator Position Sensor No. 2
- A29 Airbag Squib (Front Passenger Airbag Assembly)
- A30 Airbag Squib (Steering Wheel Pad)
- A33 Air Inlet Temp. Sensor
- B19 Battery Charge Panel
- B20 Blower Motor
- **B21** Blower Resistor
- B22 Blower SW
- B23 Brake Warning Buzzer
- B24 Buckle SW

- C 6 Center Airbag Sensor Assembly
- C 7 Center Airbag Sensor Assembly
- C 8 Center Airbag Sensor Assembly
- C 9 Cigarette Lighter
- C10 Clock
- C11 Combination Meter
- C12 Combination Meter
- C13 Combination Meter
- C14 Combination SW
- C15 Combination SW
- C 13 Combination SV
- C16 Combination SW
- C18 Charge Lid Opener Actuator
- C19 Charge Lid Opener SW
- D 6 Data Link Connector 3
- D 7 Data Link Connector (A/C)
- D 8 Defroster Mode SW
- D10 Door Lock Control Relay

Position of Parts in Instrument Panel

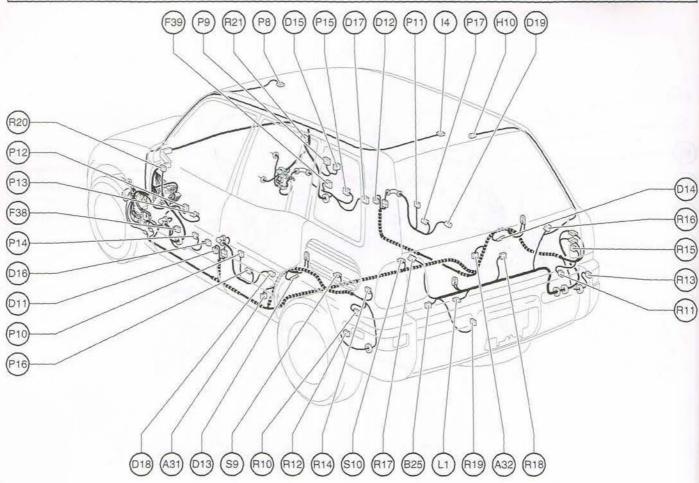


- E15 EB SW
- E16 EV Monitor
- E17 Evaporator Temp. Sensor
- F37 Fuse Block
- H 8 Hazard SW
- H 9 HWS Control SW
- 3 Interior Condenser Tube Temp. Sensor
- J 2 Junction Connector
- J 3 Junction Connector
- J 4 Junction Connector
- J 5 Junction Connector
- J 6 Junction Connector
- J 7 Junction Connector
- J 8 Junction Connector
- J 9 Junction Connector
- J 10 Junction Connector
- J 11 Junction Connector
- M 5 Motor SW

- P 5 Parking Brake SW
- P 6 Pretensioner LH
- P 7 Pretensioner RH
- R 4 Radio and Plaver
- R 5 Radio and Player
- R 6 Rear Seat Heater SW
- R 7 Rear Window Defogger SW
- R 8 Remote Control Mirror SW
- R 9 Rheostat
- S 1 Seat Heater SW (Driver's Seat)
- S 2 Seat Heater SW (Front Passenger's Seat)
- S 3 Seat Heater (Driver's Seat)
- S 4 Seat Heater (Front Passenger's Seat)
- S 5 Shift Lock Control Relay
- S 6 Shift Position SW
- S 7 Snow Mode SW
- S 8 Stop Light SW
- T 6 Tire Pressure Warning Standardization SW
- U 1 Unlock Warning SW
- V 1 Variable Resistor

G ELECTRICAL WIRING ROUTING

Position of Parts in Body

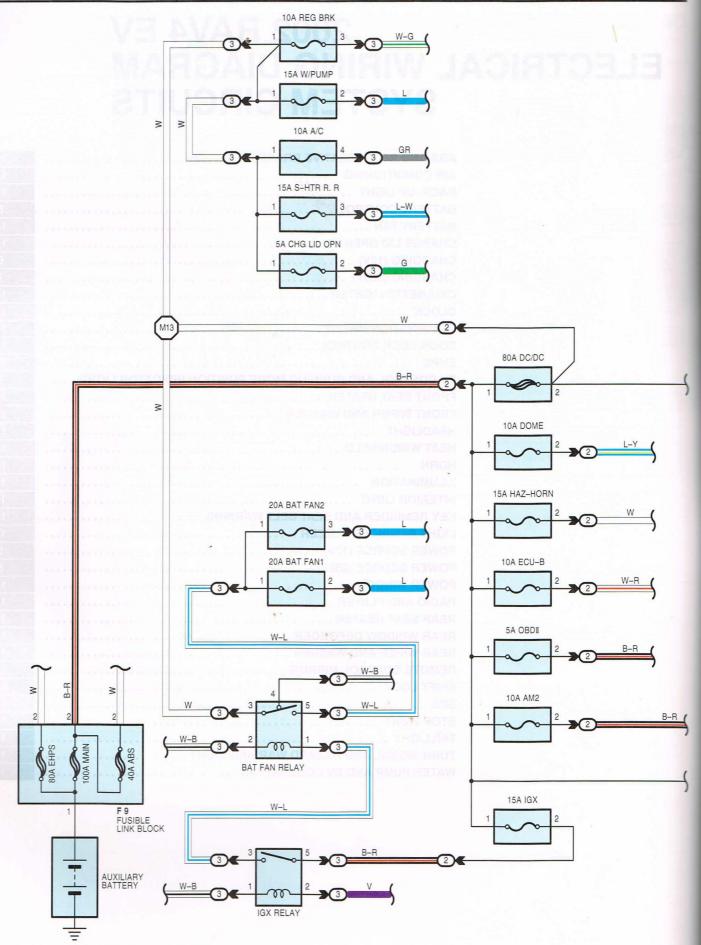


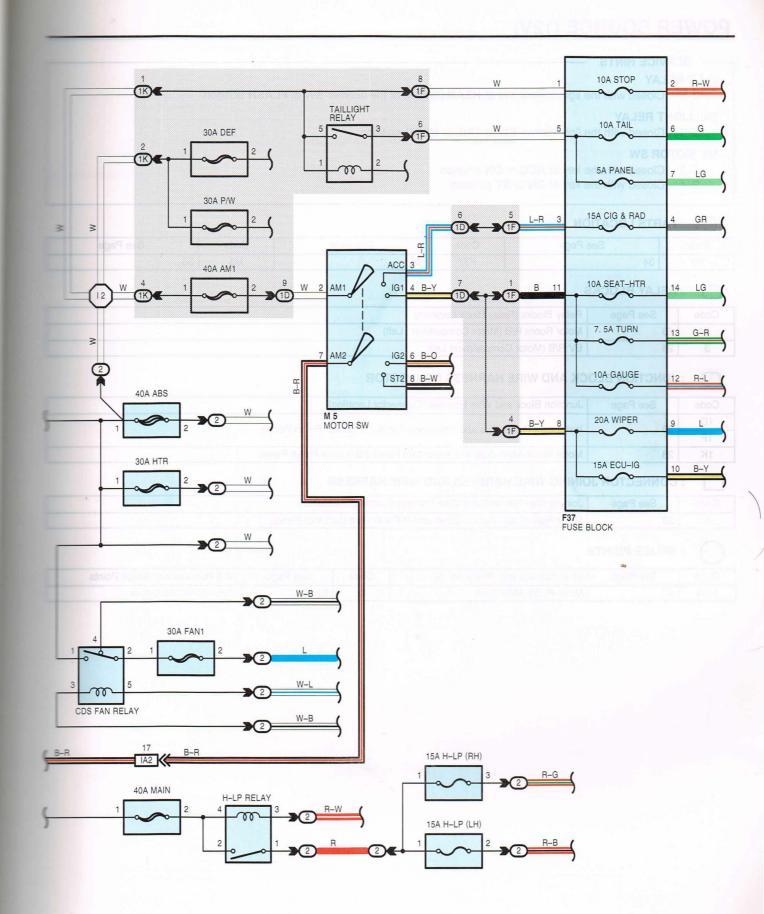
- A31 ABS Speed Sensor Rear LH
- A32 ABS Speed Sensor Rear RH
- B25 Back Door Courtesy SW and Back Door Lock Motor
- D11 Door Courtesy SW Front LH
- D12 Door Courtesy SW Front RH
- D13 Door Courtesy SW Rear LH
- D14 Door Courtesy SW Rear RH
- D15 Door Lock Control SW RH
- D16 Door Lock Motor and Door Key Lock and Unlock SW Front LH
- D17 Door Lock Motor and Door Key Lock and Unlock SW Front RH
- D18 Door Lock Motor Rear LH
- D19 Door Lock Motor Rear RH
- F38 Front Door Speaker LH
- F39 Front Door Speaker RH
 - H10 High Mounted Stop Light
 - 1 4 Interior Light
 - L 1 License Plate Light

- P 8 Personal Light
- P 9 Power Window Control SW Front RH
- P10 Power Window Control SW Rear LH
- P 11 Power Window Control SW Rear RH
- P12 Power Window Master SW
- P13 Power Window Master SW
- P14 Power Window Motor Front LH
- P15 Power Window Motor Front RH
- P16 Power Window Motor Rear LH
- P17 Power Window Motor Rear RH
- R10 Rear Combination Light LH
- R11 Rear Combination Light RH
- R12 Rear Side Marker Light LH
- R13 Rear Side Marker Light RH
- R14 Rear Speaker LH
- R15 Rear Speaker RH
- R16 Rear Window Defogger
- R17 Rear Window Defogger
- R18 Rear Wiper Motor
- R19 Rear Wiper Relay
- R20 Remote Control Mirror LH
- R21 Remote Control Mirror RH
- S 9 Sear Heater Rear LH
- S10 Seat Heater Rear RH

2002 RAV4 EV ELECTRICAL WIRING DIAGRAM SYSTEM CIRCUITS

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BATTERY FAN	184
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TAILLIGHT	110
TURN SIGNAL AND HAZARD WARNING LIGHT	104
WATER PUMP AND EV COOLING FAN	186





POWER SOURCE (12V)

- SERVICE HINTS -

H-LP RELAY

2-1: Closed with the light control SW at HEAD position or the dimmer SW at FLASH position

TAILLIGHT RELAY

5-3: Closed with the light control SW at TAIL or HEAD position

M5 MOTOR SW

2-3 : Closed with the key at ACC or ON position 2-4 : Closed with the key at ON or ST position

O : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
F9	34	F37	39	M5	39

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)
3	24	EV R/B (Motor Compartment Left)

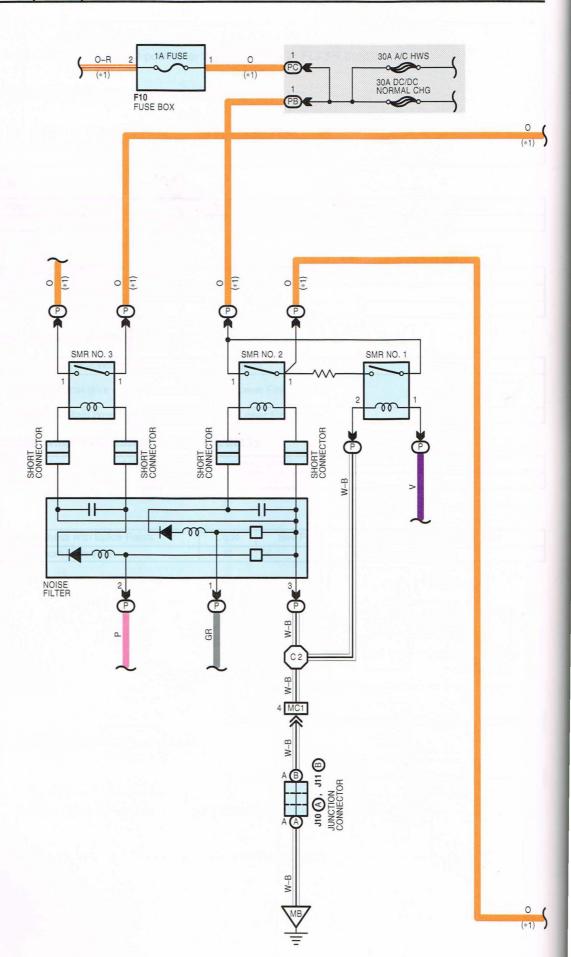
: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

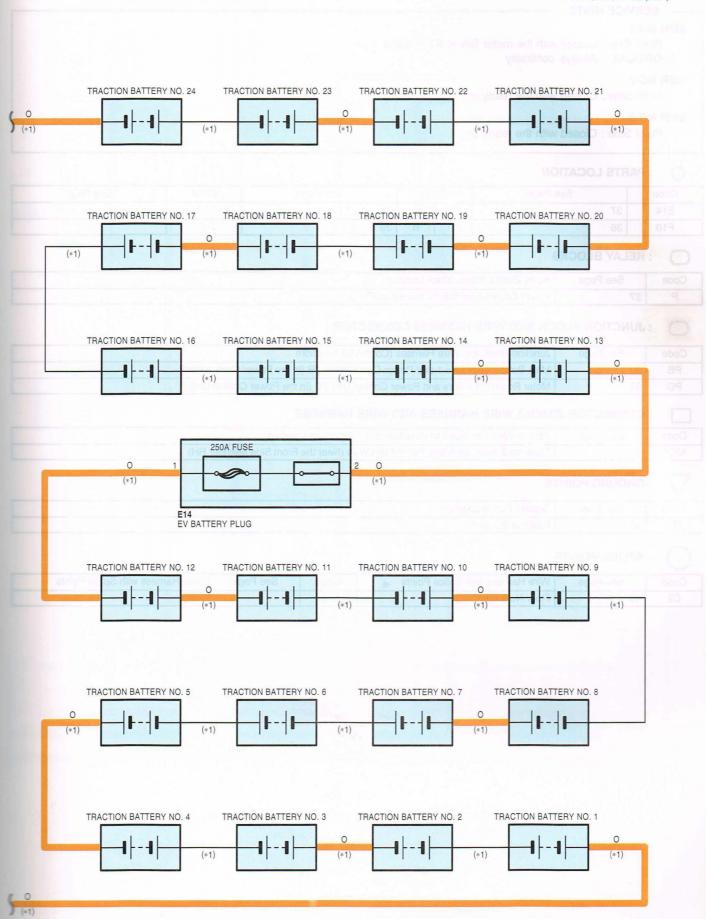
Code	See Page	Junction Block and Wire Harness (Connector Location)	
1D	20	Instrument Penel Wire and Instrument Penel I/P (Lawer Finish Penel)	
1F	7 20	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)	
1K	28	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)	

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)	
IA2	50	Motor Room Main Wire and Instrument Panel Wire (Left Kick Panel)	

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
M13	42	Motor Room Main Wire	12	50	Motor Room Main Wire





POWER SOURCE (288V)

SERVICE HINTS

SMR NO.1

Point Side: Closed with the motor SW at ST position

2-GROUND : Always continuity

SMR NO.2

Point Side: Closed with the ready on

SMR NO.3

Point Side: Closed with the ready on

: PARTS LOCATION

Code	See Page	Co	de	See Page	Code	See Page
E14	37 DS ON VERTITAR MOITOAST	J10	Α	39		
F10	36	J11	В	39		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
Р	27	Power Control Unit R/B (In the Battery Tray)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	lunction Block and Wire Harness (Connector Location)				
PB	33	Main Battery Cable No.1 and Power Control Unit J/B (In the Power Control Unit)				
PC	33	Motor Room No.4 Wire and Power Control Unit J/B (In the Power Control Unit)				

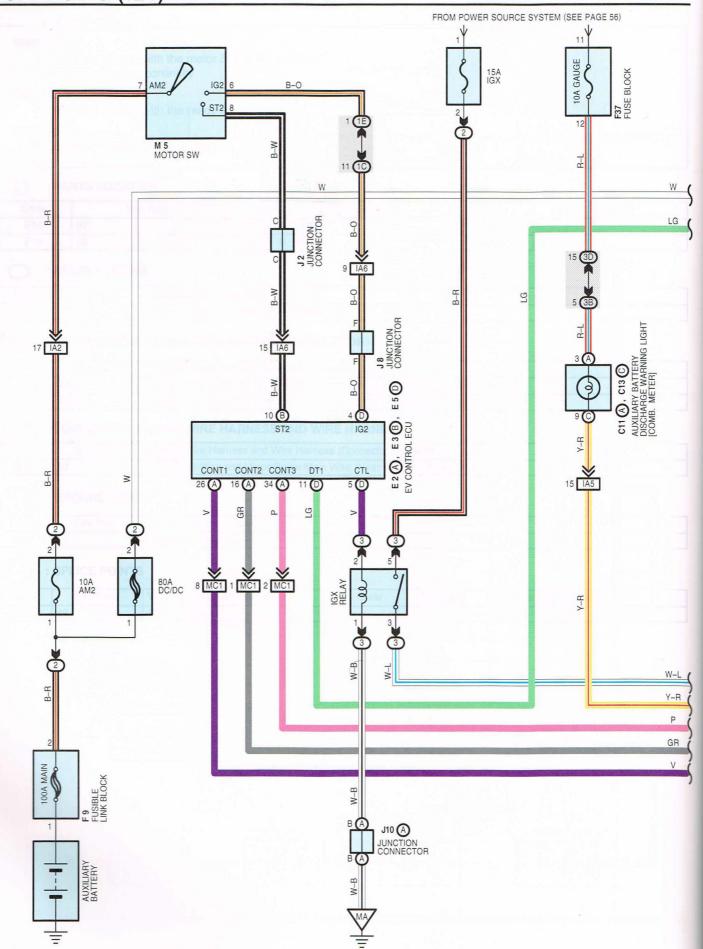
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

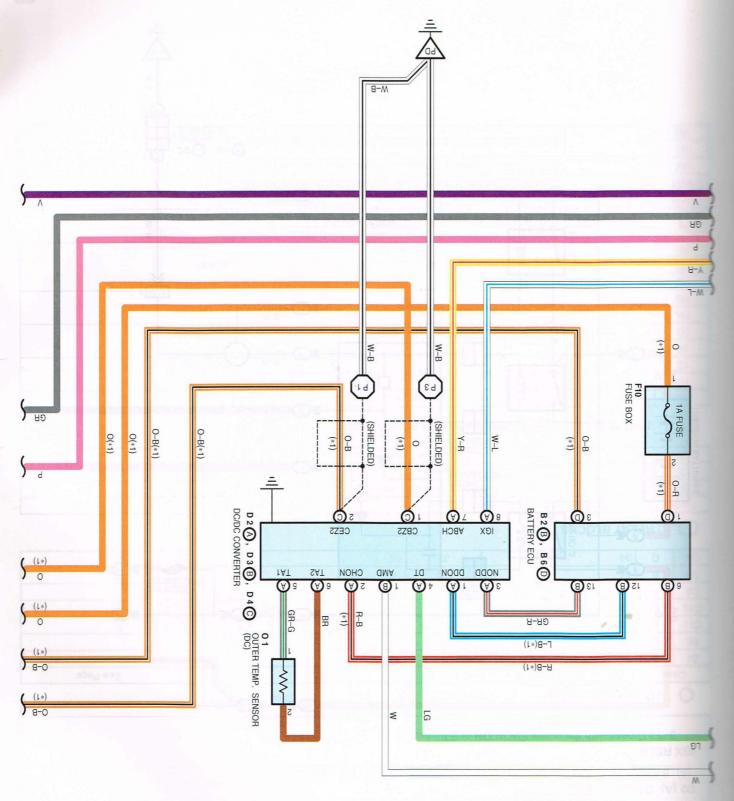
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
MC1	42	Floor No.3 Wire and Motor Room Main Wire (Near the Front Side Member RH)

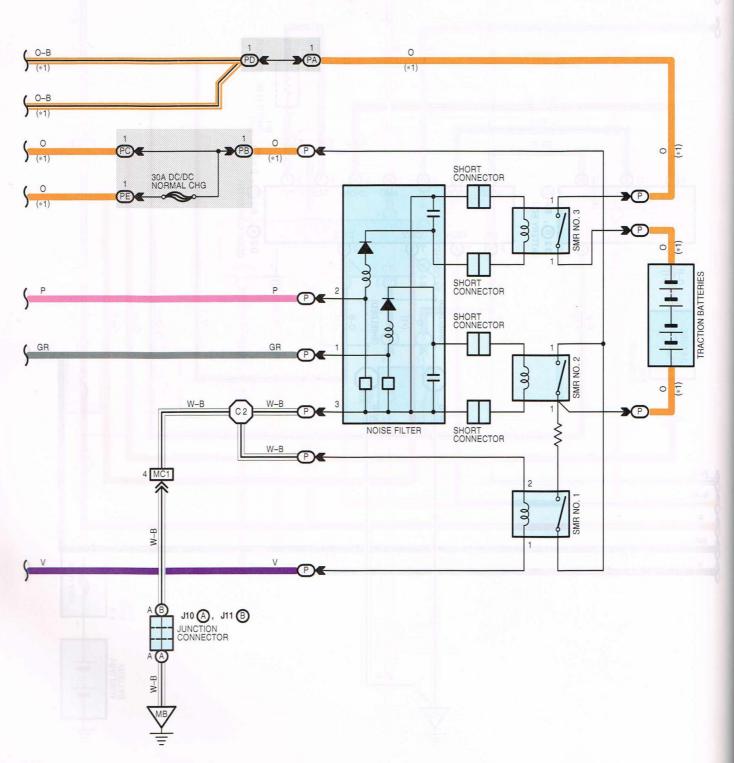
: GROUND POINTS

Code	See Page	Ground Points Location
MB	42	Radiator Support LH

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
C2	48	Floor No.3 Wire			







SYSTEM OUTLINE -

The DC/DC converter converts the direct current from the traction batteries into alternate current, and after reducing the voltage, the converter re-converts the alternate current into direct current. Consequently, the converter uses the high voltage of the traction batteries (DC288V) to create the low voltage (DC12V) needed by the auxiliary battery and charges it.

- SERVICE HINTS

E3 (B), E5 (D) EV CONTROL ECU

(B)10-GROUND : Approx. 12 volts with the motor SW at ST position

(D) 4-GROUND : Approx. 12 volts with the motor SW at ON or ST position

D2 (A) DC/DC CONVERTER

(A) 8-GROUND : Approx. 12 volts with the motor SW at ON or ST position

IGX RELAY

3-5 : Closed with the motor SW at ON or ST position

: PARTS LOCATION

Co	de	See Page	Co	de	See Page	Co	de	See Page
B2	В	34	E2	Α	34	J	8	39
B6	D	36	E3	В	34	J10	Α	39
C11	Α	38	E5	D	34	J11	В	39
C13	С	38	F	9	34	N	15	39
D2	Α	34	F1	10	36	C	1	35
D3	В	34	F3	37	39			
D4	С	34	J	2	39			

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)
3	24	EV R/B (Motor Compartment Left)
P	27	Power Control Unit R/B (In the Battery Tray)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)			
1C	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)			
1E	7 20	Institutient Farier Wire and institutient Farier 3/B (Lower Finish Farier)			
3B	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)			
3D	7 30	Institutient Faner wire and Genter 3/B (institutient Faner Genter)			
PA	33	Main Battery Cable No.1 and Power Control Unit J/B (In the Power Control Unit)			
PB	33	I wait battery cable No.1 and Fower Control Offit 3/B (Iff the Fower Control Offit)			
PC	1 11,512				
PD	33	Motor Room No.4 Wire and Power Control Unit J/B (In the Power Control Unit)			
PE					

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)			
MC1	42	Floor No.3 Wire and Motor Room Main Wire (Near the Front Side Member RH)			
IA2	50	Motor Room Main Wire and Instrument Panel Wire (Left Kick Panel)			
IA5	50	Motor Room Main Wire and Instrument Panel Wire (Under the Instrument Panel Center)			
IA6	30	Motor Room Main Wife and institution of aller Wife (Order the institution of aller Center)			

CHARGING (12V)

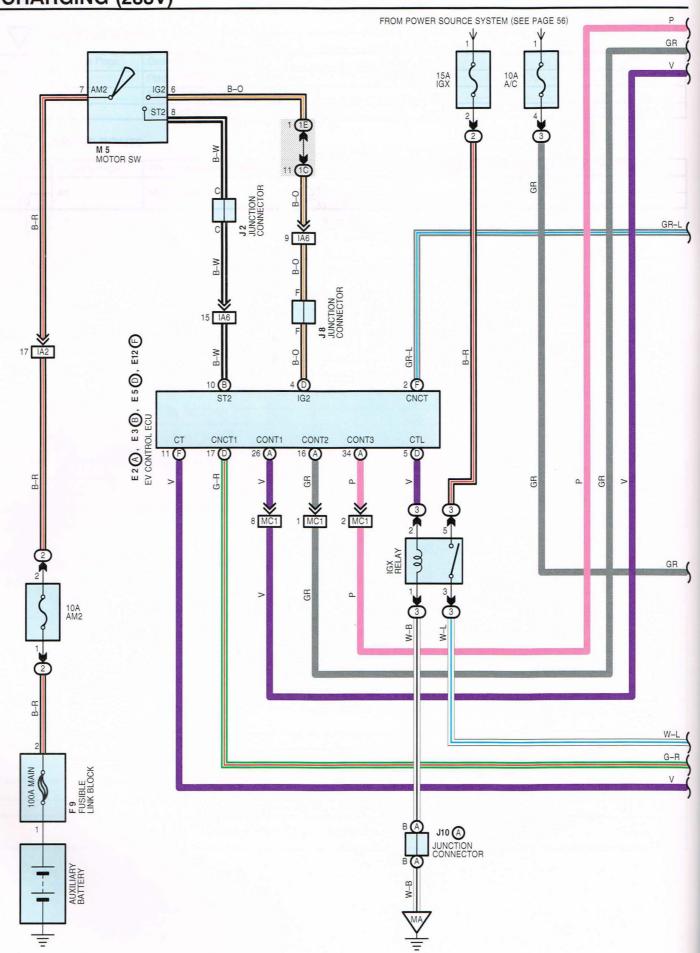


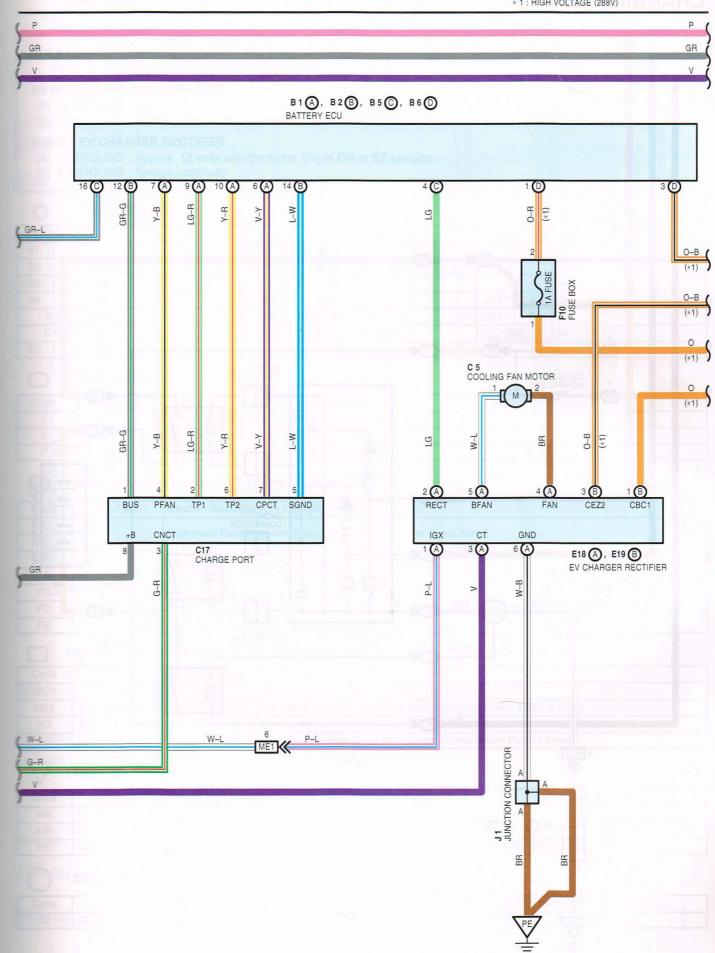
: GROUND POINTS

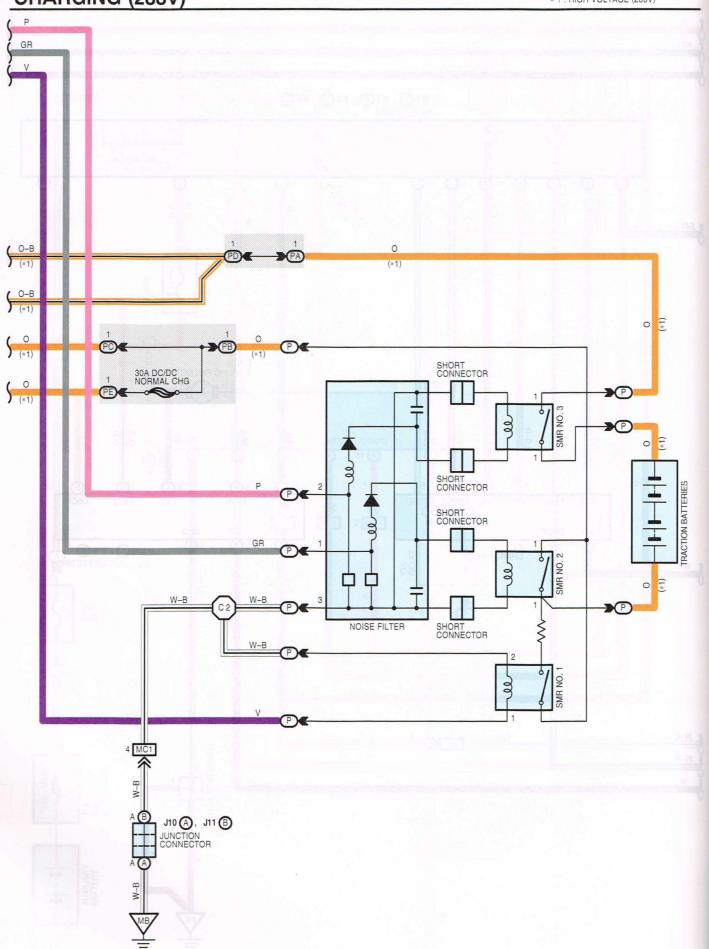
Code	See Page	Ground Points Location and a set english
MA	42	Radiator Support RH
MB	42	Radiator Support LH
PD	44	Rear Left Side of the Power Steering ECU



Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
P1	11	Motor Room No.4 Wire	C2	48	Floor No.3 Wire
P3	144	Wotor Room No.4 Wife	MO an W	Libidat sid niw	a lovist xorma CHUCH Dia (A)







SERVICE HINTS

IGX RELAY

3-5 : Closed with the motor SW at ON or ST position

E3 (B), E5 (D) EV CONTROL ECU

(B) 10-GROUND : Approx. 12 volts with the motor SW at ST position

(D) 4-GROUND : Approx. 12 volts with the motor SW at ON or ST position

E18 (A) EV CHARGER RECTIFIER

(A) 3-GROUND : Approx. 12 volts with the motor SW at ON or ST position

(A) 6-GROUND : Always continuity

: PARTS LOCATION

Co	de	See Page	Co	de	See Page	Co	de	See Page	
B1	А	34	E3	В	34	J	1	36	
B2	В	34	E5	D	34	J2		39	
B5	С	36	E12	F	36	J	8	39	
B6	D	36	E18	Α	36	J10	Α	39	
C	5	36	E19	В	36	J11	В	39	
С	17	34	F	9	34	M	15	39	
E2	А	34	F1	0	36				

) : RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)
3	24	EV R/B (Motor Compartment Left)
Р	27	Power Control Unit R/B (In the Battery Tray)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)			
1C	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)			
1E	7 20	Institutient Failer Wife and institutient Failer 3/D (Lower Fillish Failer)			
PA	33	Main Battery Cable No.1 and Power Control Unit J/B (In the Power Control Unit)			
PB	33				
PC					
PD	33	Motor Room No.4 Wire and Power Control Unit J/B (In the Power Control Unit)			
PE					

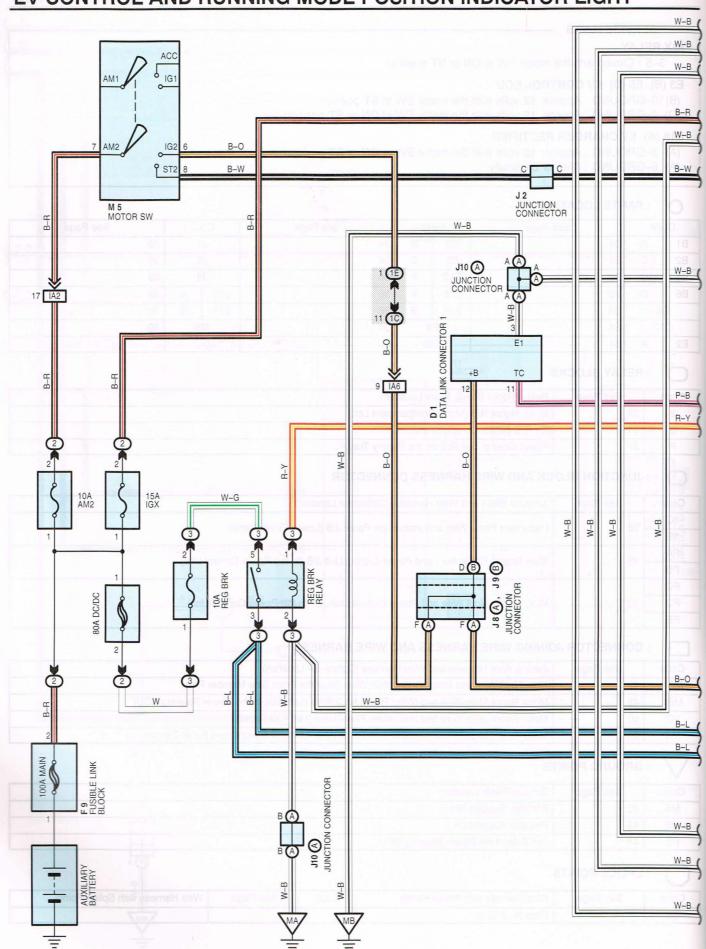
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

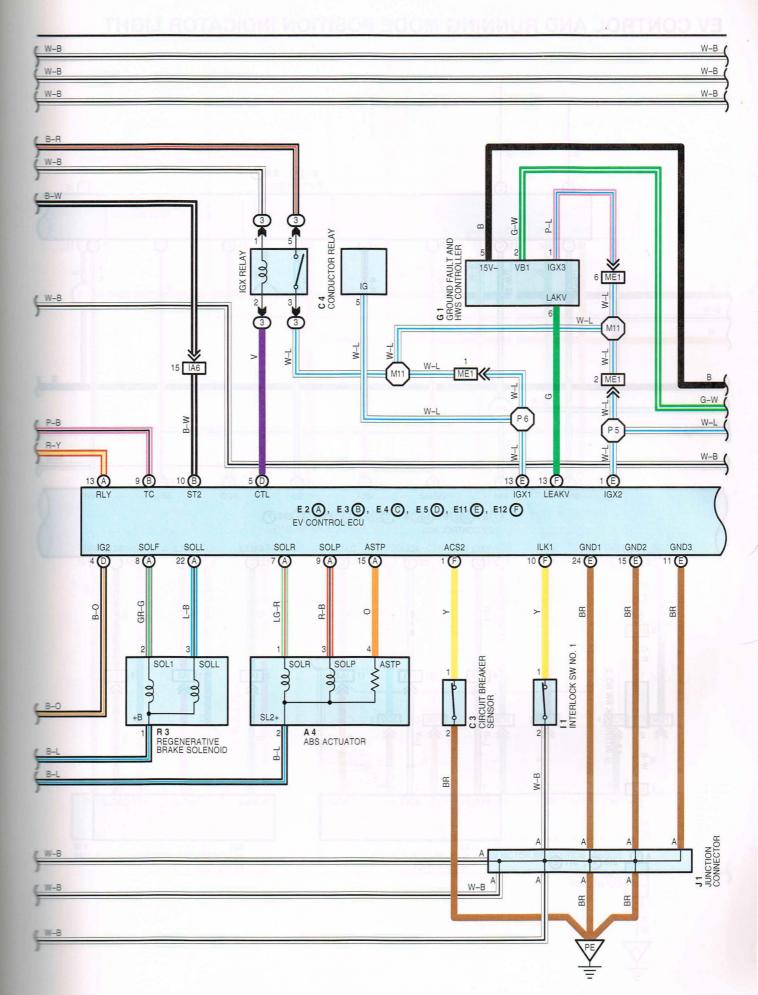
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)	
MC1	42	Floor No.3 Wire and Motor Room Main Wire (Near the Front Side Member RH)	0
ME1	42	Motor Room Main Wire and Motor Room No.2 Wire (Left Side of the Power Steering ECU)	30
IA2	50	Motor Room Main Wire and Instrument Panel Wire (Left Kick Panel)	do .
IA6	50	Motor Room Main Wire and Instrument Panel Wire (Under the Instrument Panel Center)	5

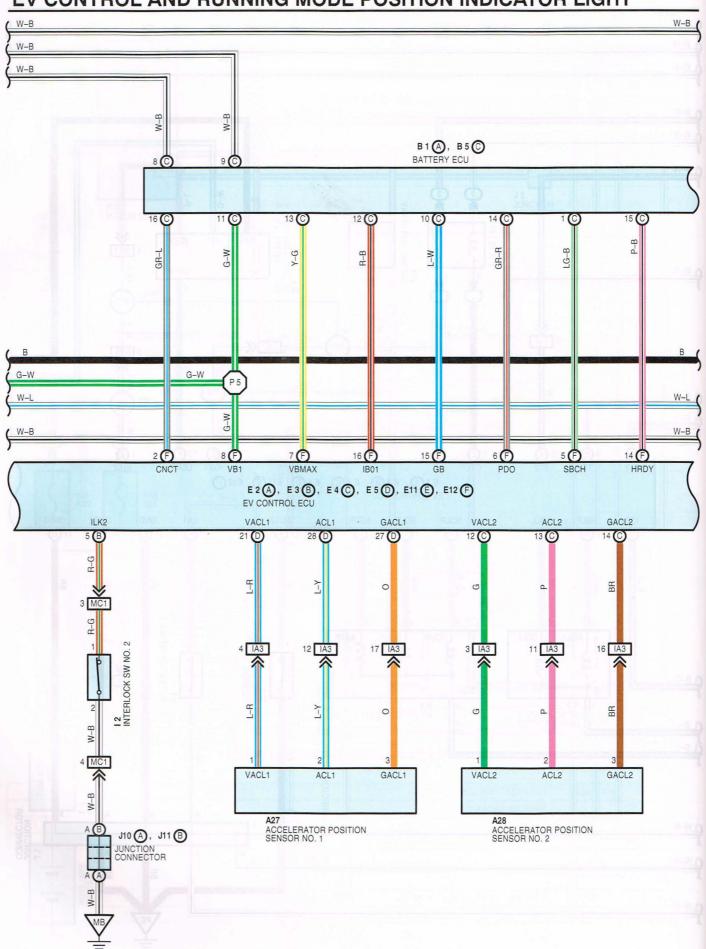
: GROUND POINTS

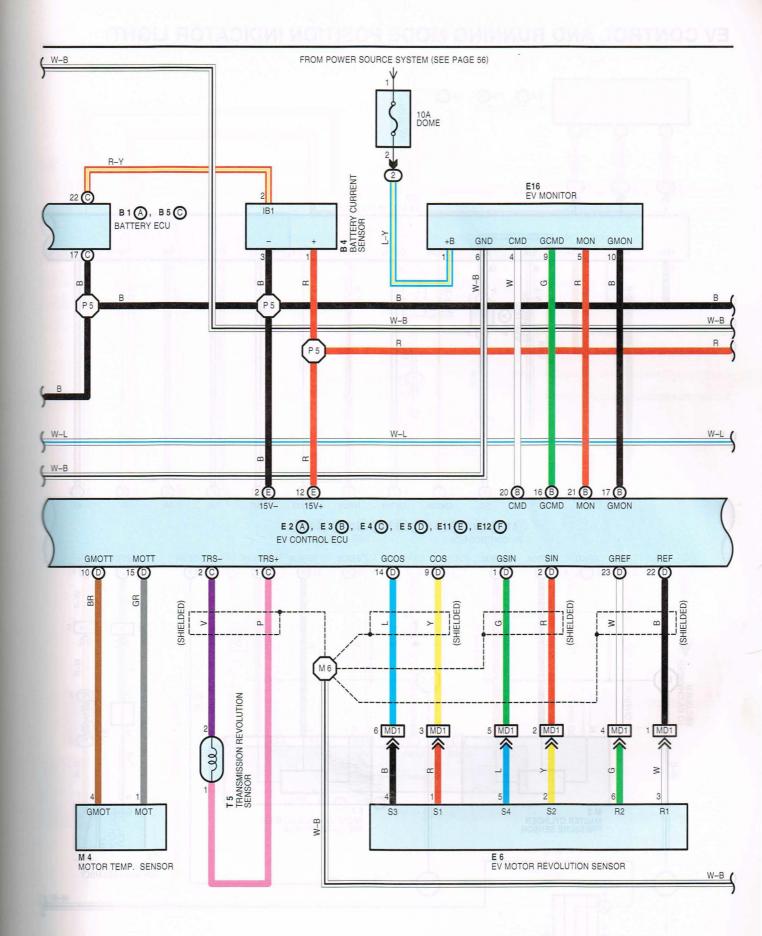
Code	See Page	Ground Points Location
MA	42	Radiator Support RH
MB	42	Radiator Support LH
PE	44	Left Side of the Power Steering ECU

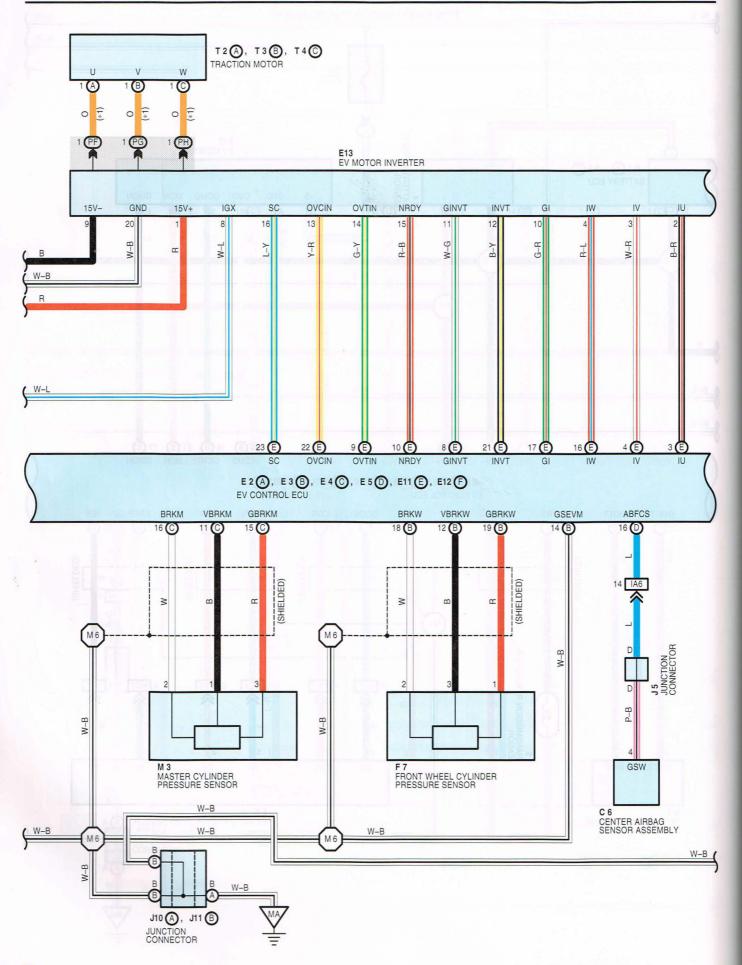
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
C2	48	Floor No.3 Wire	7 5	17	

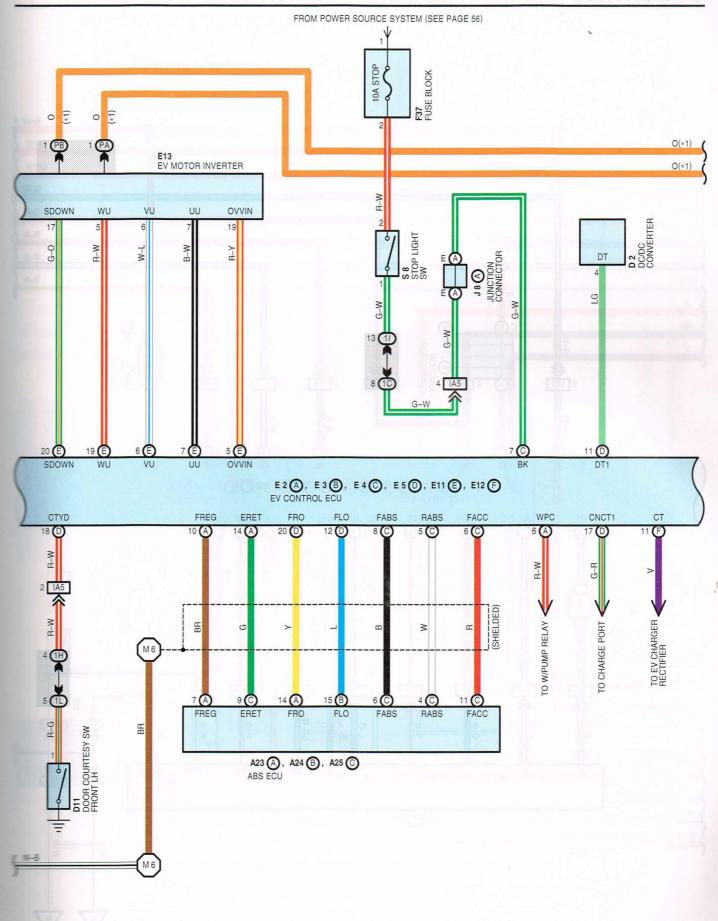


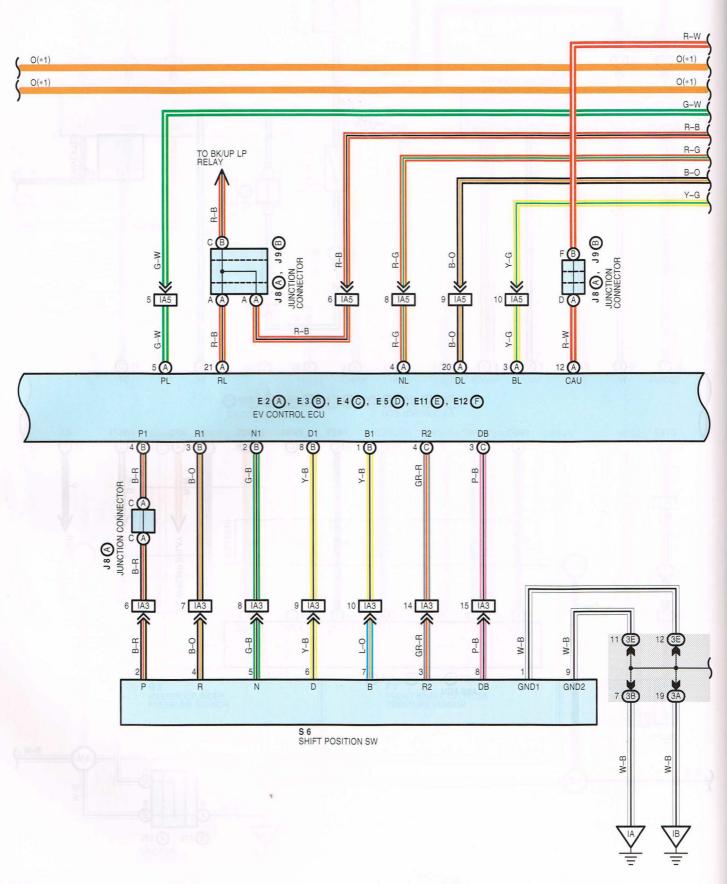


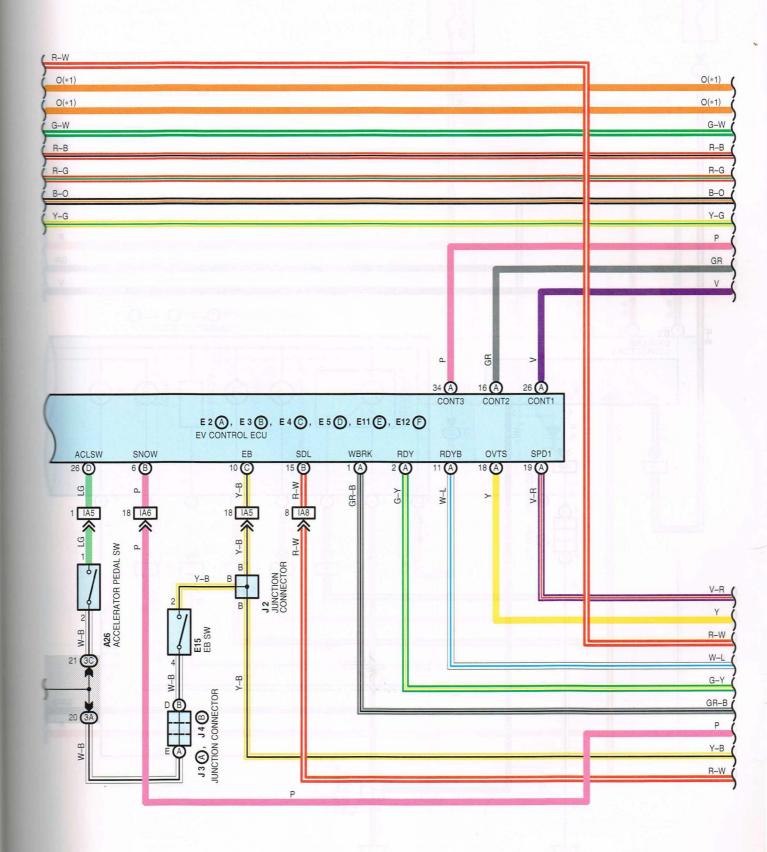


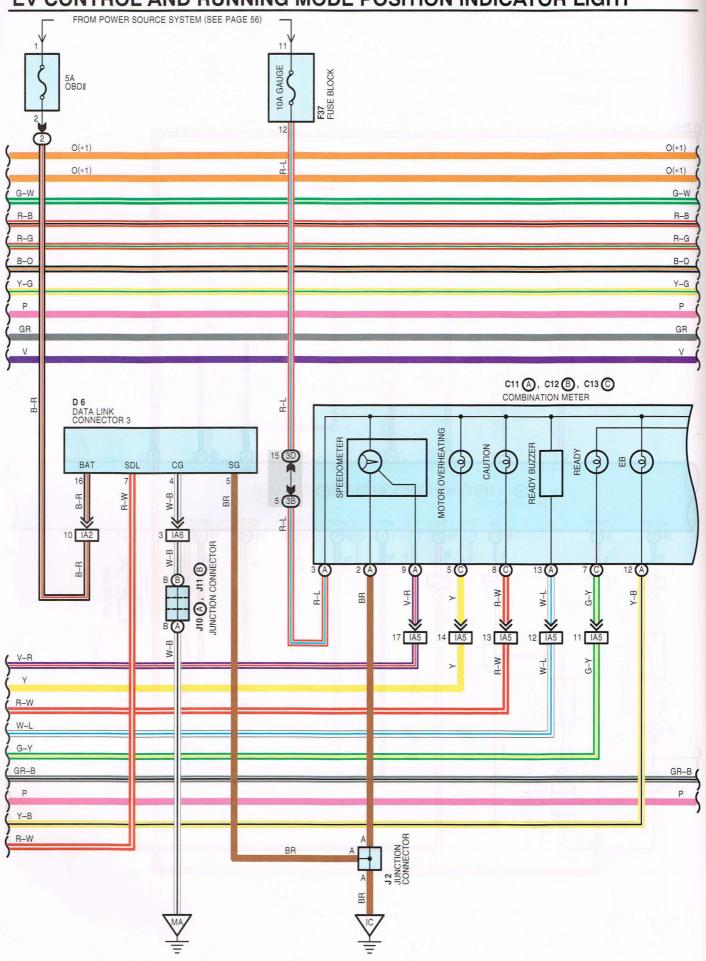




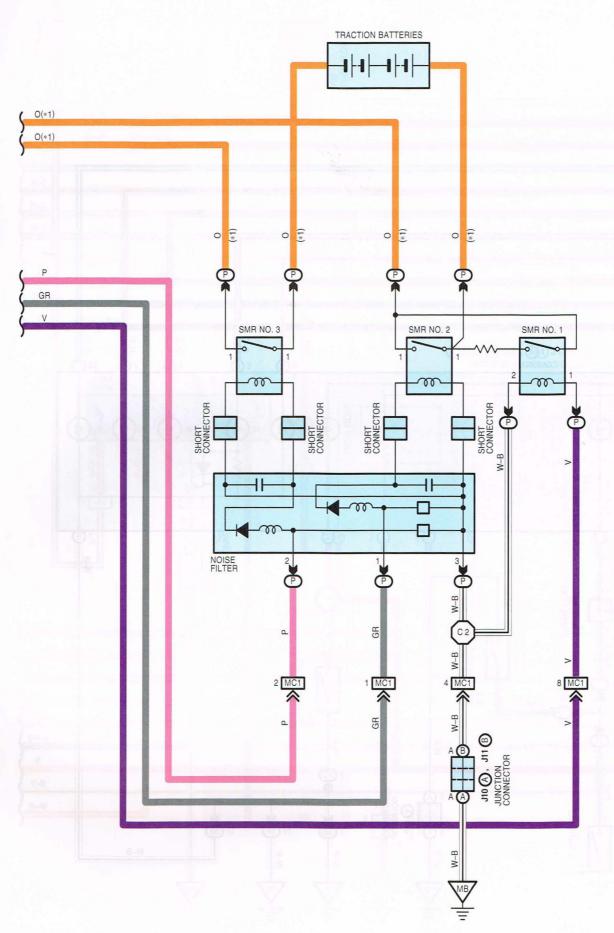








* 1 : HIGH VOLTAGE (288V)



SYSTEM OUTLINE

The EV control ECU processes the calculations for various types of systems and motor torque command based on the input signals received from respective sensors and SW.

* Accelerator position sensor no.1 and no.2

Detects the opening angle of the accelerator pedal.

* Accelerator pedal SW

Detects the full-close condition of the accelerator pedal.

* EV motor revolution sensor

Detects the rotational angle and the rotational direction of the rotor of the traction motor.

* Motor temp. sensor

Detects the temp. of the traction motor.

* System main relay

The system main relay is activated only when supply of electrical power from the traction batteries is necessary during driving and charging.

* Snow mode control

When the snow mode SW is turned ON, the traction motor outputs less traction force than normal in order to facilitate the vehicle's start off on slippery surface such as snow-covered roads.

* EV motor inverter

The EV motor inverter receives the 3 phase on-off pattern signal from the EV control ECU and converts the direct current from the traction batteries to control the traction motor current.

SERVICE HINTS .

E2 (A), E3 (B), E4 (C), E5 (D), E11 (E) EV CONTROL ECU

IG2-GROUND : Approx. 12 volts with the motor SW at ON or ST position

ST2-GROUND : Approx. 12 volts with the motor SW at ST position

CONT2-GROUND : Approx. 12 volts with the ready on

CONT1-GROUND : Approx. 12 volts with the motor SW at ST position

CONT3-GROUND : Approx. 12 volts with the ready on

BK-GROUND: Approx. 12 volts with the brake pedal depressed

CTL-GROUND : Approx. 12 volts with the motor SW at ON or ST position or during recharge

ACLSW-GROUND: Approx. 12 volts with the motor SW at ON or ST position and accelerator pedal depressed

IGX2-GROUND: Approx. 12 volts with the motor SW at **ON** or **ST** position IGX1-GROUND: Approx. 12 volts with the motor SW at **ON** or **ST** position

TC-GROUND: Approx. 12 volts with the data link connector 1 TC-E1 not connected

15V- -GROUND : Approx. -15 volts with the motor SW at ON or ST position

GND1-GROUND: Always continuity

GND2-GROUND: Always continuity

GND3-GROUND: Always continuity

E13 EV MOTOR INVERTER

20-GROUND : Always continuity

I1 INTERLOCK SW NO.1

1-2: Closed with the power control unit cover closed

12 INTERLOCK SW NO.2

1-2: Closed with the service plug installed

: PARTS LOCATION

Code		See Page	Code		See Page	Co	de	See Page
A4		34	D6		38	J:	2	39
A23	Α	38	D	11	40	J3	Α	39
A24	В	38	E2	Α	34	J4	В	39
A25	С	38	E3	В	34	J	5	39
A26		38	E4	С	34	J8	Α	39
A27		38	E5	D	34	J9	В	39
A28		38	E	6	34	J10	Α	39
B1	Α	34	E	10	.36	J11	В	39
B3		34	E11	E	36	M3		35
B4		36	E12	F	36	M4		35
B5	С	36	E13		36	M5		39
C3		36	E15		39	P5		39
C4		36	E16		39	R3		35
C5		36	F7		34	S6		39
C6		38	F9		34	S7		39
C11	Α	38	F	37	39	S	8	39
C12	В	38	G	i1	36	T2	Α	35
C13	С	38	1	1	36	Т3	В	35
D1		34	1:	2	37	T4	С	35
D2		34	J1		36	Т	5	35

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)		
2	23	Motor Room R/B (Motor Compartment Left)		
3	24	EV R/B (Motor Compartment Left)		
Р	27	Power Control Unit R/B (In the Battery Tray)		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)				
1B						
1C						
1E	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)				
1H						
11						
1J	28	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)				
1L	28	Floor Wire and Instrument Panel J/B (Lower Finish Panel)				
ЗА		Instrument Panel Wire and Center J/B (Instrument Panel Center)				
3B	30					
3C						
3D						
3E						
PA	00	Main Battery Cable No.1 and Power Control Unit J/B (In the Power Control Unit)				
PB	33					
PF		EV Motor Cable and Power Control Unit J/B (In the Power Control Unit)				
PG	33					
PH						

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

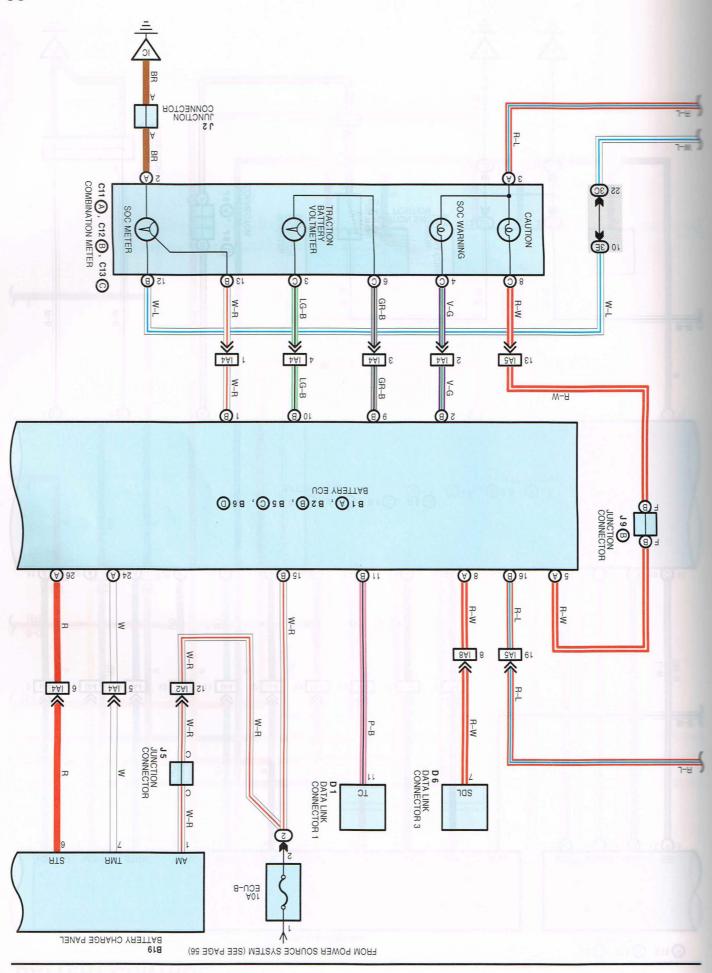
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)				
MC1	42	Floor No.3 Wire and Motor Room Main Wire (Near the Front Side Member RH)				
MD1	42	Motor Room Main Wire and Motor Revolution Sensor Wire (Upper Left Side of the Traction Motor)				
ME1	42	Motor Room Main Wire and Motor Room No.2 Wire (Left Side of the Power Steering ECU)				
IA2	50	Motor Room Main Wire and Instrument Panel Wire (Left Kick Panel)				
IA3						
IA5	50	Motor Room Main Wire and Instrument Panel Wire (Under the Instrument Panel Center)				
IA6						
IA8	50	Motor Room Main Wire and Instrument Panel Wire (Right Kick Panel)				

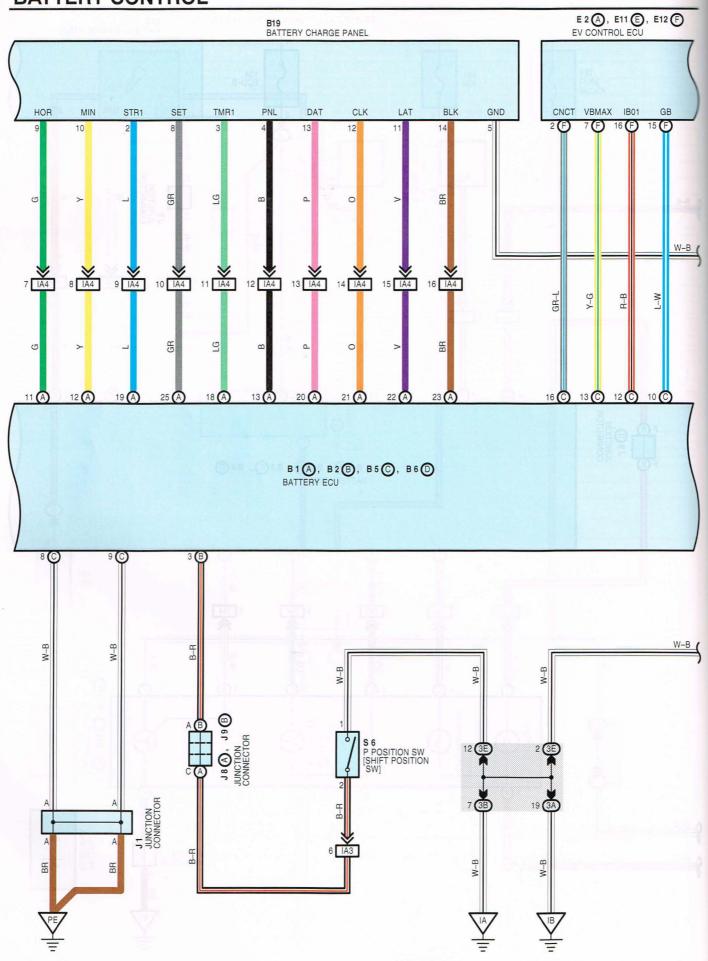
: GROUND POINTS

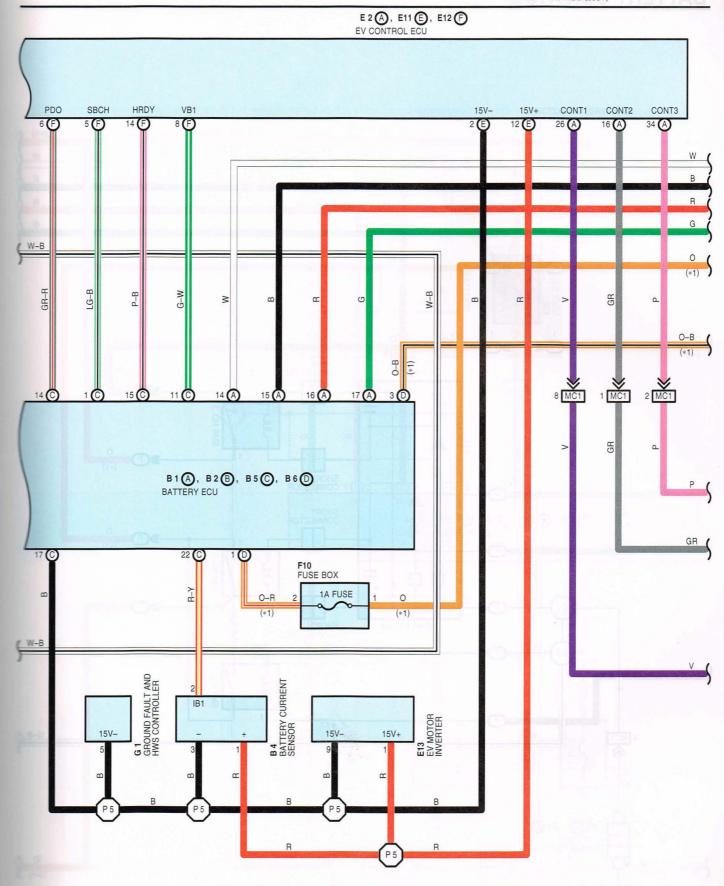
Code	See Page	Ground Points Location		884 6 1		
MA	42	Radiator Support RH	10	2		10
MB	42	Radiator Support LH	100	114 117	100	17967
PE	44	Left Side of the Power Steering ECU	A (A)			
IA	50	Left Kick Panel	8 11	- Table 1		- War
IB	50	Instrument Panel Brace LH	7/3			4
IC	50	Instrument Panel Brace RH	11 -		The last	

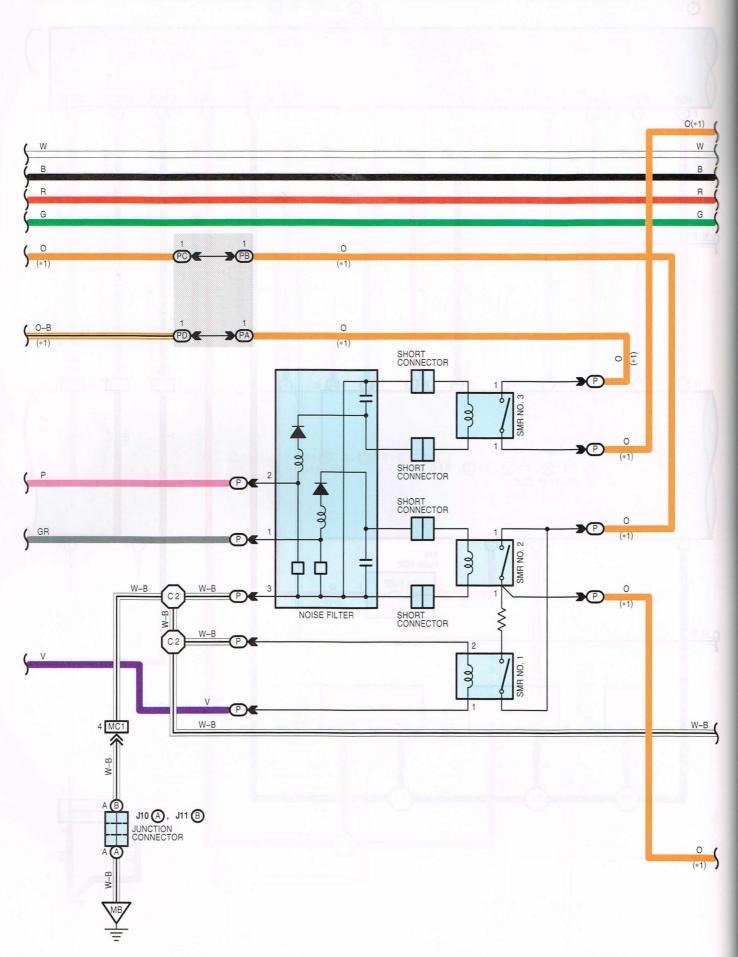


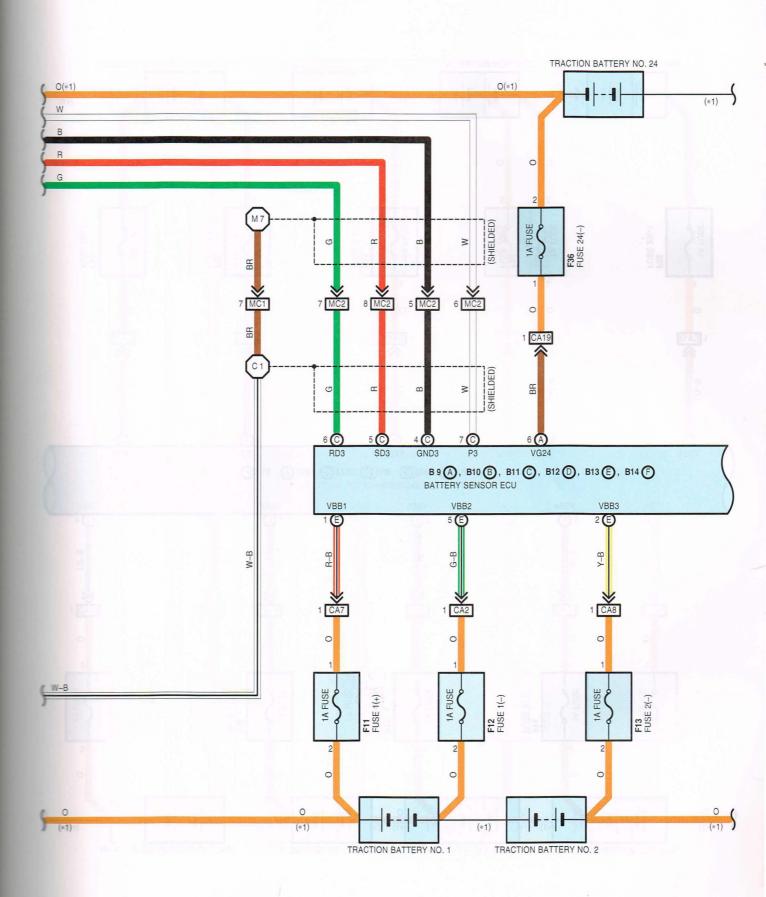
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
M6	12	Motor Room Main Wire	P6	44	Motor Room No.2 Wire
M11	M11 42	Wotor Noom Wall Wife	C2	48	Floor No.3 Wire
P5	44	Motor Room No.2 Wire	13	50	Instrument Panel Wire

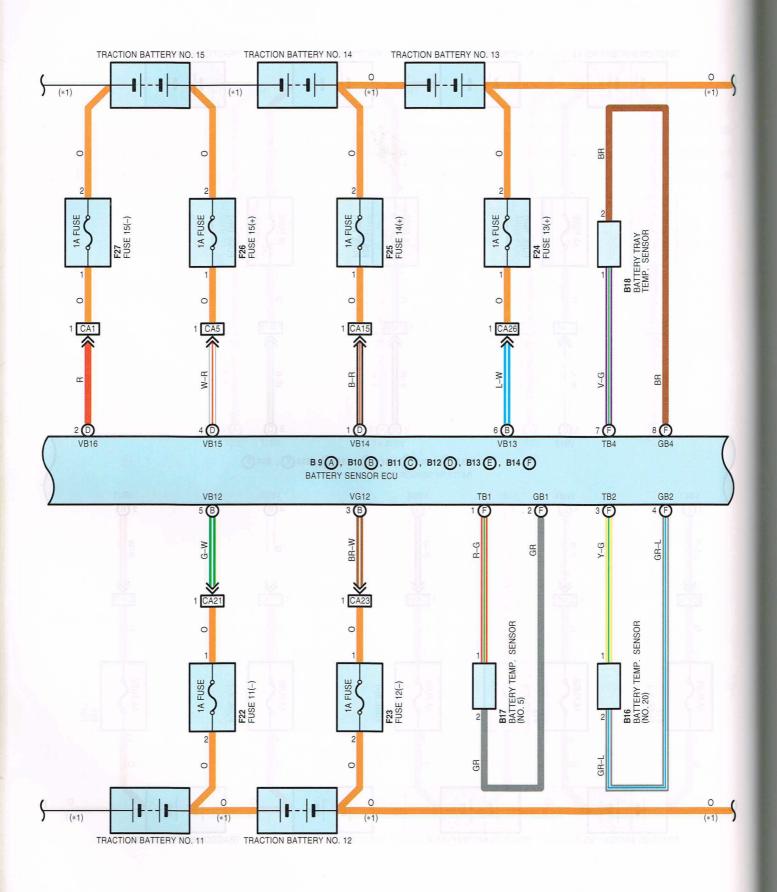


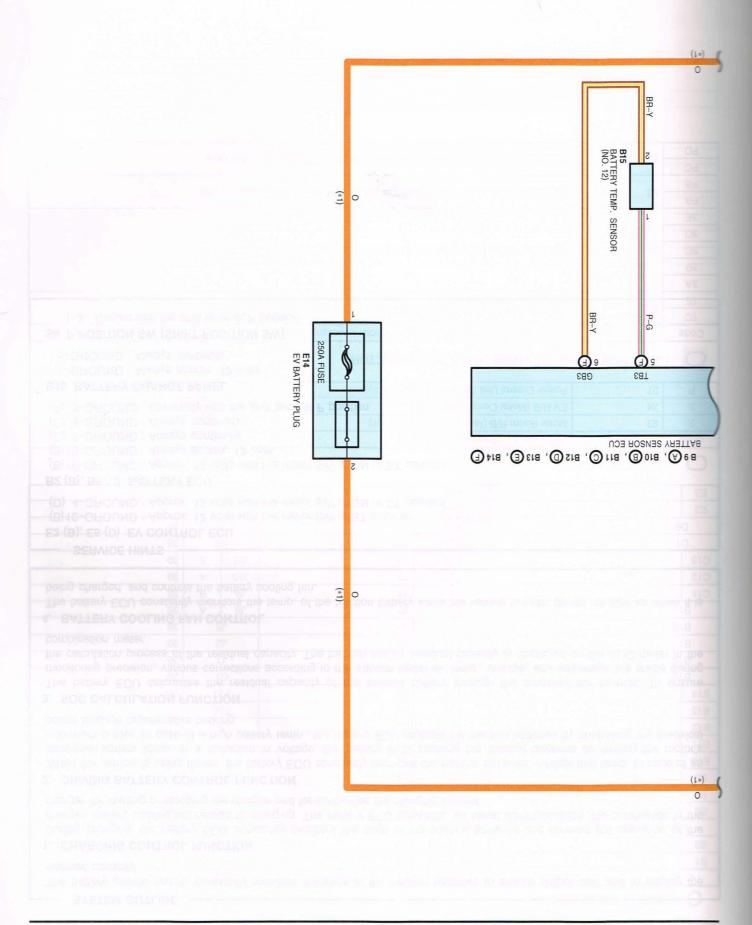












BATTERY CONTROL

SYSTEM OUTLINE

The battery control system constantly monitors the state of the traction batteries to ensure proper use, and to display the residual capacity.

1. CHARGING CONTROL FUNCTION

During charging, the battery ECU constantly monitors the state of the traction batteries and controls the operation of the charger, battery cooling fan related to charging. The battery ECU transmits, via serial communication, the commands to the charger for starting or stopping the charger and for controlling the charging current.

2. DRIVING BATTERY CONTROL FUNCTION

When the vehicle is being driven, the battery ECU constantly monitors the traction batteries' voltage and temp. In case of an abnormal battery temp, or a reduction in voltage, the battery ECU protects the traction batteries by limiting the motor's maximum output. In case of a high battery temp, the battery ECU protects the traction batteries by controlling the electrical power through regenerative braking.

3. SOC CALCULATION FUNCTION

The battery ECU calculates the residual capacity of the traction battery through the ampere-hour formula. To ensure monitoring precision, various corrections according to the traction batteries' temp., voltage, and amperage are made during the calculation process of the residual capacity. The traction battery residual capacity is displayed on the SOC meter in the combination meter.

4. BATTERY COOLING FAN CONTROL

The battery ECU constantly monitors the temp. of the traction battery while the vehicle is been driven, as well as when it is being charged, and controls the battery cooling fan.

SERVICE HINTS

E3 (B), E5 (D) EV CONTROL ECU

(B) 10-GROUND: Approx. 12 volts with the motor SW at ST position

(D) 4-GROUND : Approx. 12 volts with the motor SW at ON or ST position

B2 (B), B5 (C) BATTERY ECU

(B)16-GROUND: Approx. 12 volts with the motor SW at ON or ST position

(B)15-GROUND: Always approx. 12 volts

(C) 8-GROUND : Always continuity

(C) 9-GROUND : Always continuity

(B) 3-GROUND : Continuity with the shift lever at P position

B19 BATTERY CHARGE PANEL

1-GROUND : Always approx. 12 volts

5-GROUND : Always continuity

S6 P POSITION SW [SHIFT POSITION SW]

1-2: Closed with the shift lever at P position

O : PARTS LOCATION

Co	de	See Page	Co	de	See Page		de	See Page	6000
B1	Α	34	E5	D	34	F	27	37	MOT
B2	В	34	E11	Е	36	F	28	37	MG2
В	4	36	E12	F	36	F	29	37	140
B5	С	36	E1	3	36	F	30	37	910
B6	D	36	E1	4	37	F	31	37	640
B9	Α	37	F	9	34	F	32	37	MAD
B10	В	37	F1	0	36	F	33	37	CAS
B11	С	37	F1	1	37	F	34	37	PAD
B12	D	37	F1	2	37	F	35	37	1175
B13	Е	37	F1	3	37	F	36	37	BAG
B14	F	37	F1	4	37	F	37	39	CAS
B1	15	37	F1	5	37	G	i1	36	OFAC
B1	16	37	F1	6	37	J	1	36	ITAC
B1	17	37	F1	7	37	J	2	39	SA12
B1	18	37	F1	8	No 2 and Floor Man S of	J	5	39	CA13
B1	19	38	F1	9	37	J8	Α	39	ATAC
C11	Α	38	F2	20	37	J9	В	39	CAIS
C12	В	38	F2	21	37	J10	Α	39	81A0
C13	С	38	F2	22	37	J11	В	39	TIAC
D	1	34	F2	23	37	N	15	39	BIAG
D	6	38	F2	24	37	S	6	39	erac
E2	Α	34	F2	25	37			48	DSAS
E3	В	34	F2	26	37				TSAS

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)
3	24	EV R/B (Motor Compartment Left)
Р	27	Power Control Unit R/B (In the Battery Tray)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)		8AI
1C	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)	ATT DE	8AU
1E	20	instrument i anei vine and instrument i anei o/b (Lower i inisiri anei)		
ЗА	11000		GROUND POINTS	1/
3B				
3C	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)		
3D				
3E				
PA	The second of th	Main Battery Cable No.1 and Power Control Unit J/B (In the Power Control Unit)	the second	39
PB	33			
PC			00	- 0
PD	33	Motor Room No.4 Wire and Power Control Unit J/B (In the Power Control Unit)		

BATTERY CONTROL

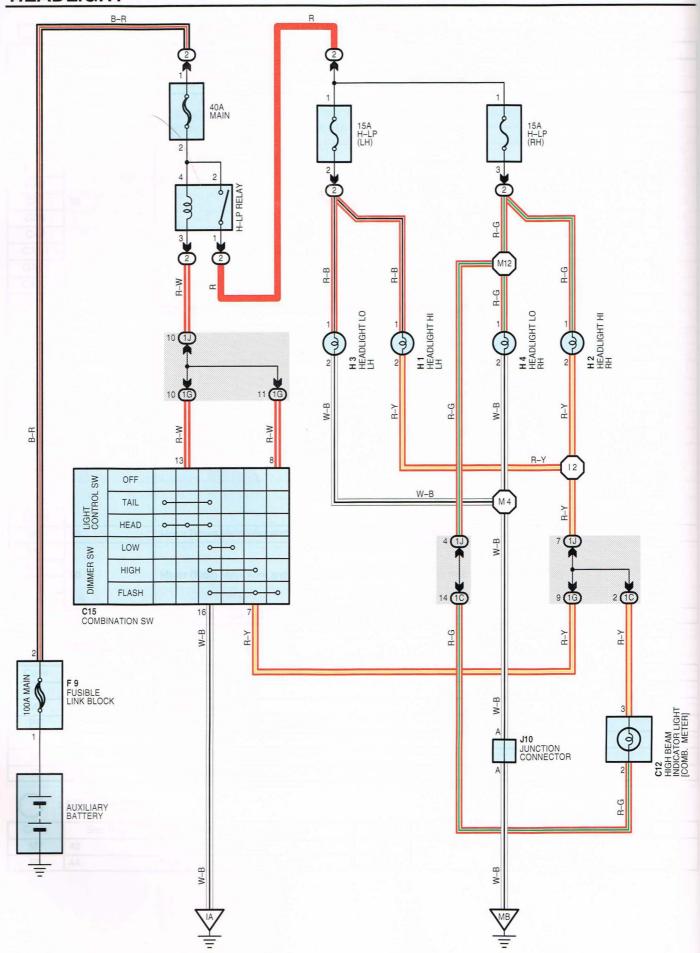
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)	5000'S	
MC1	42	Floor No.3 Wire and Motor Room Main Wire (Near the Front Side Member RH)	18	
MC2	42	Floor No.3 Wire and Motor Room Main Wire (Near the Front Side Member RH)		
CA1			aghe	
CA2				
CA3				
CA4				
CA5				
CA6				
CA7	46			
CA8				
CA9				
CA10				
CA11				
CA12				
CA13		Main Battery Cable No.2 and Floor No.3 Wire (In the Battery Tray)		
CA14		Wall Balloty Cable 10.2 and 1 lost 10.5 Wile (in the Ballety Tray)		
CA15				
CA16				
CA17				
CA18				
CA19				
	48	The state of the s		
CA21				
CA22				
CA23		FILLW BLOCKS -		
CA24		See foreign a series and should have a series and a first and a fi		
CA25		23, 5157 g. S Magail Rosin B. Marior Campanings canni hurr		
CA26	RC-	(fig.) I teach to make the second of the sec	R	
	50	Motor Room Main Wire and Instrument Panel Wire (Left Kick Panel)	Q .	
IA3				
IA4	50	Motor Room Main Wire and Instrument Panel Wire (Under the Instrument Panel Center)		
IA5				
IA6		mention of a Secretary sequipment of a contraction of the second of the	Code	
IA8	50	Motor Room Main Wire and Instrument Panel Wire (Right Kick Panel)	OF	

: GROUND POINTS

Code	See Page	Ground Points Location	26
MA	42	Radiator Support RH	CIR.
MB	42	Radiator Support LH	70
PE	44	Left Side of the Power Steering ECU	PA
IA	50	Left Kick Panel	99
IB	50	Instrument Panel Brace LH	na
IC	50	Instrument Panel Brace RH	-00

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
M7	42	Motor Room Main Wire	C1	40	Floor No.3 Wire
P5	44	Motor Room No.2 Wire	C2	40	Ploof No.5 Wife



SERVICE HINTS

H-LP RELAY

1-2 : Closed with the light control SW at **HEAD** position or the dimmer SW at **FLASH** position

C15 COMBINATION SW

13-16 : Closed with the light control SW at **HEAD** position

8-16 : Closed with the dimmer SW at FLASH position

7-16 : Closed with the dimmer SW at HIGH or FLASH position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C12	38	H1	35	H4	35
C15	38	H2	35	J10	39
F9	34	H3	35		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23 Motor Room R/B (Motor Compartment Left)	

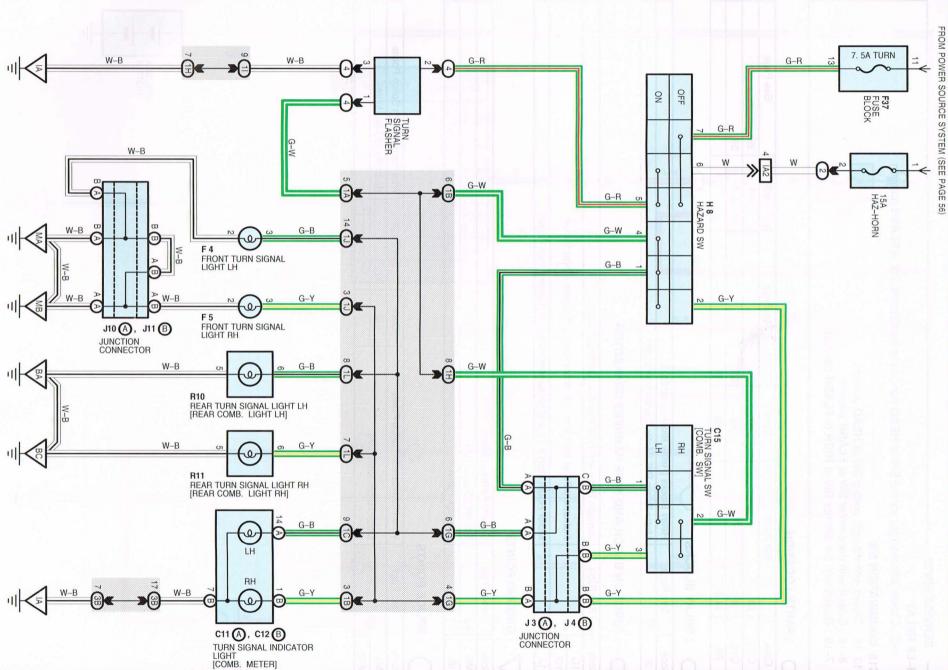
: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1C	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1G	20	institutient i allei whe and institutient i allei 5/5 (Lower i inish i allei)
1J	28	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)

7 : GROUND POINTS

Code	See Page	Ground Points Location
MB	42	Radiator Support LH
IA	50	Left Kick Panel

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
M4	12	Motor Boom Main Wiro	12	50	Motor Room Main Wire
M12	42	Motor Room Main Wire	14		



SERVICE HINTS

TURN SIGNAL FLASHER

2-GROUND: Approx. 12 volts with the motor SW on or the hazard SW on

1-GROUND : Changes from 12 to 0 volts with the motor SW on and the turn signal SW LH or RH position,

or with the hazard SW on

3-GROUND : Always continuity

C : PARTS LOCATION

Co	de	See Page	Co	de	See Page	Co	de	See Page
C11	Α	38	F	37	39	J11	В	39
C12	В	38	Н	8	39	R1	10	40
C	15	38	J3	Α	39	R1	11	40
F	4	34	J4	В	39	Parial)		Tan and the same of the same o
F	5	34	J10	Α	39	WP THE	IGNTS	

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)
4	25	Driver Side R/B (Left Kick Panel)

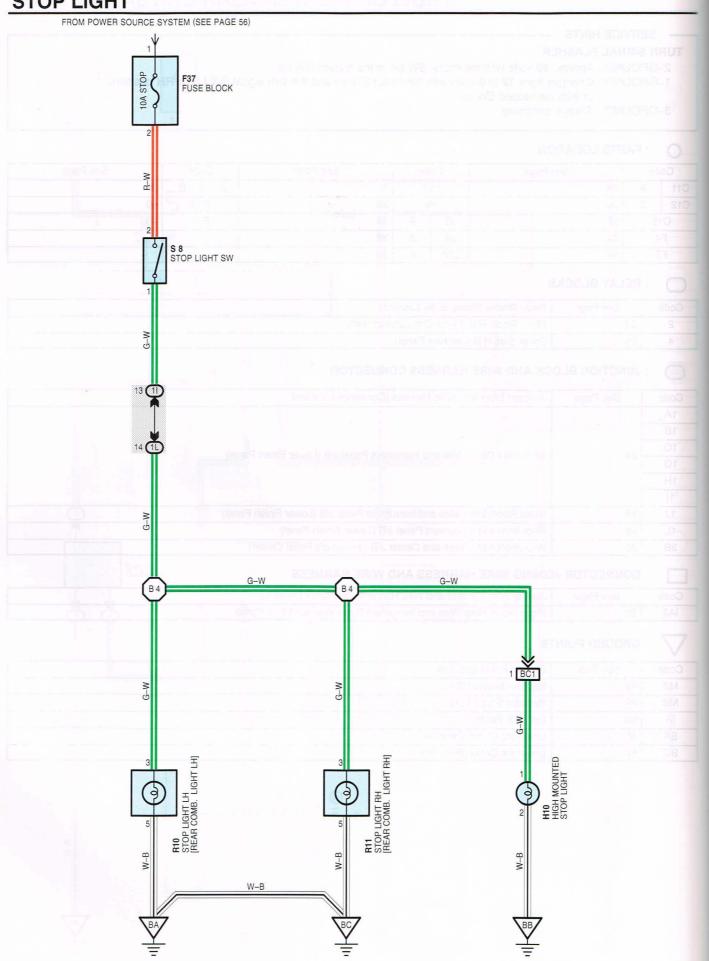
: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)			
1A					
1B					
1C		Instrument Panel Wire and Instrument Panel I/P /Lower Finish Panel			
1G	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)			
1H					
11					
1J	28	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)			
1L	28	Floor Wire and Instrument Panel J/B (Lower Finish Panel)			
3B	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)			

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA2	50	Motor Room Main Wire and Instrument Panel Wire (Left Kick Panel)

Code	See Page	Ground Points Location
MA	42	Radiator Support RH
MB	42	Radiator Support LH
IA	50	Left Kick Panel
BA	52	Under the Center Pillar LH
BC	52	Under the Center Pillar RH



SERVICE HINTS

S8 STOP LIGHT SW

2-1: Closed with the brake pedal depressed

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
F37	39	R10	40	S8	39
H10	40	R11	40		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)			
1137	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)			
1L	28	Floor Wire and Instrument Panel J/B (Lower Finish Panel)			

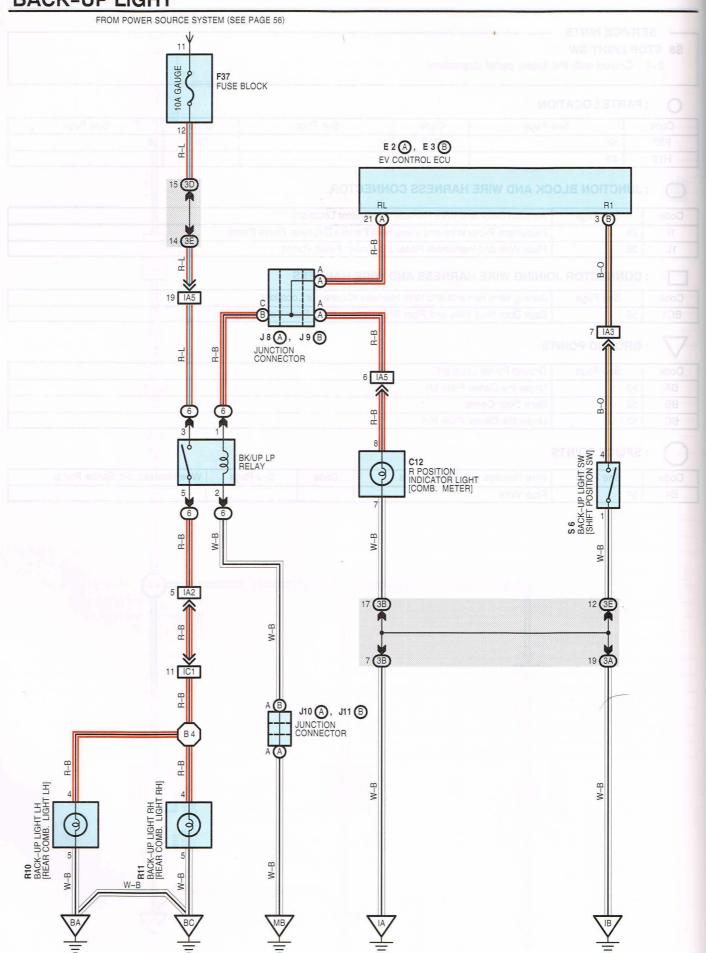
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
BC1	52	Back Door No.1 Wire and Floor Wire (Beside Right Rear Comb. Light)

: GROUND POINTS

Code	See Page	Ground Points Location
BA	52	Under the Center Pillar LH
BB	52	Back Door Center
BC	52	Under the Center Pillar RH

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B4	52	Floor Wire			



SERVICE HINTS

S6 BACK-UP LIGHT SW [SHIFT POSITION SW]

4-1: Closed with the shift lever at R position

BK/UP LP RELAY

3-5 : Closed with the shift lever at R position

O : PARTS LOCATION

Co	de	See Page	Co	de	See Page	Code	See Page	
C12		38	J8	Α	39	R10	40	
E2	Α	34	J9	В	39	R11	40	
E3	В	34	J10	Α	39	S6	39	
F3	37	39	J11	В	39			

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
6	26	Motor Room No.2 R/B (Motor Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)	
3A			(3)
3B	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)	
3D	30	Instrument Paner Wire and Center 3/B (Instrument Paner Center)	
3E			3

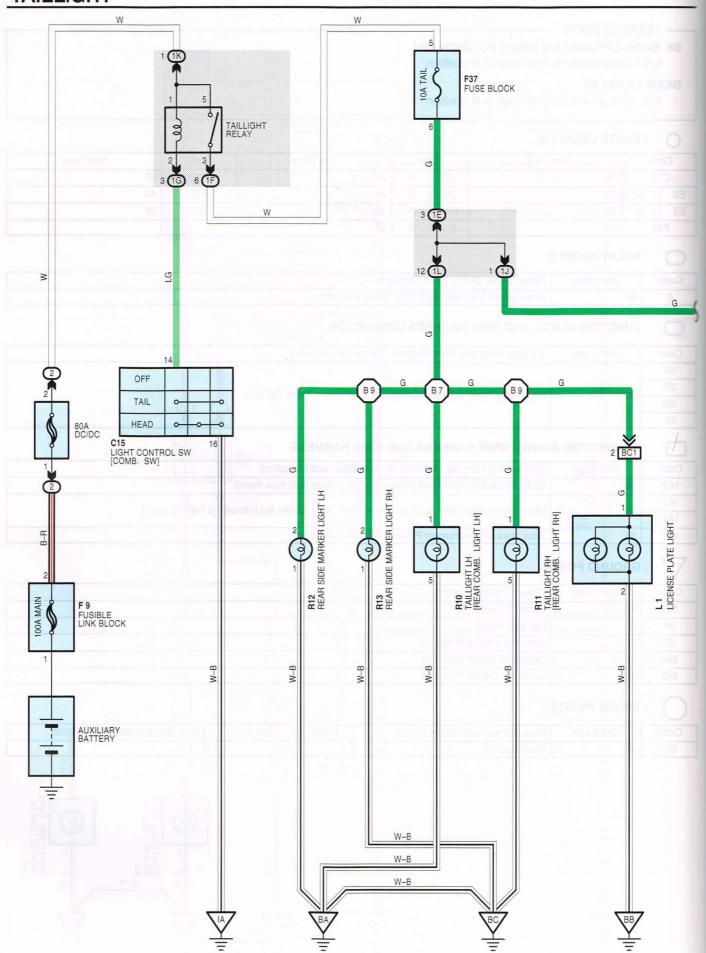
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

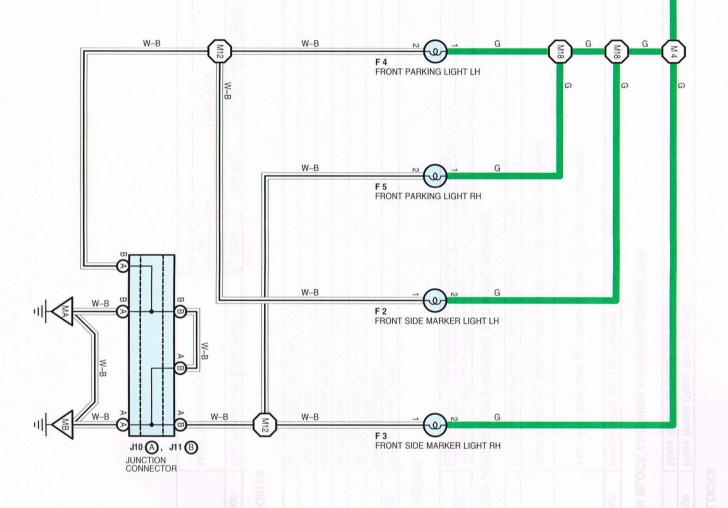
Code	Code See Page Joining Wire Harness and Wire Harness (Connector Location)					
IA2	50	Motor Room Main Wire and Instrument Panel Wire (Left Kick Panel)				
IA3	50	Metay Doom Main Wiya and Instrument Danel Wiya (Under the Instrument Danel Contar)				
IA5	30	Motor Room Main Wire and Instrument Panel Wire (Under the Instrument Panel Center)				
IC1	50	Floor Wire and Instrument Panel Wire (Left Kick Panel)				

: GROUND POINTS

Code	See Page	Ground Points Location
MB	42	Radiator Support LH
IA	50	Left Kick Panel
IB	50	Instrument Panel Brace LH
BA	52	Under the Center Pillar LH
BC	52	Under the Center Pillar RH

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B4	52	Floor Wire			





TAILLIGHT

- SERVICE HINTS

C15 LIGHT CONTROL SW [COMB. SW]

14-16 : Closed with the light control SW at TAIL or HEAD position

TAILLIGHT RELAY

5-3 : Closed with the light control SW at TAIL or HEAD position

O : PARTS LOCATION

Code	See Page	Co	de	See Page	Code	See Page
C15	38	F	9	34	R10	40
F2	34	F3	37	39	R11	40
F3	34	J10	Α	39	R12	40
F4	34	J11	В	39	R13	40
F5	34	L	1	40		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)			
1E					
1F	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)			
1G					
1J	00	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)			
1K	28 Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)				
1L	28	Floor Wire and Instrument Panel J/B (Lower Finish Panel)			

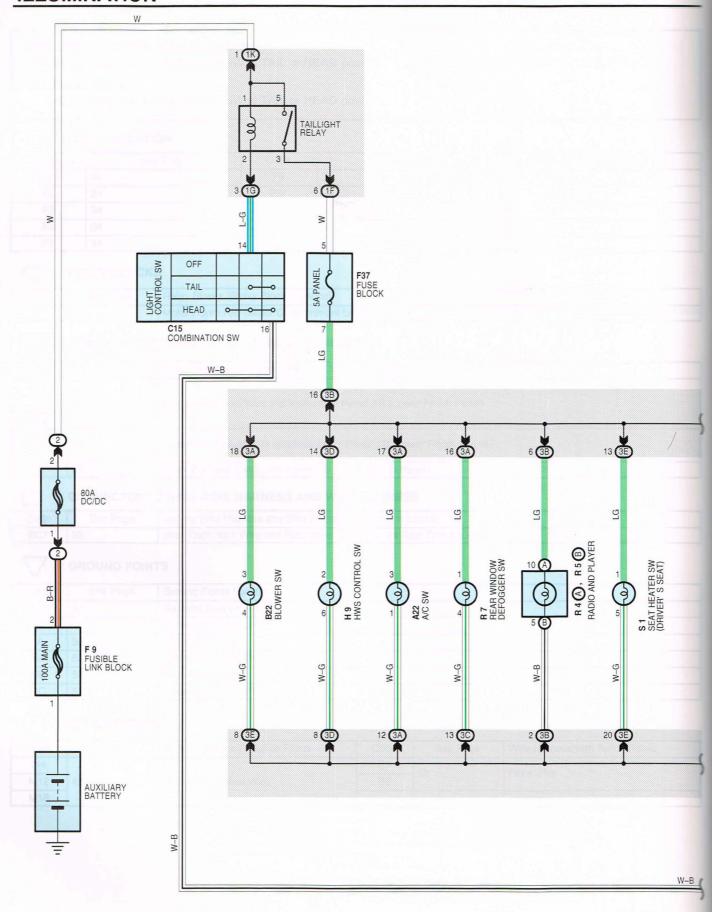
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

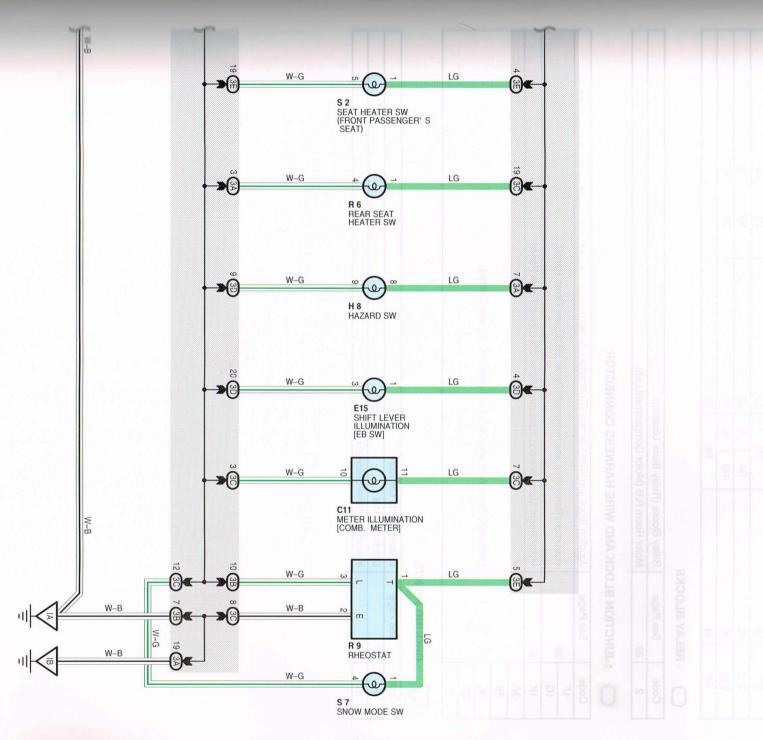
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
BC1	52	Back Door No.1 Wire and Floor Wire (Beside Right Rear Comb. Light)

: GROUND POINTS

Code	See Page	Ground Points Location
MA	42	Radiator Support RH
MB	42	Radiator Support LH
IA	50	Left Kick Panel
BA	52	Under the Center Pillar LH
BB	52	Back Door Center
BC	52	Under the Center Pillar RH

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
M4	42		B7	- 52	Floor Wire
M12		Motor Room Main Wire	B9		
M18					





ILLUMINATION

- SERVICE HINTS

C15 COMBINATION SW

14-16: Closed with the light control SW at TAIL or HEAD position

TAILLIGHT RELAY

5-3 : Closed with the light control SW at TAIL or HEAD position

O : PARTS LOCATION

Code	See Page	Co	de	See Page	Code	See Page
A22	38	F	37	39	R7	39
B22	38	Н	8	39	R9	39
C11	38	Н	9	39	S1	39
C15	38	R4	Α	39	S2	39
E15	39	R5	В	39	S7	39
F9	34	R	6	39		

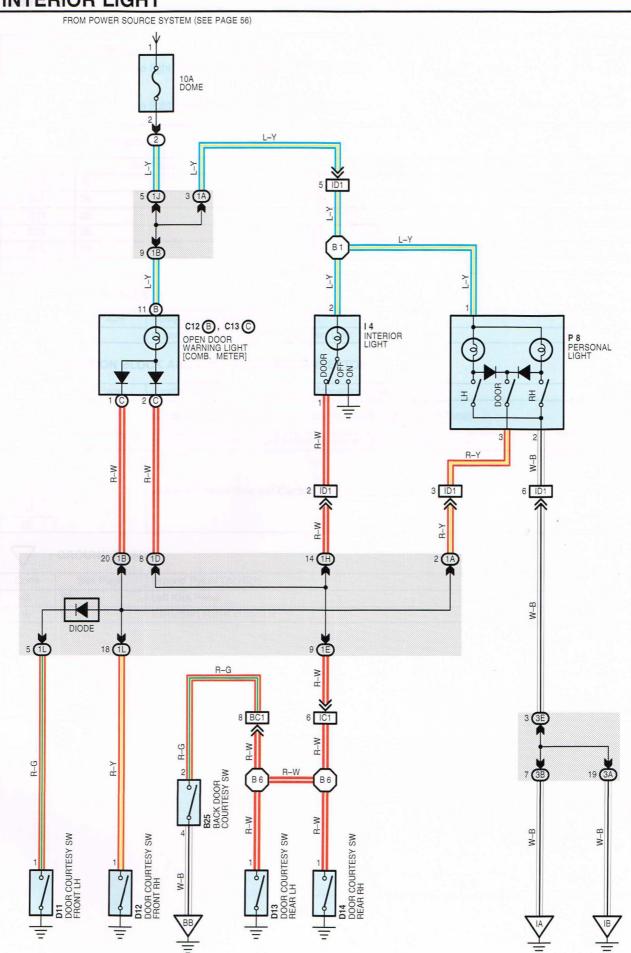
: RELAY BLOCKS

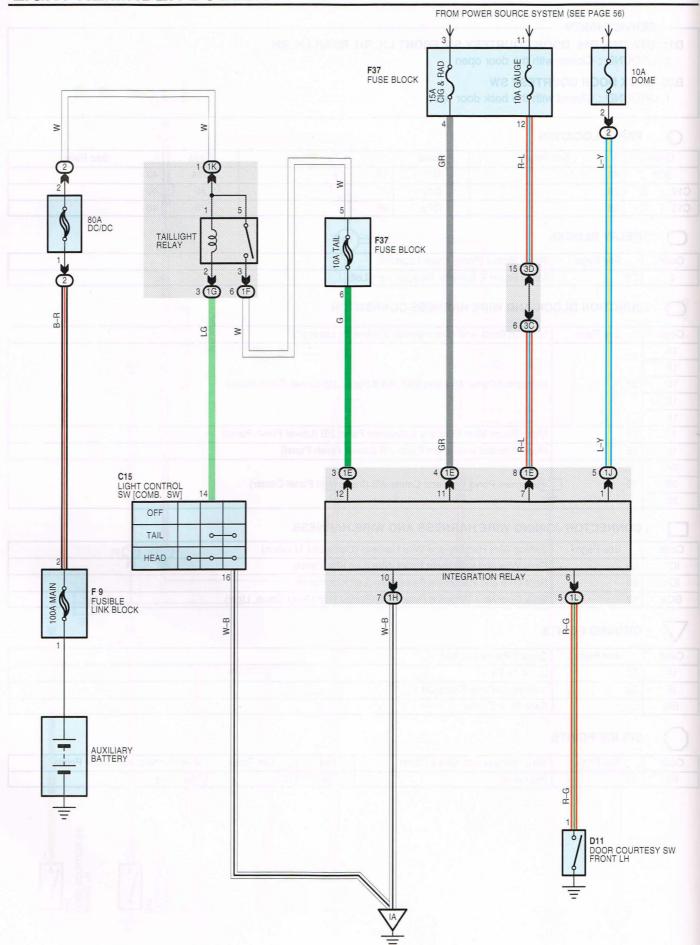
Code	See Page	elay Blocks (Relay Block Location)	
2	23	Motor Room R/B (Motor Compartment Left)	

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1G	7 20	Instrument Panel Wile and instrument Panel 3/B (Lower Pinish Panel)
1K	28	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
3A	(0	
3B		
3C	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)
3D		
3E		

Code	See Page	Ground Points Location	
IA	50	Left Kick Panel	
IB	50	Instrument Panel Brace LH	





SYSTEM OUTLINE

Current always flows to TERMINAL 1 of the integration relay through the DOME fuse.

With the motor SW at ACC position, current flows to TERMINAL 11 of the integration relay through the CIG & RAD fuse. When the motor SW is turned to ON position, current flows to TERMINAL 7 of the integration relay through the GAUGE fuse. When the light control SW is turned to TAIL or HEAD position, current is applied to TERMINAL 12 of the integration relay through the TAIL fuse.

LIGHT REMINDER SYSTEM

When the light control SW at TAIL or HEAD position, the motor SW is turned to OFF from ON position, and the front LH door is opened (Door courtesy SW front LH on), the current flow to TERMINAL 11 and 7 of the integration relay stops. As a result, the relay is activated and current flows from TERMINAL 1 of the relay to TERMINAL 10 to GROUND, sounding the light reminder buzzer.

SERVICE HINTS

INTEGRATION RELAY

7-GROUND: Approx. 12 volts with the motor SW at ON or ST position

11-GROUND: Approx. 12 volts with the motor SW at ACC or ON position 12-GROUND: Approx. 12 volts with the light control SW at TAIL or HEAD position

10-GROUND : Always continuity

6-GROUND: Continuity with front LH door open

1-GROUND : Always approx. 12 volts

) : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C15	38	F9	34		9-1
D11	40	F37	39		

: RELAY BLOCKS

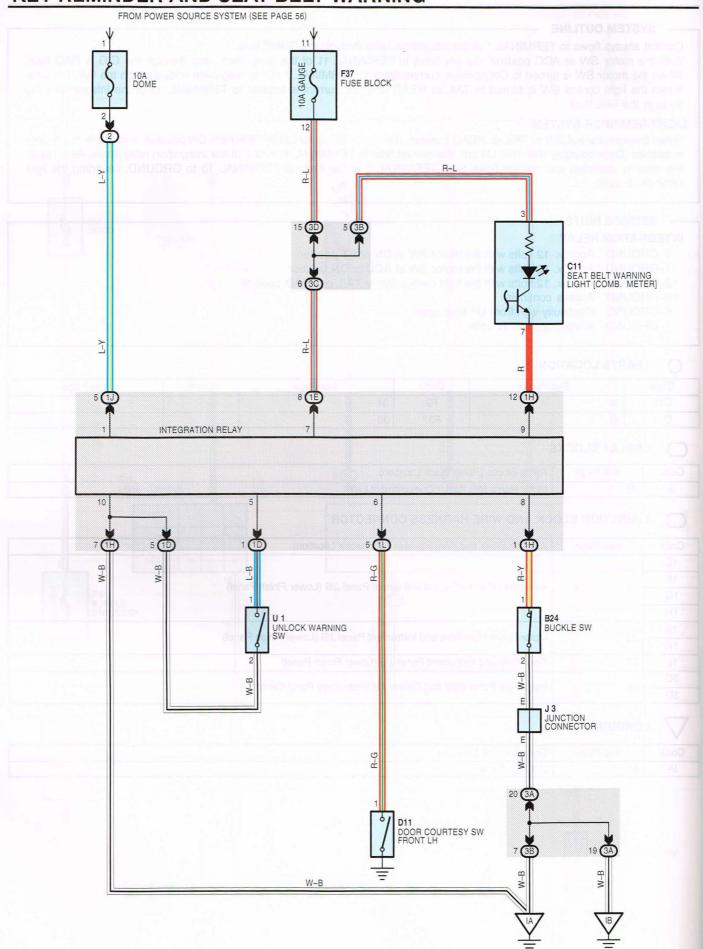
Code	See Page	Relay Blocks (Relay Block Location)	
2	23	Motor Room R/B (Motor Compartment Left)	

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1E		
1F		Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1G	28	
1H		
1J	00	Matay Doom Main Wiye and Instrument Donel I/D / ayey Finish Donel
1K	28	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
1L	28	Floor Wire and Instrument Panel J/B (Lower Finish Panel)
3C	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)
3D		instrument raner vine and Genter 0/D (instrument raner Genter)

Code	See Page	Ground Points Location
IA	50	Left Kick Panel

KEY REMINDER AND SEAT BELT WARNING



SYSTEM OUTLINE -

Current always flows to TERMINAL 1 of the integration relay through the DOME fuse.

1. SEAT BELT WARNING SYSTEM

When the motor SW is turned on, current flows from the GAUGE fuse to the integration relay at the same time, current flows to TERMINAL 7 of the integration relay from the GAUGE fuse through the seat belt warning light. This current activates the integration relay and, at intervals of approx. 1.2 seconds, current flowing through the seat belt warning light flows from TERMINAL 9 of the integration relay to TERMINAL 10 to GROUND, causing the seat belt warning light to blink. At the same as the seat belt warning light blinks, a buckle SW off signal is input to TERMINAL 8 of the relay, the current flowing to TERMINAL 1 of the relay flows from TERMINAL 10 to GROUND and the seat belt warning buzzer sounds for approx. 6 seconds. However, if seat belt is put on during this period (while the buzzer is sounding and warning light blinking), signal input to TERMINAL 8 of the relay stops and the current flow from TERMINAL 1 of the relay to TERMINAL 10 to GROUND is cut, causing the buzzer and warning light blinking to stop.

2. KEY REMINDER SYSTEM

With the key inserted in the key cylinder (Unlock warning SW on), the motor SW still off and door open (Door courtesy SW on), when a signal is input TERMINALS 5, 6 of the integration relay, the integration relay operates, current flows from TERMINAL 1 of the integration relay to TERMINAL 10 to GROUND and the key reminder buzzer sounds.

SERVICE HINTS

U1 UNLOCK WARNING SW

1-2: Closed with the key in cylinder

B24 BUCKLE SW

1-2: Open with the driver's seat belt in use

INTEGRATION RELAY

7-GROUND : Approx. 12 volts with the motor SW at ON or ST position

10-GROUND : Always continuity

8-GROUND: Continuity with the driver's seat belt not use

5-GROUND: Continuity with the key in cylinder

1-GROUND : Always approx. 12 volts

6-GROUND : Continuity with the front LH door open

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
B24	38	D11	40	J3	39
C11	38	F37	39	U1	39

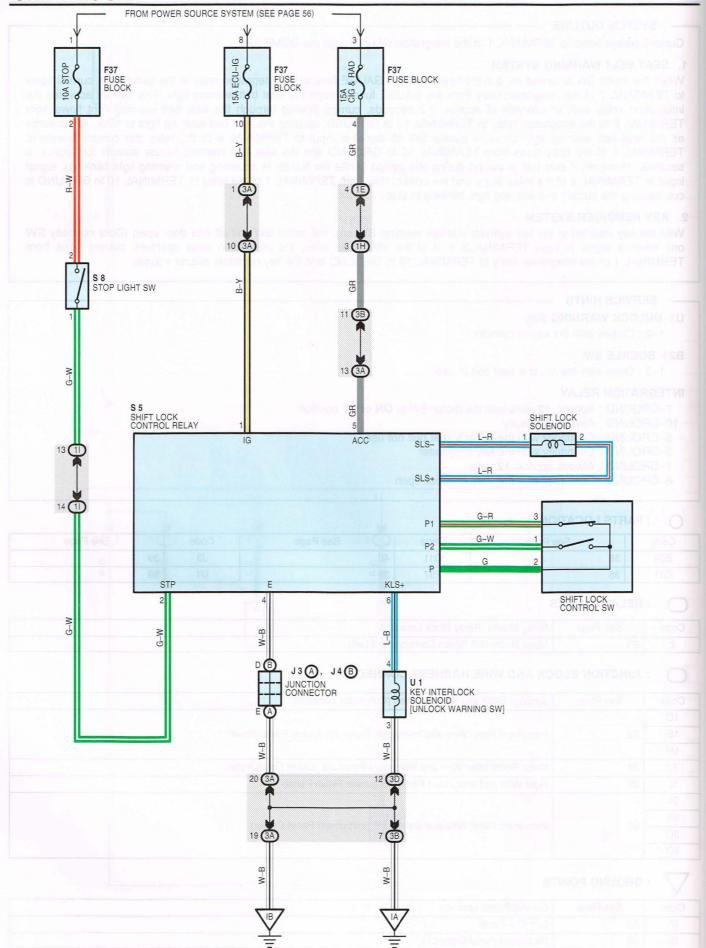
: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)	
1D			
1E	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)	
1H			
1J	28	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)	
1L	28	Floor Wire and Instrument Panel J/B (Lower Finish Panel)	
ЗА			
3B	7 20	Instrument Panel Wire and Center J/B (Instrument Panel Center)	
3C	30	Instrument Fanel Wile and Center 3/5 (instrument Fanel Center)	
3D			

Code	See Page	Ground Points Location	
IA	50	Left Kick Panel	
IB	50	Instrument Panel Brace LH	



SYSTEM OUTLINE -

When the motor SW is turned to ACC position the current from the CIG & RAD fuse flows to TERMINAL 5 of the shift lock control relay. When the motor SW is turned to ON position, the current from the ECU-IG fuse flows to TERMINAL 1 of the relay.

1. SHIFT LOCK MECHANISM

With the motor SW on, when a signal that the brake pedal is depressed (Stop light SW on) and a signal that the shift lever is put in P position (Continuity between P1 and P of the shift lock control SW) is input to the shift lock control relay, the relay operates and current flows from TERMINAL 1 of the relay to TERMINAL SLS+ of the shift lock solenoid to TERMINAL 4 of the relay to GROUND. This causes the shift lock solenoid to turn on (Plate stopper disengages) and the shift lever can shift into position other than the P position.

2. KEY INTERLOCK MECHANISM

With the motor SW at ON or ACC position, when the shift lever is put in P position (No continuity between P2 and P of the shift lock control SW), the current flowing from TERMINAL 6 of the shift lock control relay to the key interlock solenoid is cut off. This causes the key interlock solenoid to turn off (Lock lever disengages from LOCK position) and the key can be turned from ACC to LOCK position.

SERVICE HINTS

S5 SHIFT LOCK CONTROL RELAY

5-GROUND : Approx. 12 volts with the motor SW at ACC or ON position 1-GROUND : Approx. 12 volts with the motor SW at ON or ST position

4-GROUND : Always continuity

2-GROUND : Approx. 12 volts with the brake pedal depressed

S8 STOP LIGHT SW

2-1: Closed with the brake pedal depressed

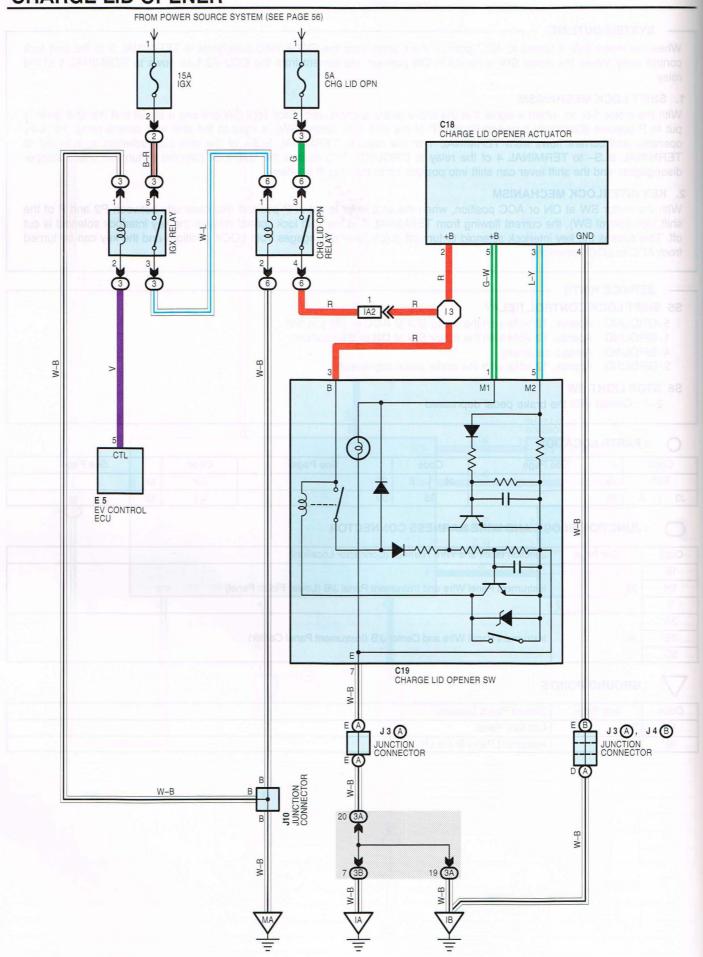
) : PARTS LOCATION

Co	ode	See Page	Co	de	See Page	Code	See Page	
F	37	39	J4	В	39	S8	39	
J3	А	39	S	h	39	U1	39	

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)			
1E					
1H	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)			
11					
3A					
3B	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)			
3D					

Code	See Page	Ground Points Location
IA	50	Left Kick Panel
IB	50	Instrument Panel Brace LH



- SERVICE HINTS -

IGX RELAY

3-5 : Closed with the motor SW at ON or ST position

CHG LID OPN RELAY

3-4 : Closed with the motor SW at ON or ST position

C18 CHARGE LID OPENER ACTUATOR

4-GROUND : Always continuity

C19 CHARGE LID OPENER SW

7-GROUND : Always continuity

: PARTS LOCATION

Code	Sode See Page		de	See Page	Code		See Page
C18	38	_ E	h	34	J4	В	39
C19	38	J3	Α	39	J1	10	39

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)
3	24	EV R/B (Motor Compartment Left)
6	26	Motor Room No.2 R/B (Motor Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
3A	20	Instrument Panel Wire and Center J/B (Instrument Panel Center)
3B	7 30	Instrument Panel Wife and Genter 3/B (instrument Panel Genter)

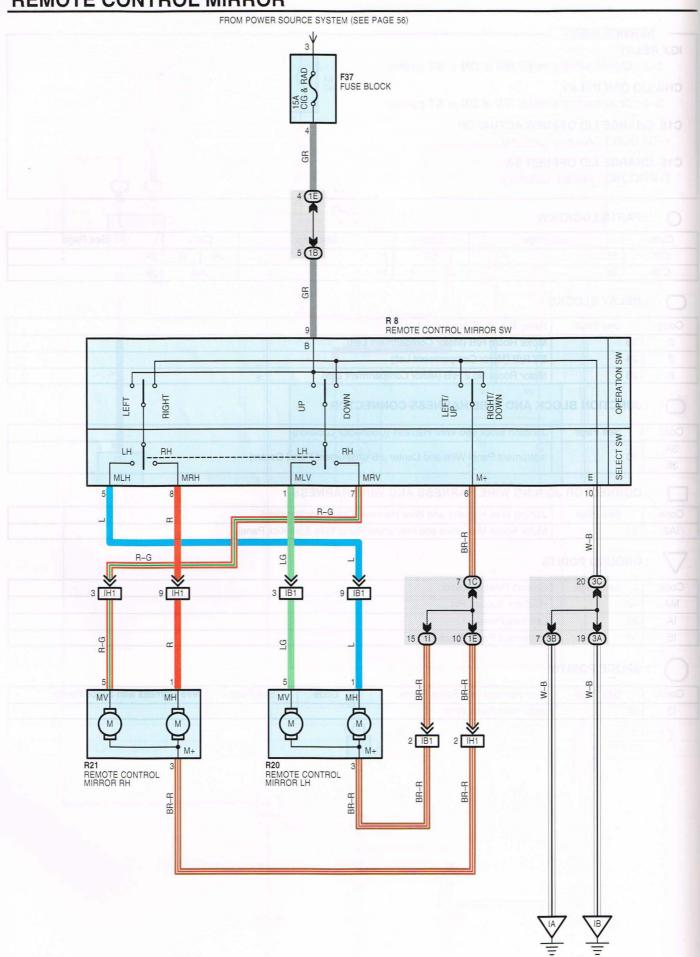
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA2	50	Motor Room Main Wire and Instrument Panel Wire (Left Kick Panel)

: GROUND POINTS

Code	See Page	Ground Points Location	
MA	42	Radiator Support RH	
IA	50	Left Kick Panel	
IB	50	Instrument Panel Brace LH	

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
13	50	Instrument Panel Wire		in a	点 点



SERVICE HINTS -

R8 REMOTE CONTROL MIRROR SW

9-6 : Continuity with the operation SW at **DOWN** or **RIGHT** position

6-10 : Continuity with the operation SW at **UP** or **LEFT** position 9-GROUND : Approx. **12** volts with the motor SW at **ACC** or **ON** position

10-GROUND : Always continuity

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
F37	39	R20	40		
R8	39	R21	40	(GE) 41	

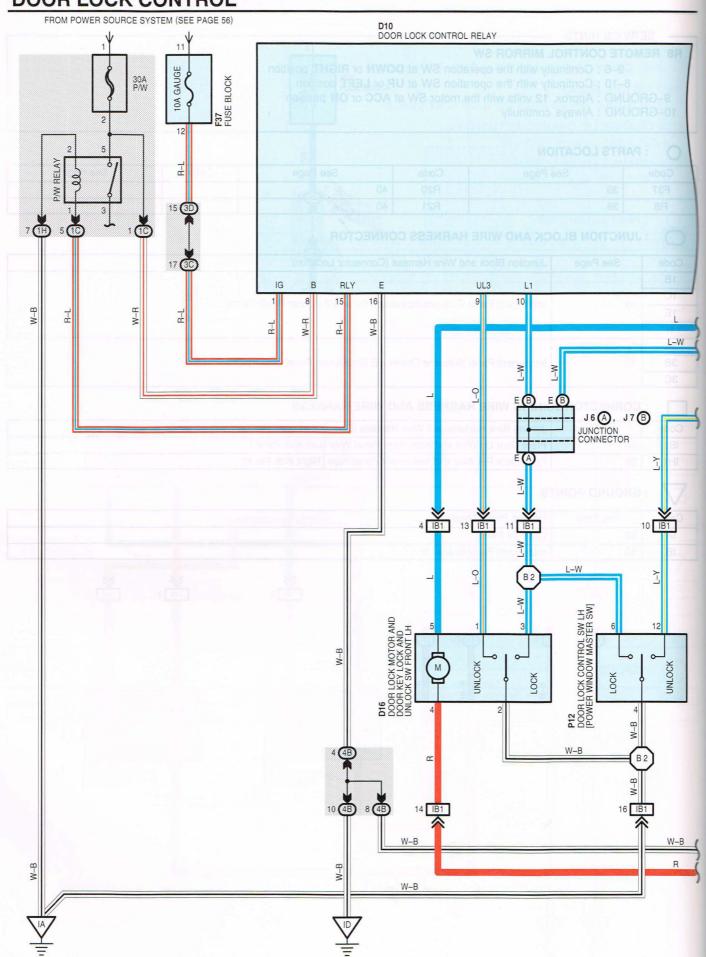
: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

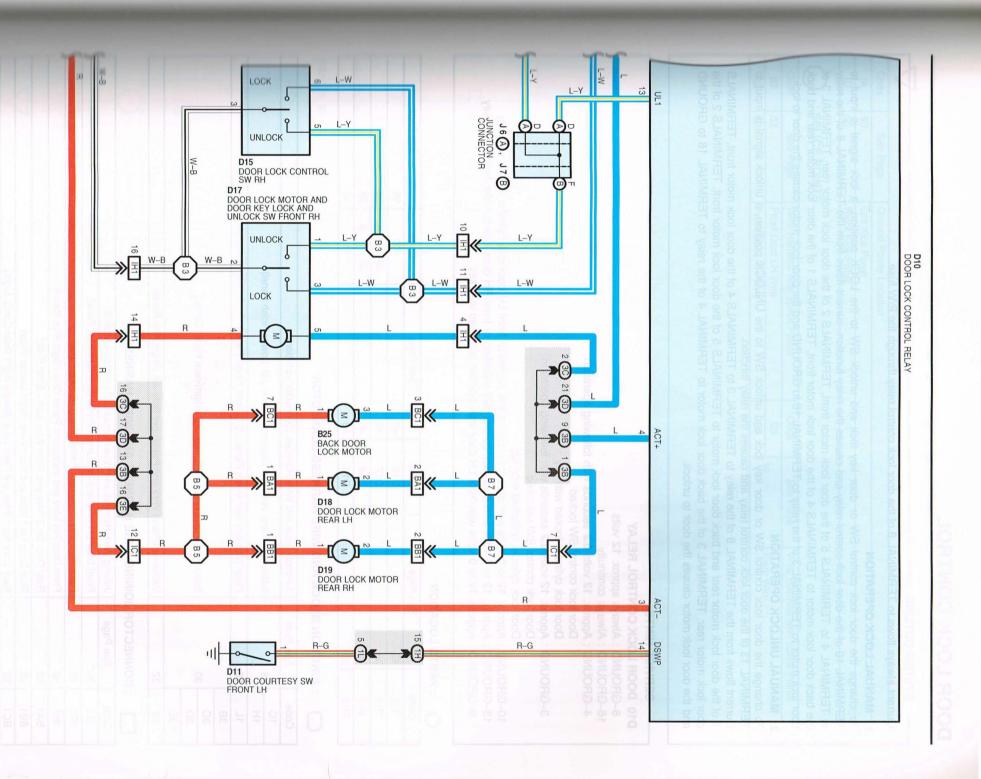
Code	See Page	Junction Block and Wire Harness (Connector Location)
1B		
1C	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1E	720	Institutient Faller Wile and institutient Faller 3/B (Lower Fillish Faller)
11		
3A		
3B	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)
3C		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	oining Wire Harness and Wire Harness (Connector Location)			
IB1	50	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)			
IH1	50	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)			

Code	See Page	Ground Points Location
IA	50	Left Kick Panel
IB	50	Instrument Panel Brace LH





DOOR LOCK CONTROL

SYSTEM OUTLINE -

Current always flows to TERMINAL 8 of the door lock control relay through the P/W fuse.

1. MANUAL LOCK OPERATION

To change the door lock control SW or door key lock and unlock SW to the LOCK position, a lock signal is input to TERMINAL 10 of the door lock control relay and causes the relay function. current flows from the TERMINAL 8 of the relay to TERMINAL 4 to TERMINALS 5 of the door lock motor front, TERMINALS 2 of the door lock motor rear, TERMINAL 3 of the back door lock motor to TERMINALS 4 of the door lock motor front, TERMINALS 1 of the door lock motor rear and back door lock motor to TERMINAL 3 of the relay to TERMINAL 16 to GROUND and the door lock motor causes the door to lock.

2. MANUAL UNLOCK OPERATION

To change the door lock control SW or door key lock and unlock SW to the UNLOCK position, a unlock signal is input to TERMINAL 13 of the door lock control relay and causes the relay function.

Current flows from the TERMINAL 8 of the relay to TERMINAL 3 to TERMINALS 4 of the door lock motor front, TERMINALS 1 of the door lock motor rear and back door lock motor to TERMINALS 5 of the door lock motor front, TERMINALS 2 of the door lock motor rear, TERMINAL 3 of the back door lock motor to TERMINAL 4 of the relay to TERMINAL 16 to GROUND and the door lock motor causes the door to unlock.

SERVICE HINTS

D10 DOOR LOCK CONTROL RELAY

8-GROUND : Always approx. 12 volts 16-GROUND : Always continuity

4-GROUND: Approx. 12 volts 0.2 seconds with following operation

Door lock control SW locked
Door lock cylinder locked with key

3-GROUND : Approx. 12 volts 0.2 seconds with following operation

Door lock control SW unlocked

Door lock cylinder unlocked with key

10-GROUND: Approx. 12 to 0 volts with door lock control SW locked or front LH door lock cylinder locked with key 13-GROUND: Approx. 12 to 0 volts with door lock control SW unlocked or front RH door lock cylinder locked with key

9-GROUND: Approx. 12 to 0 volts with front LH door lock cylinder unlocked with key

: PARTS LOCATION

Code	See Page	Code	See Page	Co	de	See Page
B25	40	D16	40	F3	37	39
D10	38	D17	40	J6	Α	39
D11	40	D18	40	J7	В	39
D15	40	D19	40	P1	2	40

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)					
1C	28	Instrument Panel Wire and Instrument Panel I/P // away Finish Panel\					
1H	7 20	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)					
1L	28	Floor Wire and Instrument Panel J/B (Lower Finish Panel)					
3B							
3C	700	Instrument Panel Wire and Center J/B (Instrument Panel Center)					
3D	30						
3E							
4B	32	Instrument Panel Wire and Passenger Side J/B (Right Kick Panel)					

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)					
IB1	50	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)					
IC1	50	Floor Wire and Instrument Panel Wire (Left Kick Panel)					
IH1	50	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)					
BA1	52	Rear Door No.2 Wire and Floor Wire (Left Center Pillar)					
BB1	52	Rear Door No.1 Wire and Floor Wire (Right Center Pillar)					
BC1	52	Back Door No.1 Wire and Floor Wire (Beside Right Rear Comb. Light)					



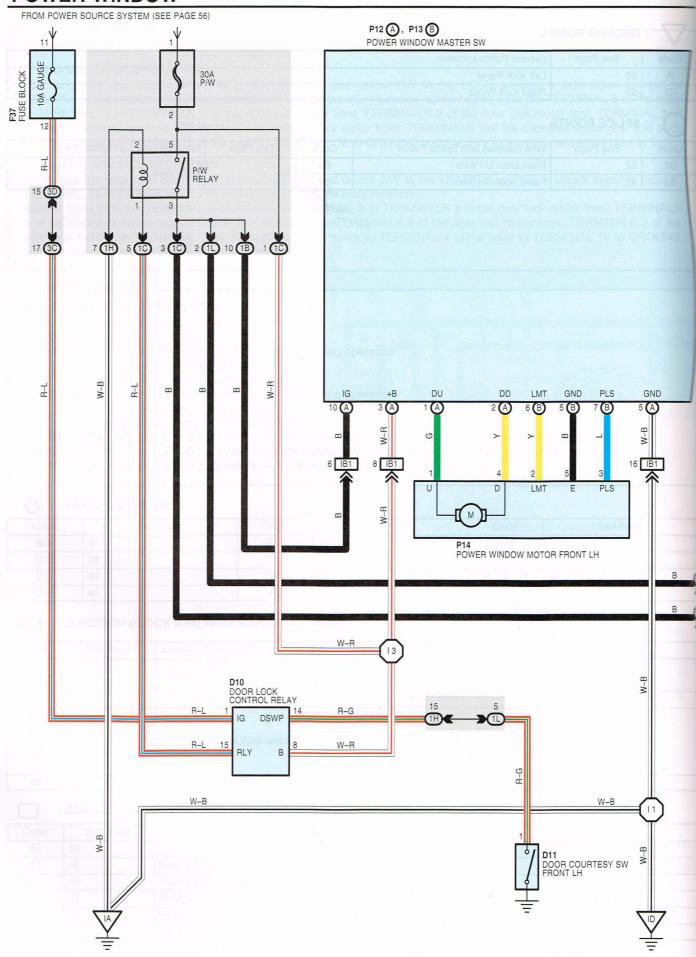
: GROUND POINTS

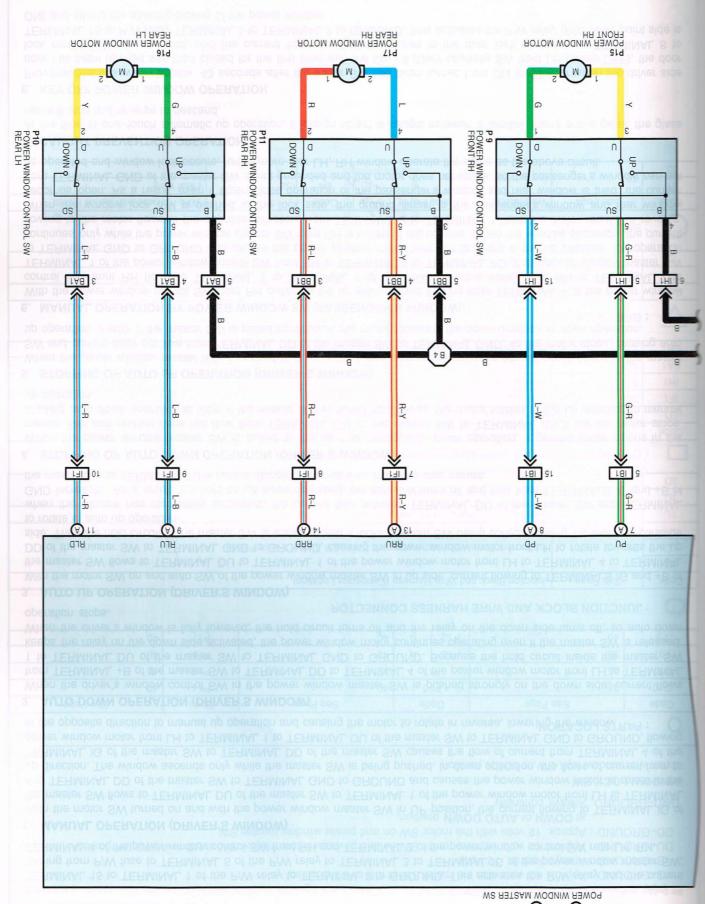
Code	See Page	Ground Points Location
IA	50	Left Kick Panel
ID	50	Right Kick Panel



Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B2	52	Front Door LH Wire	B5	- 52	Floor Wire
В3	52	Front Door RH Wire	B7	1 52	1 1001 AAII 6

POWER WINDOW





P12 (A), P13 (B) POWER WINDOW MASTER SW

SYSTEM OUTLINE

When the motor SW turned on, current flows through the GAUGE fuse to TERMINAL 1 of the door lock control relay to TERMINAL 15 to TERMINAL 1 of the P/W relay to TERMINAL 2 to GROUND. This activates the P/W relay and the current flowing from P/W fuse to TERMINAL 5 of the P/W relay to TERMINAL 3 to TERMINAL IG of the power window master SW, TERMINAL 4 of the power window control SW front RH and TERMINAL 3 of the power window control SW rear LH, RH.

1. MANUAL OPERATION (DRIVER'S WINDOW)

With the motor SW turned on and with the power window master SW in UP position, the current flowing to TERMINAL IG of the master SW flows to TERMINAL DU of the master SW to TERMINAL 1 of the power window motor front LH to TERMINAL 4 to TERMINAL DD of the master SW to TERMINAL GND to GROUND and causes the power window motor to rotate in the up direction. The window ascends only while the master SW is being pushed. In down operation, the flows of current from to TERMINAL IG of the master SW to TERMINAL DD of the master SW causes the flow of current from TERMINAL 4 of the power window motor front LH to TERMINAL 1 to TERMINAL DU of the master SW to TERMINAL GND to GROUND, flowing in the opposite direction to manual up operation and causing the motor to rotate in reverse, lowering the window.

2. AUTO DOWN OPERATION (DRIVER'S WINDOW)

When the driver's window control SW in the power window master SW is pushed strongly on the down side, current flows from TERMINAL +B of the master SW to TERMINAL DD to TERMINAL 4 of the power window motor front LH to TERMINAL 1 to TERMINAL DU of the master SW to TERMINAL GND to GROUND. Because the hold circuit inside the master SW keeps the relay on the down side activated, the power window motor continues operating even if the master SW is released. When the driver's window is fully lowered, the hold circuit turns off and the relay on the down side turns off, so auto down operation stops.

3. AUTO UP OPERATION (DRIVER'S WINDOW)

With the motor SW on and auto SW of the power window master SW in up side, current flowing to TERMINALS IG and +B of the master SW flows to TERMINAL DU to TERMINAL 1 of the power window motor front LH to TERMINAL 4 to TERMINAL DD of the master SW to TERMINAL GND to GROUND, causing the power window motor front LH to rotate towards the up side. Then the hold circuit in the master SW is activated and it locks the auto SW being pulled, causing the motor to continue to rotate in auto up operation.

when the window has completely ascended, the current flow between TERMINAL DD of the master SW and TERMINAL GND increases. As a result, the hold circuit stops operating, the auto SW turns off and flow from TERMINALS IG and +B of the master SW to TERMINAL DU is cut off, stopping the motor so that auto stop occurs.

4. STOPPING OF AUTO DOWN OPERATION (DRIVER'S WINDOW)

When the power window master SW is pulled to the up side during auto down operation, a ground circuit opens in the master SW and current does not flow from TERMINAL DU of the master SW to TERMINAL GND, so the motor stops, causing auto down operation to stop. If the master SW is pulled continuous, the motor rotates in the up direction in manual up operation.

5. STOPPING OF AUTO UP OPERATION (DRIVER'S WINDOW)

When the power window master SW is pushed to down side during auto up operation, a ground circuit opens in the master SW and current does not flow from TERMINAL DD of the master SW to TERMINAL GND, so the motor stops, causing auto up operation to stop. If the master SW is pulled continuous, the motor rotates in the down direction in down operation.

6. MANUAL OPERATION BY POWER WINDOW SW (PASSENGER'S WINDOW)

With the power window control SW front RH pulled to the up side, current flowing from TERMINAL 4 of the power window control SW front RH flows to TERMINAL 3 to TERMINAL 1 of the power window motor front RH to TERMINAL 2 to TERMINAL 1 of the power window control SW front RH to TERMINAL 2 to TERMINAL PD of the power window master SW to TERMINAL GND to GROUND and causes the power window motor front RH to rotate in the up direction. Up operation continues only while the power window control SW front RH is pulled to the up side. When the window descends, the current flowing to the motor flows in the opposite direction, from TERMINAL 2 to TERMINAL 1, and the motor rotates in reverse. When the window lock SW is pushed to the lock side, the ground circuit to the passenger's window and rear window becomes open. As a result, even if Open/Close operation of the passenger's window and rear window is tried, the current from TERMINAL GND of the master SW is not grounded and the motor does not rotate, so the passenger's window can not be operated and window lock occurs. furthermore rear LH, RH window operate the same as the above circuit.

7. CAUGHT PREVENTION OPERATION

At the time of one-touch automatic up operation, if foreign object is caught between a window frame and a glass, the glass rise will stop and reverse to descend.

8. KEY OFF POWER WINDOW OPERATION

Provided that it is within approx. 43 seconds after the motor SW has been turned from ON to OFF, or when the driver side door has been opened and then closed for the first time with the key off (Door courtesy SW front LH turned OFF), the door lock control relay is operated, and the current from the P/W fuse flows to the door lock control relay TERMINAL 8 to TERMINAL 15 to P/W relay TERMINAL 1 to TERMINAL 2 to GROUND. This activates the P/W relay (P/W relay point side is ON) and allows the opening/closing of the power window.

SERVICE HINTS -

P12 (A) POWER WINDOW MASTER SW

IG-GROUND : Approx. 12 volts with the motor SW at ON or ST position

+B-GROUND : Always Approx. 12 volts

DU-GROUND : Approx. 12 volts with the motor SW on and power window master SW at UP or AUTO UP position

DD-GROUND : Approx. 12 volts with the motor SW on and power window master SW

at DOWN or AUTO DOWN position

GND-GROUND: Always continuity

WINDOW LOCK SW

Open with window lock SW at LOCK position

0

: PARTS LOCATION

Code	See Page	Co	de	See Page	Code	See Page
D10	38	P	10	40	P14	40
D11	40	P	11	40	P15	40
F37	39	P12	А	40	P16	40
P9	40	P13	В	40	P17	40 See Page

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)				
1B						
1C	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)				
1H	Ben Darran B.					
TL	28	Floor Wire and Instrument Panel J/B (Lower Finish Panel)				
3C	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)				
3D	7 30	instrument Farier Wile and Center 3/b (instrument Farier Center)				

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB1	50	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IF1	50	Front Door LH Wire and Floor Wire (Left Kick Panel)
IH1	50	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)
BA1	52	Rear Door No.2 Wire and Floor Wire (Left Center Pillar)
BB1	52	Rear Door No.1 Wire and Floor Wire (Right Center Pillar)

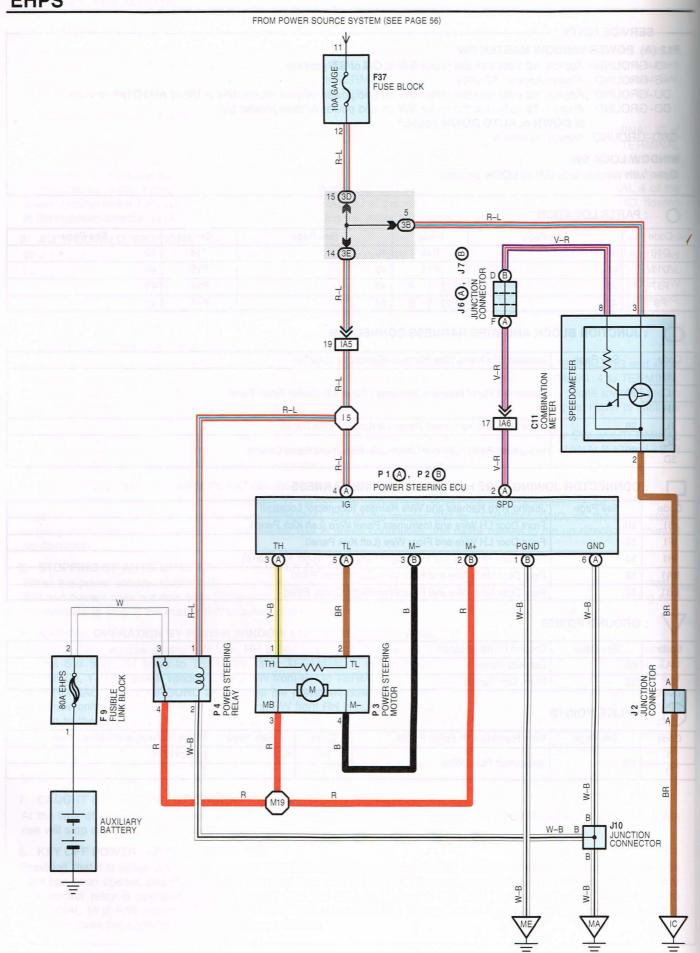
V

: GROUND POINTS

Code	See Page	Ground Points Location
IA to	50	Left Kick Panel
ID a	50	Right Kick Panel



Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
11	50	Instrument Panel Wire	B4	52	Floor Wire
13	7 30	Instrument Farier Wife	HE THE REAL PROPERTY.		



SYSTEM OUTLINE -

The power steering ECU used a thermistor to motor the temp., in order to protect the pump motor and power steering ECU from overheating. If the temp. exceeds the predetermined value, the current to the pump motor is shut off. When this occurs, the vehicle's steering operates as a manual steering system.

After some time has elapsed, and when the temp. of the pump motor and power steering ECU becomes lower than the predetermined value, the current to the pump motor is applied again, thus restoring the power steering function.

SERVICE HINTS

P1 (A), P2 (B) POWER STEERING ECU

(A) 4-GROUND : Approx. 12 volts with the motor SW at ON or ST position

(A) 6-GROUND : Always continuity (B) 1-GROUND : Always continuity

P4 POWER STEERING RELAY

3-4: Closed with the motor SW at ON or ST position

: PARTS LOCATION

Code	See Page	e Page Code See Page Code		de	See Page		
C11	38	J6	Α	39	P2	В	35
F9	34	J7	В	39	P	3	35
F37	39	J.	10	39	P4		35
J2	39	P1	А	35			

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)	ne assembly of
3B			THEORY OF
3D	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)	
3E			

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IA5	50	Motor Room Main Wire and Instrument Panel Wire (Under the Instrument Panel Center)
IA6	30	Wold Hoom Main Wile and institution and wile (Onder the institution that are Center)

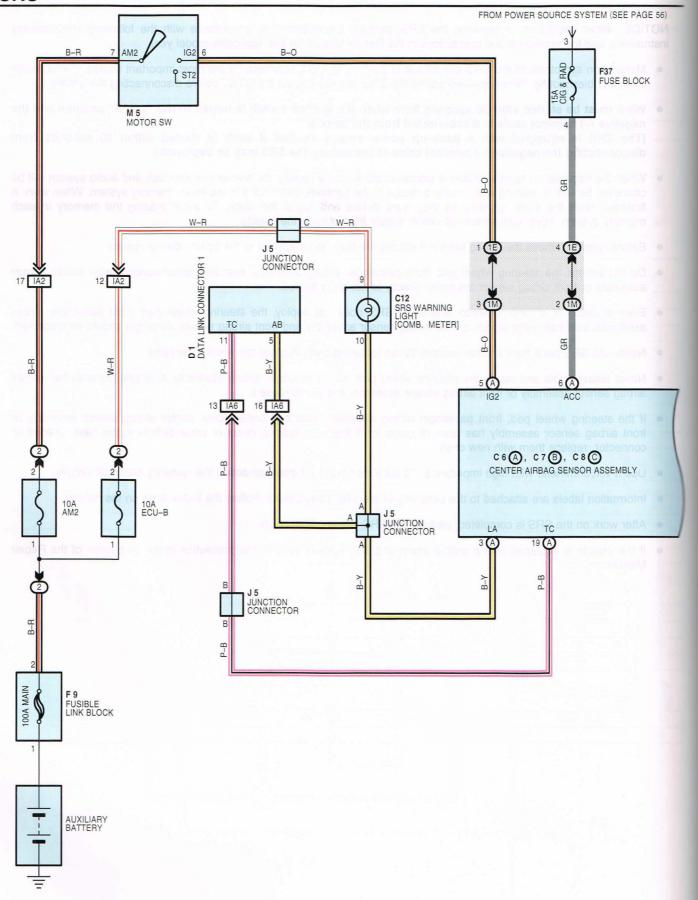
7 : GROUND POINTS

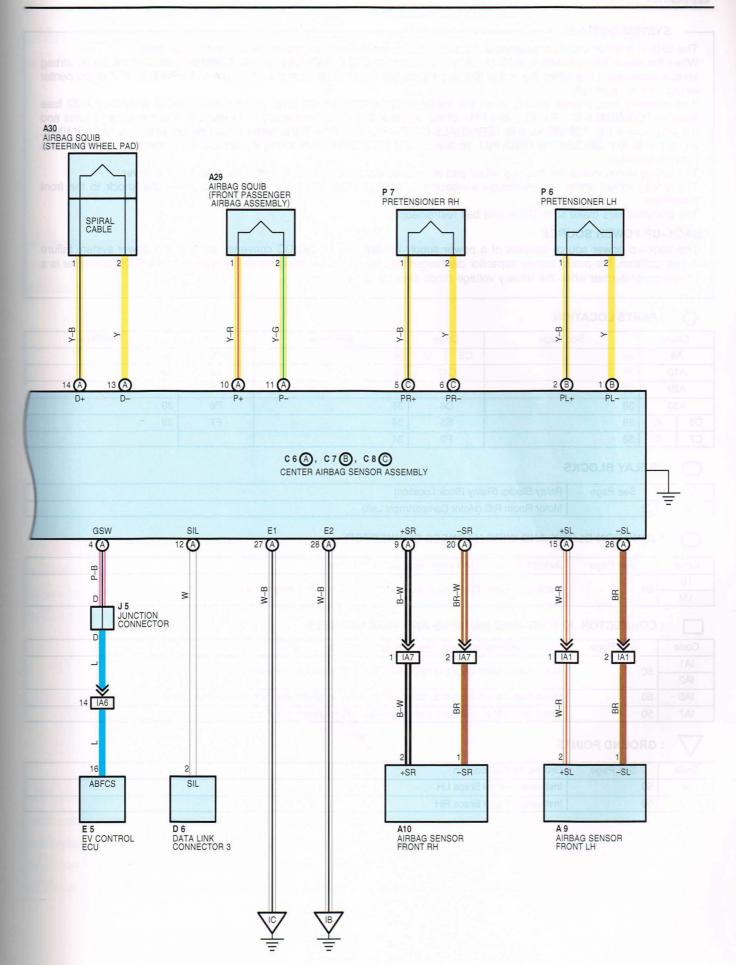
Code	See Page	Ground Points Location
MA	42	Radiator Support RH
ME	42	Front Side Member LH
IC	50	Instrument Panel Brace RH

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
M19	42	Motor Room Main Wire	15	50	Motor Room Main Wire

NOTICE: When inspecting or repairing the SRS, perform the operation in accordance with the following precautionary instructions and the procedure and precautions in the Repair Manual for the applicable model year.

- Malfunction symptoms of the SRS are difficult to confirm, so the DTCs become the most important source of information
 when troubleshooting. When troubleshooting the SRS, always inspect the DTCs before disconnecting the battery.
- Work must be started after 90 seconds from when the ignition switch is turned to the "LOCK" position and the negative (-) terminal cable is disconnected from the battery.
 (The SRS is equipped with a back-up power source so that if work is started within 90 seconds from disconnecting the negative (-) terminal cable of the battery, the SRS may be deployed.)
- When the negative (-) terminal cable is disconnected from the battery, the memory of the clock and audio system will be canceled. So before starting work, make a record of the contents memorized in the audio memory system. When work is finished, reset the audio systems as they were before and adjust the clock. To avoid erasing the memory in each memory system, never use a back-up power supply from outside the vehicle.
- Before repairs, remove the airbag sensor if shocks are likely to be applied to the sensor during repairs.
- Do not expose the steering wheel pad, front passenger airbag assembly, seat belt pretensioner, center airbag sensor assembly or front airbag sensor assembly directly to hot air or flames.
- Even in cases of a minor collision where the SRS does not deploy, the steering wheel pad, front passenger airbag assembly, seat belt pretensioner, center airbag sensor assembly and front airbag sensor assembly should be inspected.
- Never use SRS parts from another vehicle. When replacing parts, replace them with new parts.
- Never disassemble and repair the steering wheel pad, front passenger airbag assembly, seat belt pretensioner, center airbag sensor assembly or front airbag sensor assembly in order to reuse it.
- If the steering wheel pad, front passenger airbag assembly, seat belt pretensioner, center airbag sensor assembly or front airbag sensor assembly has been dropped, or if there are cracks, dents or other defects in the case, bracket or connector, replace them with new ones.
- Use a volt/ohmmeter with high impedance (10 kΩ/V minimum) for troubleshooting the system's electrical circuits.
- Information labels are attached to the periphery of the SRS components. Follow the instructions on the notices.
- · After work on the SRS is completed, perform the SRS warning light check.
- If the vehicle is equipped with a mobile communication system, refer to the precaution in the IN section of the Repair Manual.





SYSTEM OUTLINE

The SRS is a driver and front passenger protection device which has a supplemental role to the seat belts.

When the motor SW is turned to ACC or ON, current from the CIG & RAD fuse flows to TERMINAL ACC of the center airbag sensor assembly. Only when the motor SW is on does the current flow from the AM2 fuse to TERMINAL IG2 of the center airbag sensor assembly.

If an accident occurs while driving, when the frontal impact exceeds a set level, current from the CIG & RAD or AM2 fuse flows to TERMINALS D+, P+, PL+ and PR+ of the center airbag sensor assembly to TERMINAL 1 of the airbag squibs and the pretensioners to TERMINAL 2 to TERMINALS D-, P-, PL- and PR- of the center airbag sensor assembly to TERMINAL E1, E2 or BODY GROUND to GROUND, so that current flows to the front airbag squibs and the pretensioners and causes them to operate.

The airbag stored inside the steering wheel pad is instantaneously expanded to soften the shock to the driver.

The airbag stored inside the passenger's instrument panel is instantaneously expanded to soften the shock to the front passenger.

The pretensioners make sure of the seat belt restrainability.

BACK-UP POWER SOURCE

The back-up power source consists of a power supply capacitor and a DC/DC converter. In case of a power system failure during collision, the power supply capacitor discharges and supplies electric power to the system. The DC/DC converter is a boosting transformer when the battery voltage drops below a certain level.

: PARTS LOCATION

Co	ode	See Page	Co	de	See Page	Code	See Page
Α	19	34	C8	С	38	F37	39
Α	10	34	C1	12	38	J5	39
A	29	38	D	1	34	M5	39
A	30	38	D	6	38	P6	39
C6	А	38	E	5	34	- P7	39
C7	В	38	F	9	34		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)

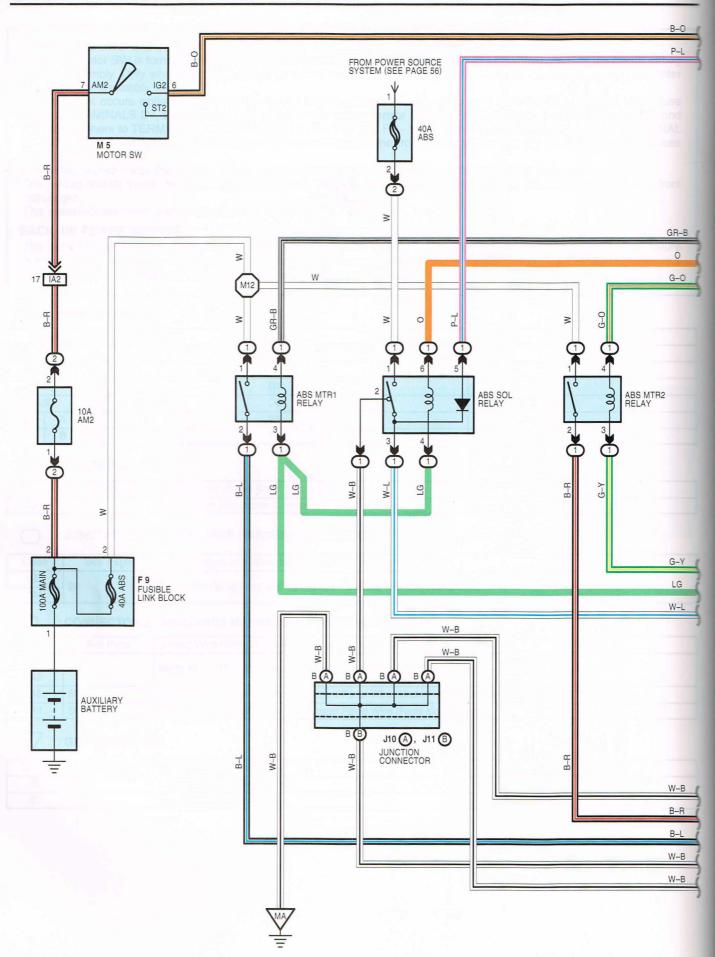
: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

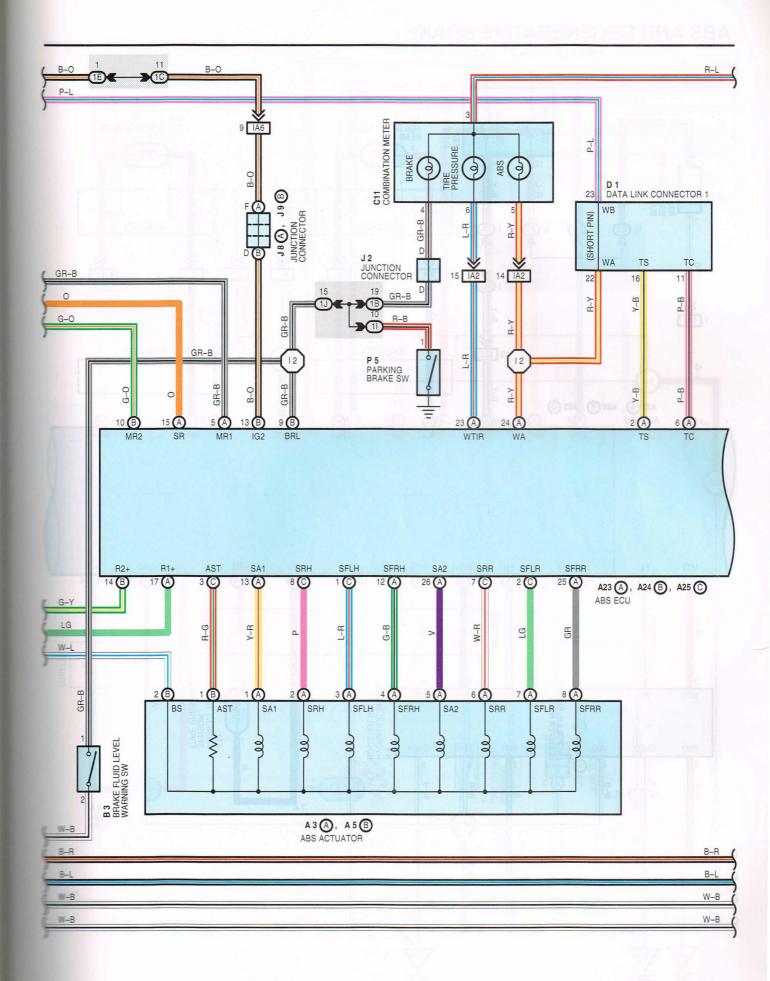
Code	See Page	Junction Block and Wire Harness (Connector Location)
1E	20	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1M	20	Inistrument Faner wire and instrument Faner 0/B (Lower Finish Faner)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

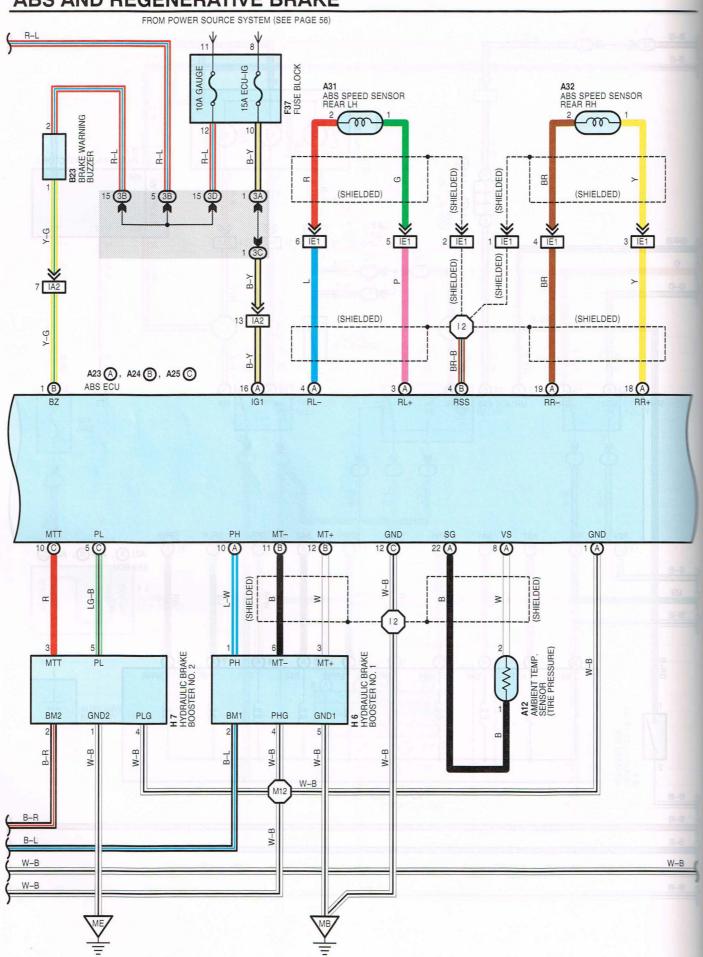
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)		
IA1	- 50	Motor Room Main Wire and Instrument Panel Wire (Left Kick Panel)		
IA2	30	Notor Room Main Wife and histrument Paner Wife (Left Rick Paner)		
IA6	50	Motor Room Main Wire and Instrument Panel Wire (Under the Instrument Panel Center)		
IA7	50	Motor Room Main Wire and Instrument Panel Wire (Right Kick Panel)		

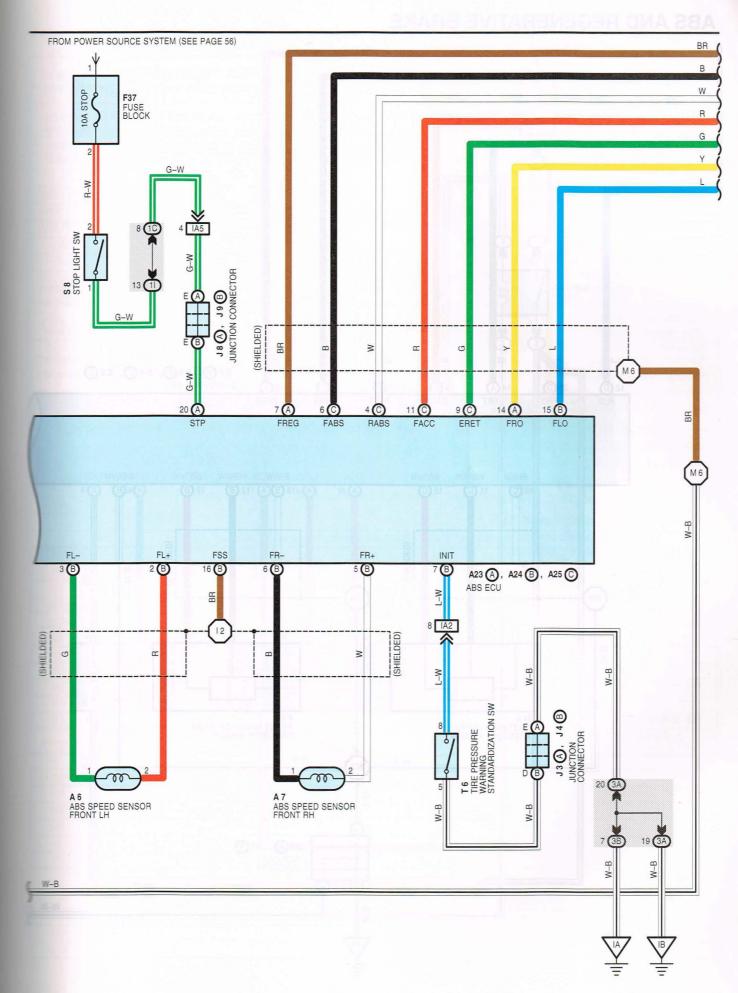
Code	See Page	Ground Points Location
IB	50	Instrument Panel Brace LH
IC	50	Instrument Panel Brace RH



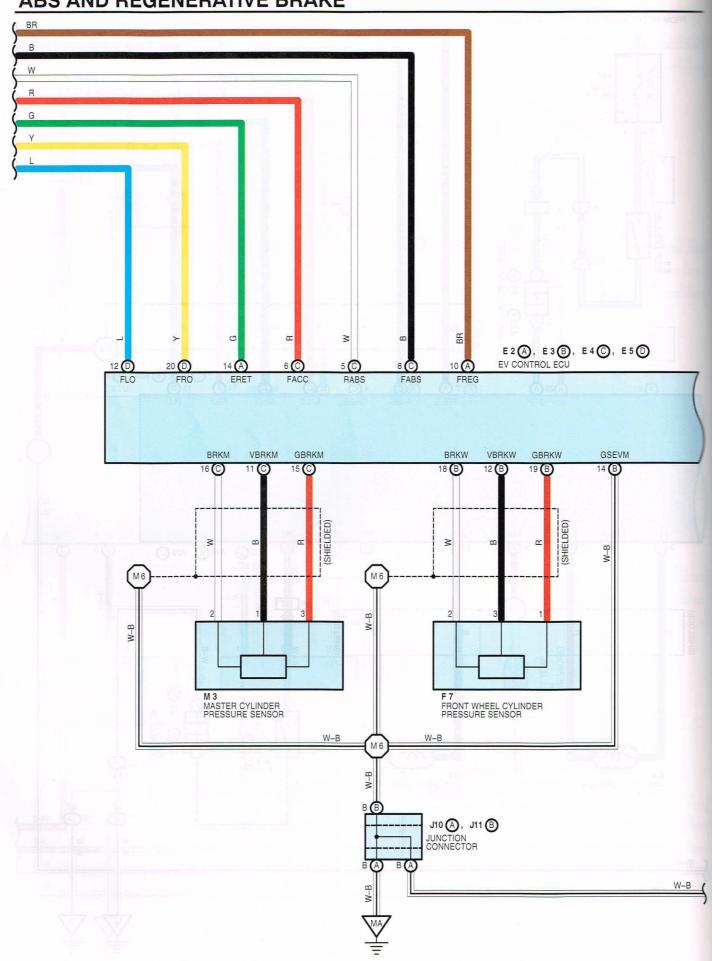


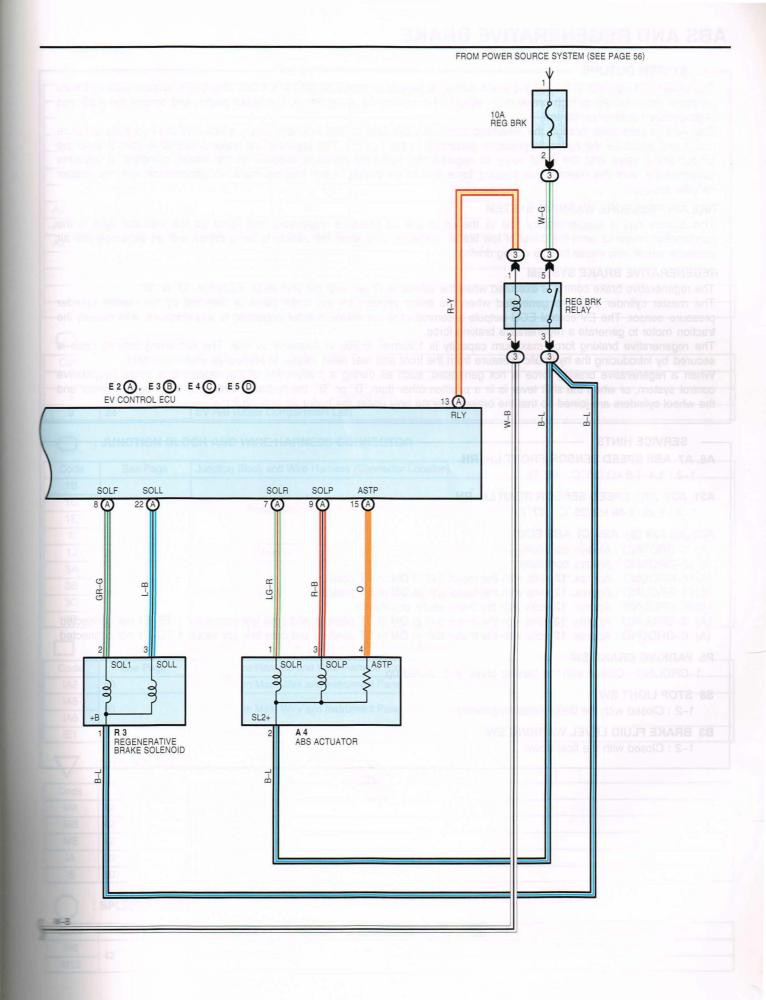
ABS AND REGENERATIVE BRAKE





ABS AND REGENERATIVE BRAKE





ABS AND REGENERATIVE BRAKE

SYSTEM OUTLINE

The power unit consists of the electric pump motor, accumulator, pressure SW, and ECU. This brake system uses hydraulic pressure accumulated at high pressure to support the braking force applied to the brake pedal, and control the ABS and regenerative cooperation control.

The ABS is controlled through the switching solenoid valve and control solenoid valve, which SW the hydraulic pressure circuit and introduce the hydraulic pressure generated in the booster. The regenerative brake cooperative control uses the proportioning valve and the relief valve to regulate the hydraulic pressure supplied to the wheel cylinders. It operates cooperatively with the regenerative braking force that is generated in the traction motor, in accordance with the master cylinder pressure.

TIRE AIR PRESSURE WARNING SYSTEM

This system has a supplementary role to the usual tire air pressure inspection, and lights up the indicator light in the combination meter to warn the driver of low tire air pressure, only when the vehicle is being driven with an extremely low air pressure which may cause trouble during driving.

REGENERATIVE BRAKE SYSTEM

The regenerative brake control is executed when the vehicle is driven with the shift lever in position "D" or "B".

The master cylinder pressure generated when the driver presses on the brake pedal is detected by the master cylinder pressure sensor. The EV control ECU outputs a command to the motor inverter according to this pressure, and causes the traction motor to generate a regenerative braking force.

The regenerative braking force maximum capacity is 1.96m/s² (0.2G) in deceleration rate. The remaining braking force is secured by introducing the hydraulic pressure from the front and rear relief valves, to respective wheel cylinders.

When a regenerative braking force is not generated, such as during a malfunction of the regenerative brake cooperative control system, or when the shift lever is in a position other than "D" or "B", the hydraulic circuits of the master cylinder and the wheel cylinders are joined so that the brakes operate only under the hydraulic braking force.

SERVICE HINTS

A6, A7 ABS SPEED SENSOR FRONT LH, RH

 $1-2: 1.4-1.8 \text{ k}\Omega (20^{\circ}\text{C}, 68^{\circ}\text{F})$

A31, A32 ABS SPEED SENSOR REAR LH, RH

1-2 : **1.28**-**1.48** kΩ (**25** $^{\circ}$ C, **77** $^{\circ}$ F)

A23 (A), A24 (B), A25 (C) ABS ECU

(A) 1-GROUND: Always continuity

(C)12-GROUND: Always continuity

(A)16-GROUND : Approx. 12 volts with the motor SW at \mathbf{ON} or \mathbf{ST} position

(B)13-GROUND : Approx. 12 volts with the motor SW at ON or ST position

(A) 20-GROUND : Approx. 12 volts with the brake pedal depressed

(A) 2-GROUND : Approx. 12 volts with the motor SW at ON or ST position and data link connector 1 TS-E1 not connected

(A) 6-GROUND: Approx. 12 volts with the motor SW at ON or ST position and data link connector 1 TC-E1 not connected

P5 PARKING BRAKE SW

1-GROUND: Closed with the parking brake lever pulled up

S8 STOP LIGHT SW

1-2: Closed with the brake pedal depressed

B3 BRAKE FLUID LEVEL WARNING SW

1-2: Closed with the float down

O : PARTS LOCATION

Co	de	See Page	Co	de	See Page	Co	de	See Page
АЗ	Α	34	C.	11	38	J4	В	39
А	4	34	D	1	34	J8	Α	39
A5	В	34	E2	Α	34	J9	В	39
А	6	34	E3	В	34	J10	Α	39
А	7	34	E4	С	34	J11	В	39
A.	12	34	E5	D	34	N	13	35
A23	Α	38	F	7	34	N	15	39
A24	В	38	F	9	34	P	5	39
A25	С	38	F3	37	39	R	13	35
A	31	40	Н	6	35	S	8	39
A32		40	Н	7	35	Т	6	39
В	3	34	J	2	39			
B	23	38	J3	Α	39			

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
1	26	ABS R/B (Motor Compartment Left)
2	23	Motor Room R/B (Motor Compartment Left)
3	24	EV R/B (Motor Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B	37773 10 375	
1C	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1E		
11		
1J	28	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
3A	100000000000000000000000000000000000000	
3B	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)
3C		institution i and write and content of Childright Failer Content
3D		

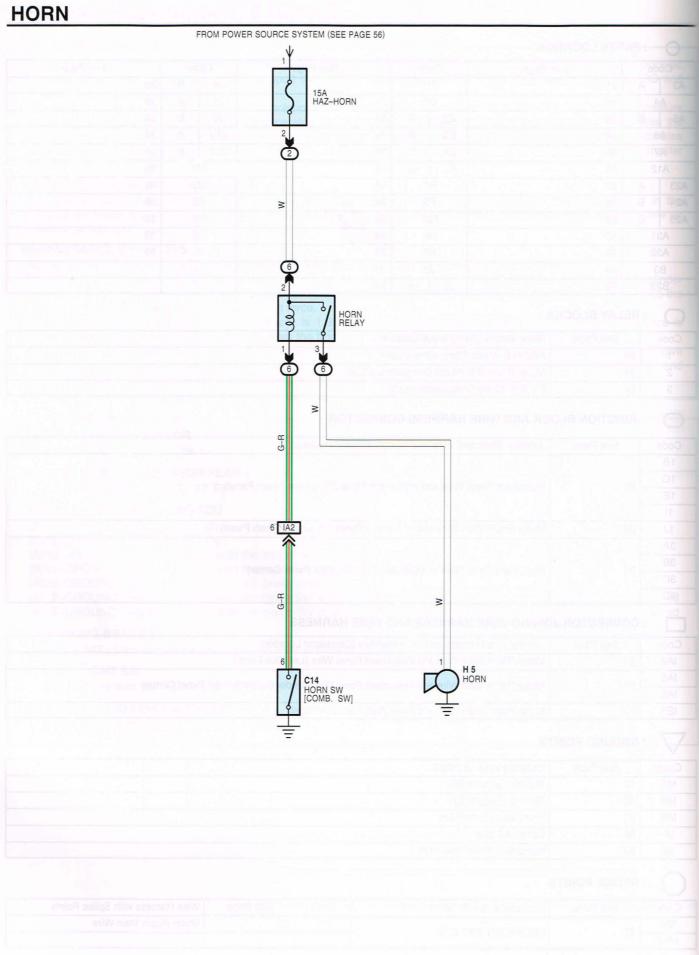
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)	
IA2	50	Motor Room Main Wire and Instrument Panel Wire (Left Kick Panel)	
IA5	50	Motor Room Main Wire and Instrument Panel Wire (Under the Instrument Panel Center)	
IA6	7 50	Wide noom wall wile and institution ratio wile (order the institution ratio center)	
IE1	50	Motor Room Main Wire and Floor Wire (Left Kick Panel)	

: GROUND POINTS

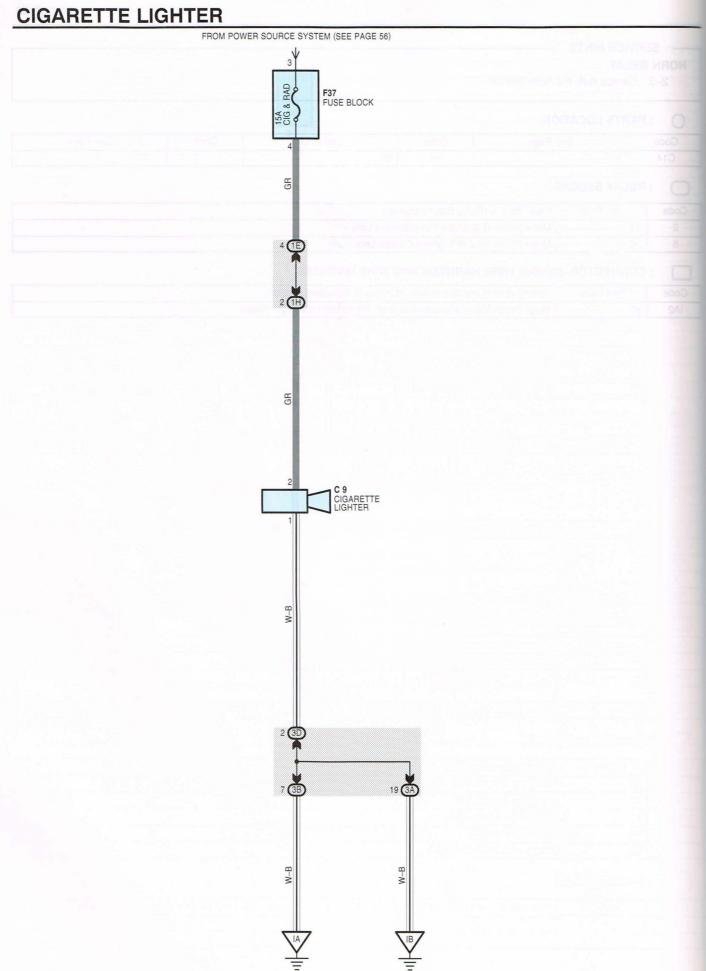
Code	See Page	Ground Points Location
MA	42	Radiator Support RH
MB	42	Radiator Support LH
ME	42	Front Side Member LH
IA	50	Left Kick Panel
IB	50	Instrument Panel Brace LH

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
M6	12	Motor Room Main Wire	12	50	Motor Room Main Wire
M12	42	Wotor Hoom Main Wire			



	10116	Code	See Page	Code	See Page
38		H5	35		
	RTS LOCAT	osed with the horn SW on RTS LOCATION See Page	RTS LOCATION See Page Code	Osed with the horn SW on RTS LOCATION See Page Code See Page	Osed with the horn SW on RTS LOCATION See Page Code See Page Code

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)
6	26	Motor Room No.2 R/B (Motor Compartment Left)
		JOINING WIRE HARNESS AND WIRE HARNESS
		A A SOLI COLORS



SERVICE HINTS -

C9 CIGARETTE LIGHTER

2-GROUND : Approx. 12 volts with the motor SW at ACC or ON position

1-GROUND : Always continuity

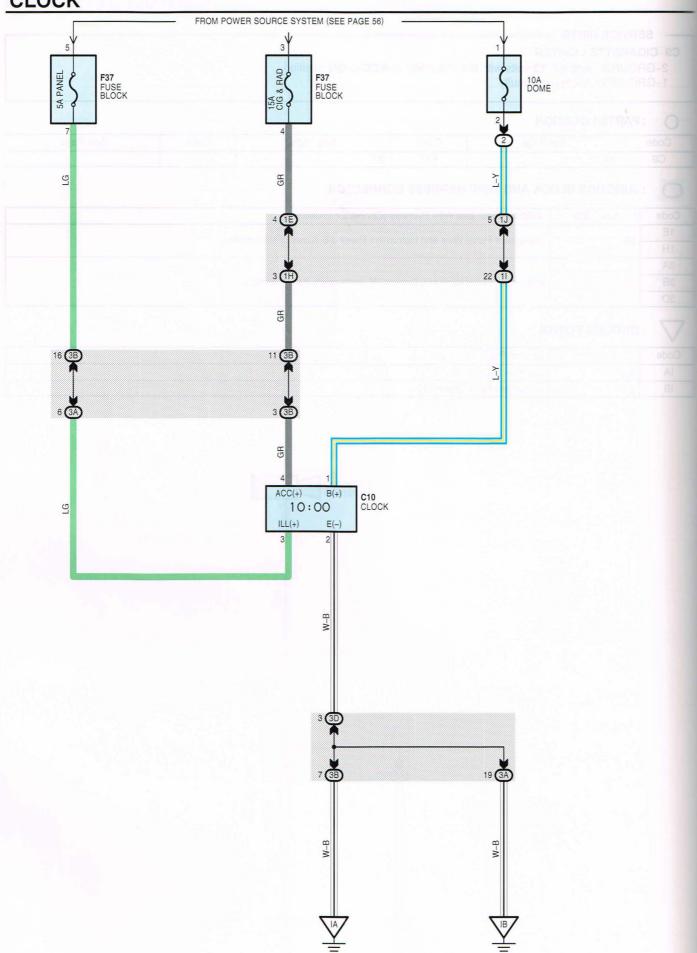
O : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C9	38	F37	39		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)			
1E	28	nstrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)			
1H	7 20	institution ratio ville and institution ratio 3/D (Lower Finish Panel)			
3A					
3B	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)			
3D					

Code	See Page	Ground Points Location
IA	50	Left Kick Panel
IB	50	Instrument Panel Brace LH



SERVICE HINTS

C10 CLOCK

4-GROUND : Approx. 12 volts with the motor SW at ACC or ON position

1-GROUND : Always approx. 12 volts

3-GROUND : Approx. 12 volts with the light control SW at TAIL or HEAD position

2-GROUND : Always continuity

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C10	38	F37	39		

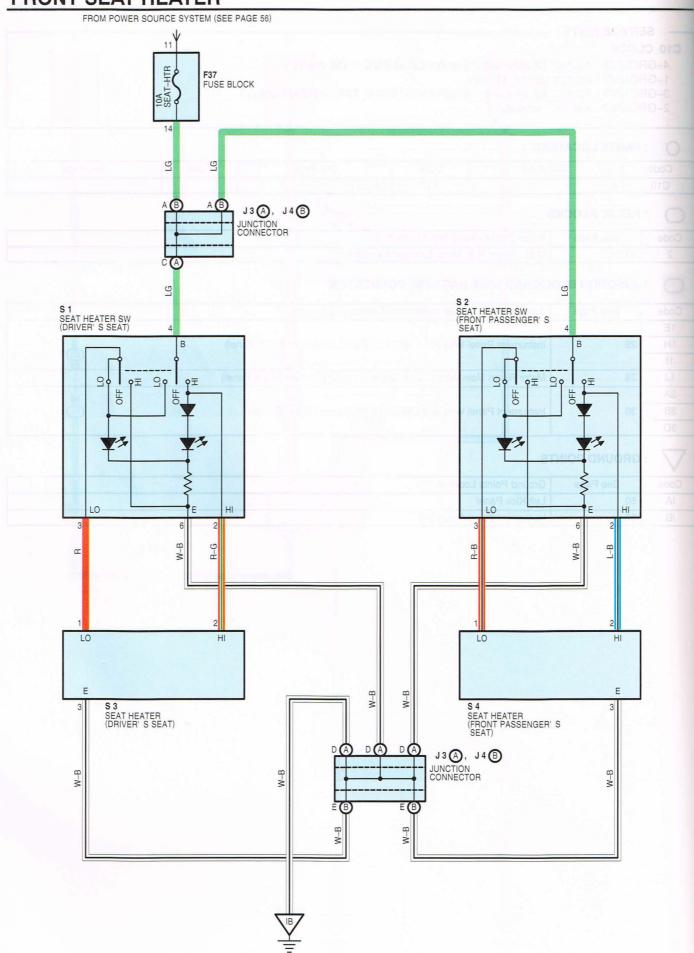
: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)	
1E			(DRIVER S SEAT)
1H	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)	
11			
1J	28	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)	60 50 10
3A			
3B	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)	
3D			

Code	See Page	Ground Points Location
IA	50	Left Kick Panel
IB	50	Instrument Panel Brace LH



PEAR SEAT HEATER

SERVICE HINTS -

S1, S2 SEAT HEATER SW

4-GROUND : Approx. 12 volts with the motor SW at ON or ST position

6-GROUND : Always continuity

4-2 : Continuity with the seat heater SW at **HI** position 4-3 : Continuity with the seat heater SW at **LO** position

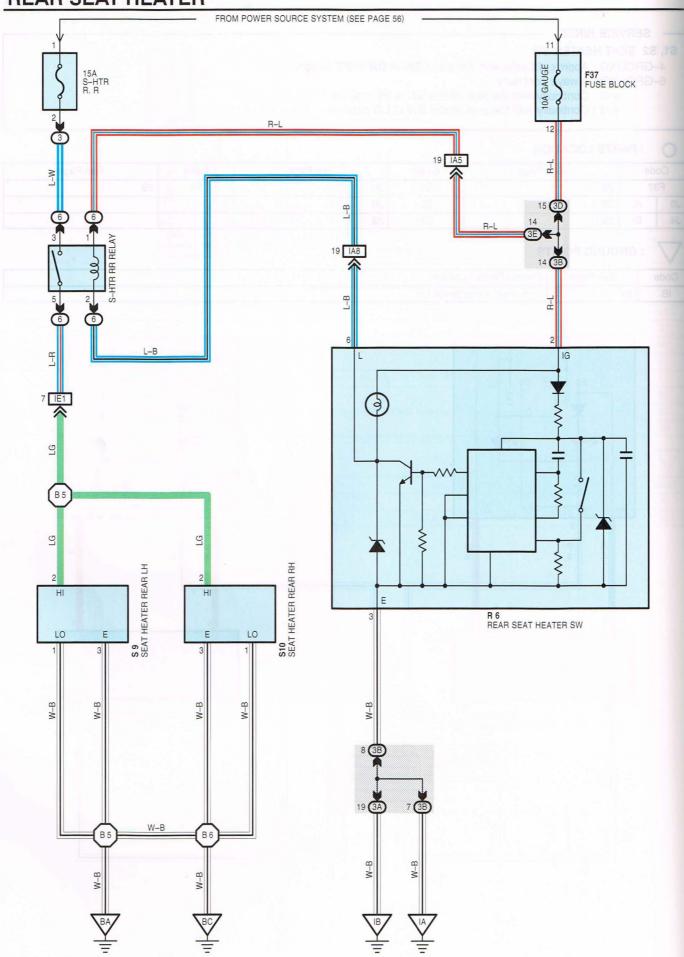
O : PARTS LOCATION

Code		See Page	Code	See Page	Code	See Page	
F	37	39	S1	39	S4	39	
J3	Α	39	S2	39			
J4	В	39	S3	39			

∇	: GROUND	POINTS
----------	----------	--------

Code	See Page	Ground Points Location
IB	50	Instrument Panel Brace LH

REAR SEAT HEATER



SERVICE HINTS -

S-HTR RR RELAY

3-5: Continuity with the motor SW at ON or ST and the rear seat heater SW on

R6 REAR SEAT HEATER SW

2-GROUND : Approx. 12 volts with the motor SW at ON position

3-GROUND : Always continuity

S9, S10 REAR SEAT HEATER LH, RH

2-GROUND : Approx. 12 volts with the motor SW at ON position and the rear seat heater SW on

3-GROUND : Always continuity

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
F37	39	S9	40	E) at	
R6	39	S10	40		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)			
3	24	V R/B (Motor Compartment Left)			
6	26	Motor Room No.2 R/B (Motor Compartment Left)			

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)				
3A						
3B	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)				
3D	30	instrument Farier while and Center 3/B (instrument Farier Center)				
3E						

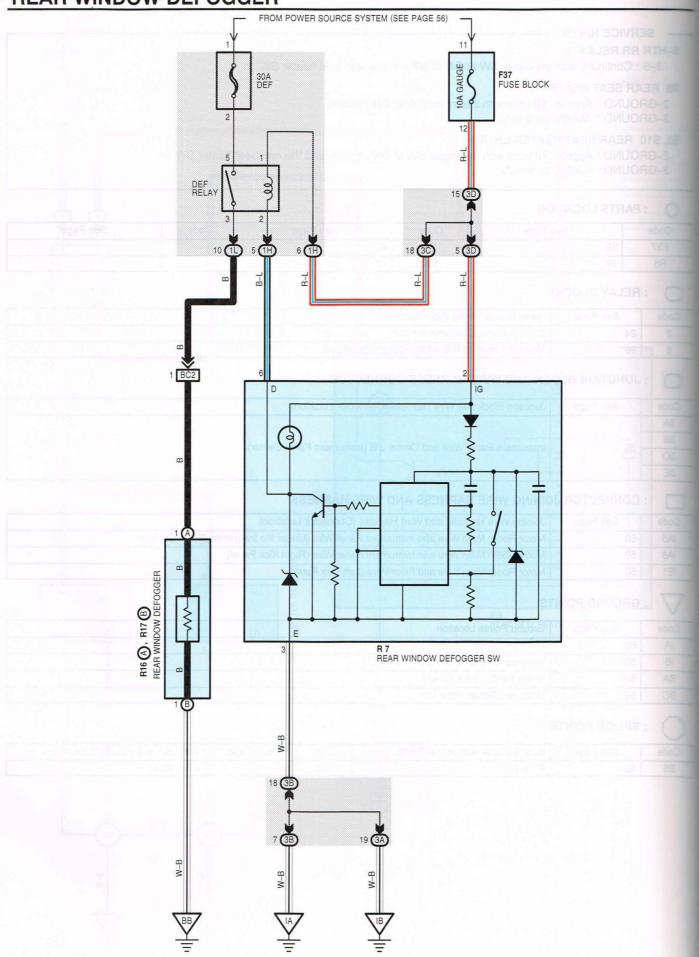
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	pining Wire Harness and Wire Harness (Connector Location)			
IA5	50	Motor Room Main Wire and Instrument Panel Wire (Under the Instrument Panel Center)			
IA8	50	Motor Room Main Wire and Instrument Panel Wire (Right Kick Panel)			
IE1	50	Motor Room Main Wire and Floor Wire (Left Kick Panel)			

: GROUND POINTS

Code	See Page	Ground Points Location
IA	50	Left Kick Panel
IB	50	Instrument Panel Brace LH
BA	52	Under the Center Pillar LH
ВС	52	Under the Center Pillar RH

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B5	52 Floor Wire		B6	52	Floor Wire



CINATIANOS

SERVICE HINTS -

DEF RELAY

5-3 : Closed with the motor SW at ON or ST position and the rear window defogger SW on

O : PARTS LOCATION

Code	Code See Page		de	See Page	Code	See Page
F37	39	R16	Α	40		
R7	39	R17	В	40		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

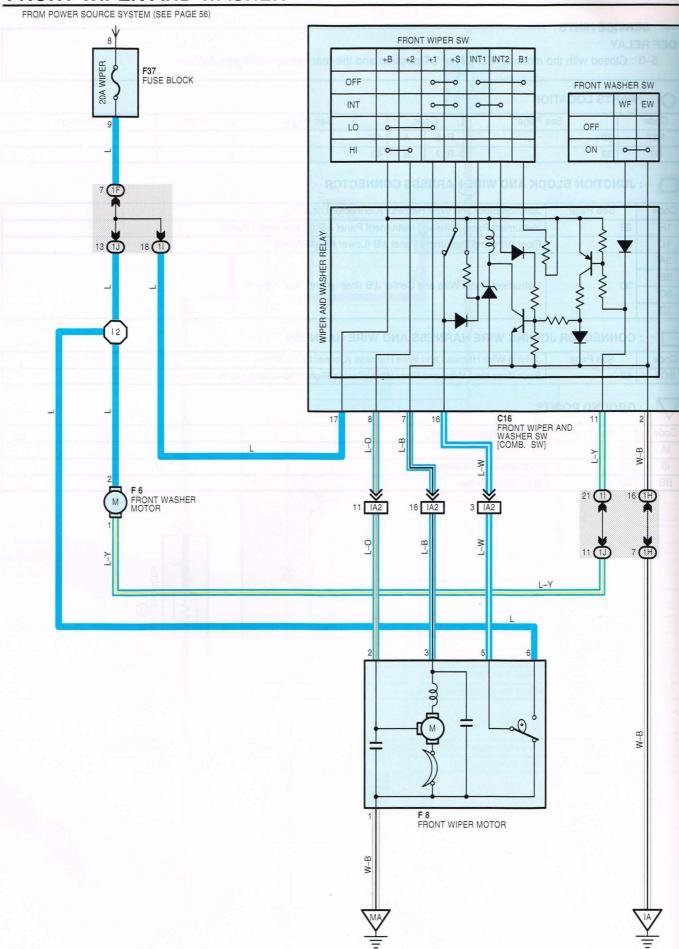
Code	See Page	See Page Junction Block and Wire Harness (Connector Location)				
1H	28 Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)					
1L	28	Floor Wire and Instrument Panel J/B (Lower Finish Panel)	P) = (North			
3A		A TANK THE TANK THE PARTY OF TH	1			
3B		Instrument Banel Wire and Contar I/B (Instrument Banel Contar)				
3C	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)				
3D	A THE STATE OF	L Capter de La company de la c				

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
BC2	52	Back Door No.1 Wire and Floor Wire (Beside Right Rear Comb. Light)

Code	See Page	round Points Location		
IA	50	Left Kick Panel		
IB	50	Instrument Panel Brace LH		
BB	52	Back Door Center		

FRONT WIPER AND WASHER



SYSTEM OUTLINE -

With the motor SW turned on, the current flows to TERMINAL 17 of the front wiper and washer SW, TERMINAL 2 of the front washer motor and TERMINAL 6 of the front wiper motor through the WIPER fuse.

1. LOW SPEED POSITION

With front wiper SW turned to LO position, the current flows from TERMINAL 17 of the front wiper and washer SW to TERMINAL 7 to TERMINAL 3 of the front wiper motor to TERMINAL 1 to GROUND and causes to the front wiper motor to run at low speed.

2. HIGH SPEED POSITION

With front wiper SW turned to HI position, the current flows from TERMINAL 17 of the front wiper and washer SW to TERMINAL 8 to TERMINAL 2 of the front wiper motor to TERMINAL 1 to GROUND and causes to the front wiper motor to run at high speed.

3. INT POSITION

With front wiper SW turned to INT position, the relay operates and the current which is connected by relay function flows from TERMINAL 17 of the front wiper and washer SW to TERMINAL 2 to GROUND. This flow of current operates the intermittent circuit and the current flows from TERMINAL 17 of the front wiper and washer SW to TERMINAL 7 to TERMINAL 3 of the front wiper motor to TERMINAL 1 to GROUND and the functions.

The intermittent operation is controlled by a condenser's charged and discharged function installed in relay.

4. WASHER CONTINUOUS OPERATION

With front washer SW turned to on, the current flows from TERMINAL 2 of the front washer motor to TERMINAL 1 to TERMINAL 11 of the front wiper and washer SW to TERMINAL 2 to GROUND and causes to the front washer motor to run. And the window washer emits a water spray. This causes the current to flow to washer continuous operation circuit in TERMINAL 17 of the front wiper and washer SW to TERMINAL 7 to TERMINAL 3 of the front wiper motor to TERMINAL 1 to GROUND and the function.

SERVICE HINTS -

C16 FRONT WIPER AND WASHER SW [COMB. SW]

2-GROUND : Always continuity

17-GROUND : Approx. 12 volts with motor SW at ON or ST position

7-GROUND : Approx. 12 volts with front wiper and washer SW at LOW position

: Approx. 12 volts every approx. 2 to 4 seconds intermittently with front wiper and washer SW at INT position

16-GROUND: Approx. 12 volts with motor SW on unless front wiper motor at STOP position 8-GROUND: Approx. 12 volts with motor SW on and front wiper and washer SW at HI position

F8 FRONT WIPER MOTOR

5-6: Closed unless front wiper motor at STOP position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C16	38	F8	34		
F6	34	F37	39		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1F	100 000 00	
1H	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
11		
1J	28	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)

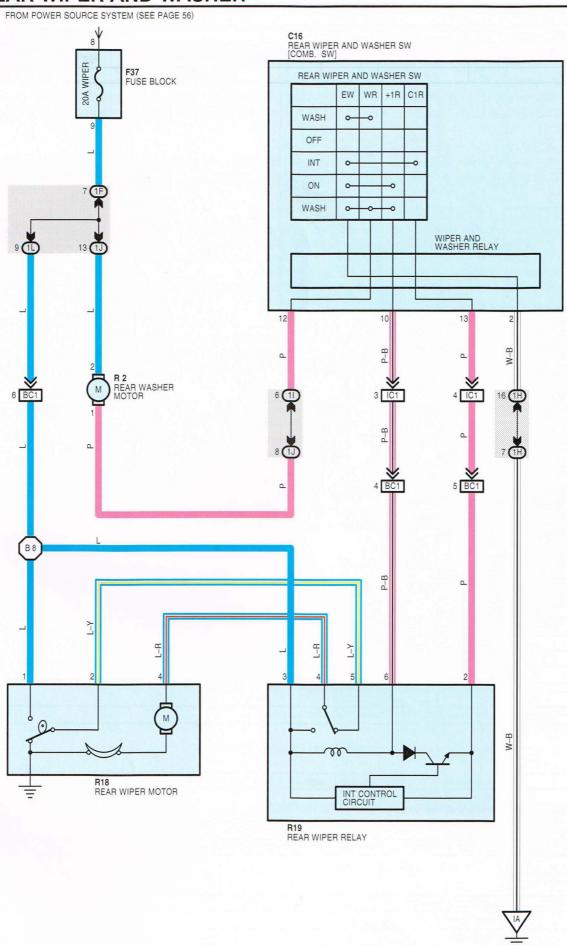
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)	
IA2	50	Motor Room Main Wire and Instrument Panel Wire (Left Kick Panel)	

Code	See Page	Ground Points Location
MA	42	Radiator Support RH
IA	50	Left Kick Panel

FRONT WIPER AND WASHER

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
12	50	Motor Room Main Wire			



SYSTEM OUTLINE -

When the motor SW is turned on, current flows to TERMINAL 2 of the rear washer motor, TERMINAL 3 of the rear wiper relay and TERMINAL 1 of the rear wiper motor through the WIPER fuse.

1. REAR WIPER NORMAL OPERATION

With the motor SW turned on and the rear wiper and washer SW turned on, the current flowing to TERMINAL 3 of the rear wiper relay flows to TERMINAL 6 of the rear wiper relay to TERMINAL 10 of the rear wiper and washer SW to TERMINAL 2 to GROUND. Thus, the rear wiper relay coil is activated and the current to TERMINAL 3 of the rear wiper relay flows to TERMINAL 4 to TERMINAL 4 of the rear wiper motor to motor to GROUND and causes the motor to operate the rear wiper.

2. REAR WIPER INTERMITTENT OPERATION

When the motor SW is on and the rear wiper and washer SW is turned to INT position, current flowing to TERMINAL 3 of the rear wiper relay flows to TERMINAL 2 to TERMINAL 13 of the rear wiper and washer SW to TERMINAL 2 to GROUND. This causes the motor to operate (The point changes) and the intermittent circuit of the relay operates. Intermittent operation of the circuit is controlled by the charging and discharging of the condenser installed inside the relay.

3. WASHER OPERATION

With the motor SW turned on and the rear wiper and washer SW turned to ON position, when the rear wiper SW is turned further, the current flowing to TERMINAL 2 of the rear washer motor flows to TERMINAL 1 of the rear washer motor to TERMINAL 12 of the rear wiper and washer SW to TERMINAL 2 to GROUND so that the rear washer motor rotates and the window washer emits a water spray, only while the rear washer SW is fully turned.

When the rear wiper SW is off and then turned to rear washer SW on (Rear wiper off side), Only the washer operates.

SERVICE HINTS

R2 REAR WASHER MOTOR

2-GROUND : Approx. 12 volts with motor SW at ON or ST position

1-GROUND: Continuity with rear washer SW turned on

R19 REAR WIPER RELAY

3-GROUND : Approx. 12 volts with motor SW at **ON** or **ST** position 2-GROUND : Continuity with rear wiper and washer SW at **INT** position 6-GROUND : Continuity with rear wiper and washer SW at **ON** position

: PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
C16	38	R2	35	R19	40
F37	39	R18	40		

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)	
1F	1 / / / /		
1H	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)	
11	Tarak kangi		
1J	28	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)	
1L	28	Floor Wire and Instrument Panel J/B (Lower Finish Panel)	

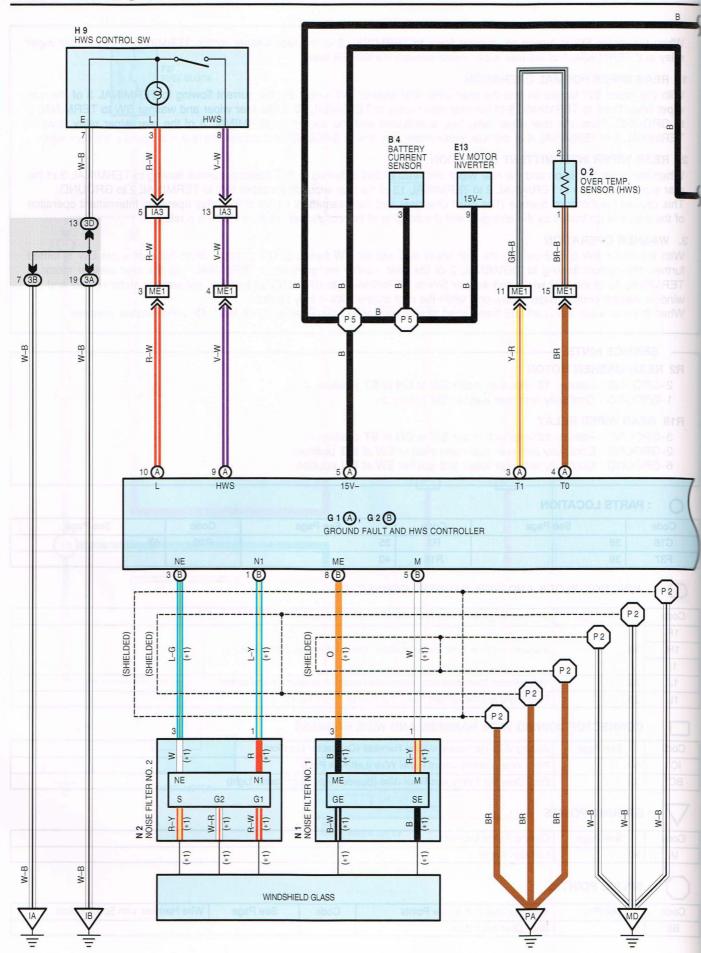
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

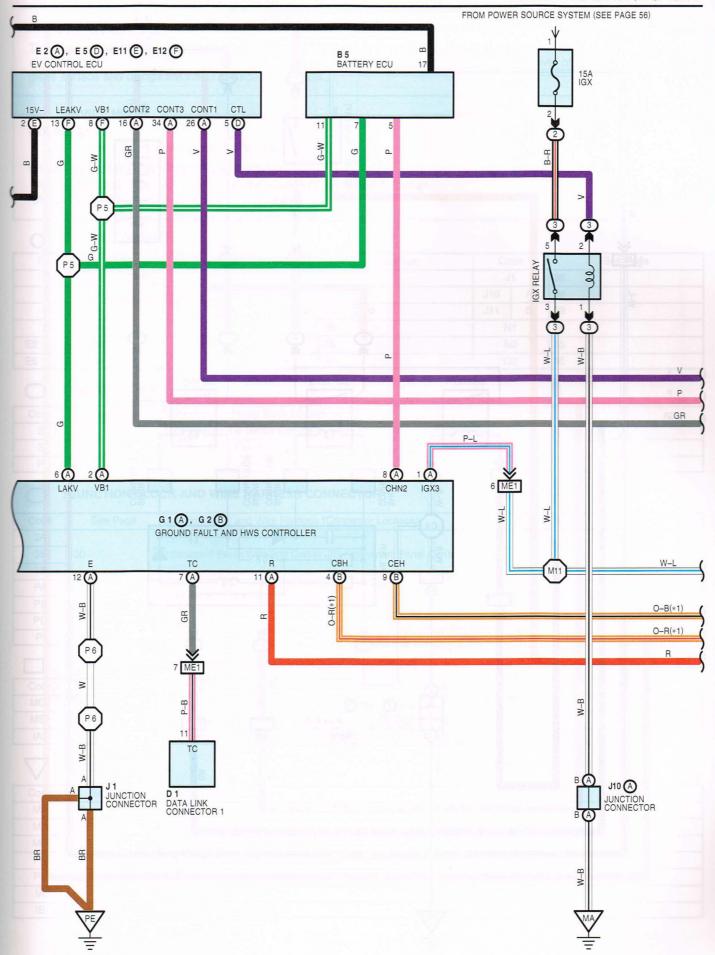
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IC1	50	Floor Wire and Instrument Panel Wire (Left Kick Panel)
BC1	52	Back Door No.1 Wire and Floor Wire (Beside Right Rear Comb. Light)

: GROUND POINTS

Code	See Page	Ground Points Location
IA	50	Left Kick Panel

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
B8	52	Back Door No.1 Wire			





SYSTEM OUTLINE -

The heat windshield system heats the entire windshield glass through the use of a transparent conductive film heating element that is sandwiched between the glass layers of the windshield. This facilitates the removal of snow or ice from the glass surface and defogs the inside surface of the glass.

SERVICE HINTS -

IGX RELAY

3-5: Closed with the motor SW at ON or ST position

G1 (A) GROUND FAULT AND HWS CONTROLLER

(A) 1-GROUND : Approx. 12 volts with the motor SW at ON or ST position

(A) 12-GROUND: Always continuity

: PARTS LOCATION

Code		See Page	Co	de	See Page	Co	de	See Page
B4 :		36	E11	Е	36	J1		36
В	15	36	E12	F	36	J10	Α	39
C	4	36	E1	13	36	J11	В	39
	1	34	G1	Α	36	N	1	35
E2	А	34	G2	В	36	N	2	35
E5	D	34	Н	9	39	0	2	35

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)
3	24	EV R/B (Motor Compartment Left)
P	27	Power Control Unit R/B (In the Battery Tray)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

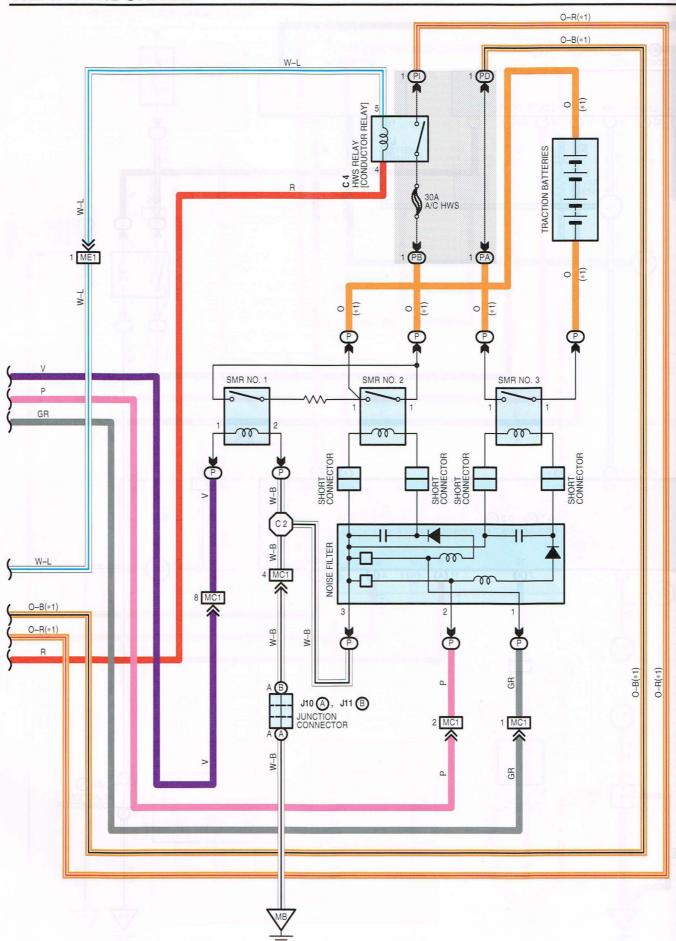
Code	See Page	Junction Block and Wire Harness (Connector Location)		
3A				
3B	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)		
3D	-70 L. L. L. L. V. L.			
PA	33	Main Battery Cable No.1 and Power Control Unit J/B (In the Power Control Unit)		
PB	33	Main Battery Cable No. 1 and Fower Control Offit 5/B (in the Fower Control Offit)		
PD	33	Motor Room No.4 Wire and Power Control Unit J/B (In the Power Control Unit)		
PI	33	Motor Prooff 140.4 Write and 1 Gwel Control Child G/D (in the Power Control Child)		

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
MC1	42	Floor No.3 Wire and Motor Room Main Wire (Near the Front Side Member RH)
ME1	42	Motor Room Main Wire and Motor Room No.2 Wire (Left Side of the Power Steering ECU)
IA3	50	Motor Room Main Wire and Instrument Panel Wire (Under the Instrument Panel Center)

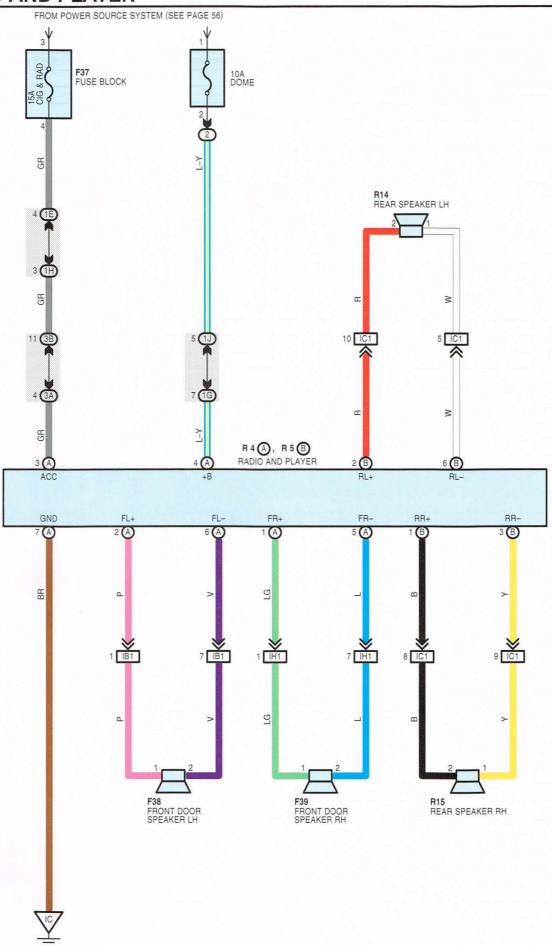
: GROUND POINTS

Code	See Page	Ground Points Location
MA	42	Radiator Support RH
MB	42	Radiator Support LH
MD	42	Left Side Surface of the Power Control Unit
PA	44	Front Side of the Power Steering ECU
PE	44	Left Side of the Power Steering ECU
IA	50	Left Kick Panel
IB	50	Instrument Panel Brace LH



HEAT WINDSHIELD

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
M11	42	Motor Room Main Wire	P6	44	Motor Room No.2 Wire
P2	44	Motor Room No.4 Wire	C2	48	Floor No.3 Wire
P5	44	Motor Room No.2 Wire			SEEVICE NAME



SERVICE HINTS -

R4 (A) RADIO AND PLAYER

(A) 4-GROUND : Always approx. 12 volts

(A) 3-GROUND : Approx. 12 volts with the motor SW at ACC or ON position

(A) 7-GROUND : Always continuity

: PARTS LOCATION

Code	See Page	Code		See Page	Code	See Page	
F37	39	R4	Α	39	R15	40	
F38	40	R5	В	39	- 1		
F39	40	R	14	40	WOTON SW		

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

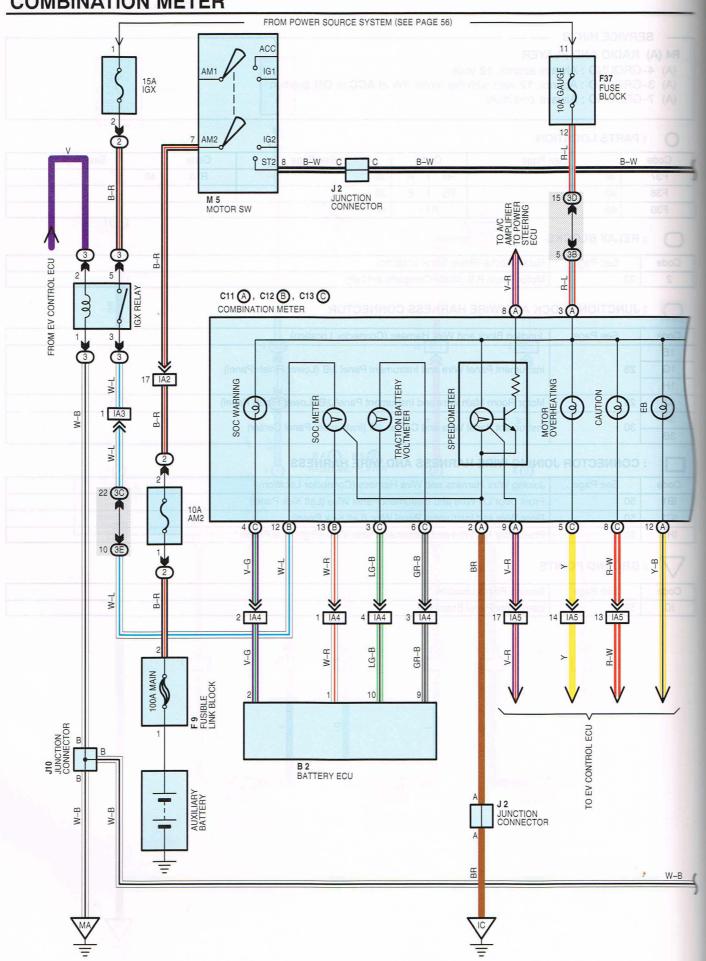
Code	See Page	Junction Block and Wire Harness (Connector Location)
1E		
1G	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
1H		
1J	28	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
ЗА	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)
3B	7 30	institution ratio wite and center 5/5 (institution ratio Center)

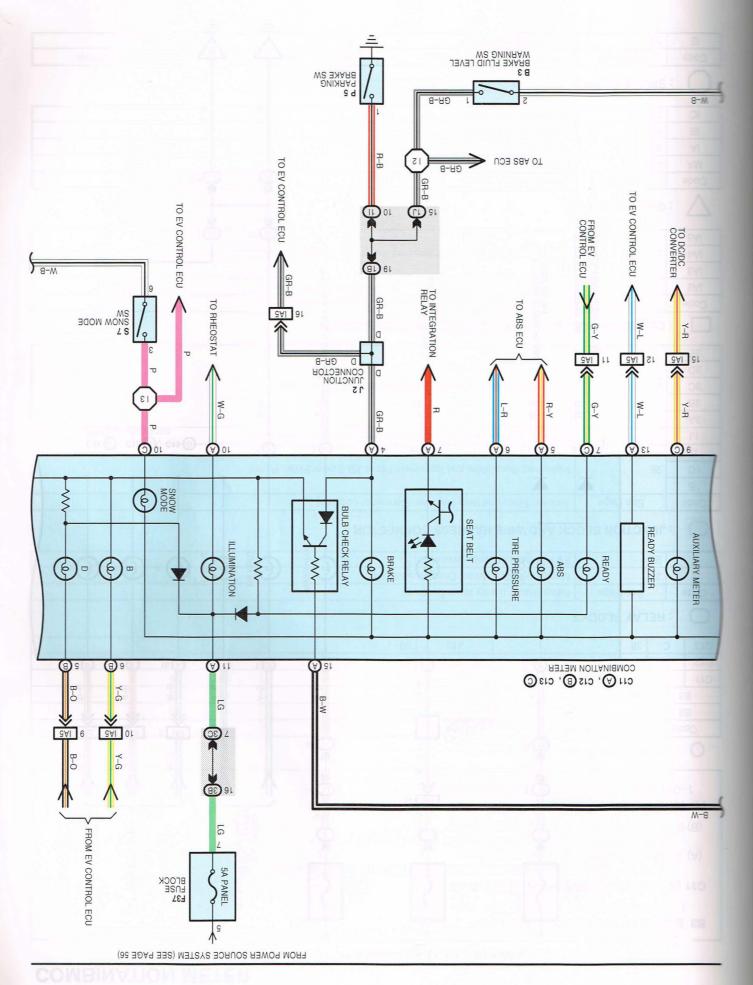
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

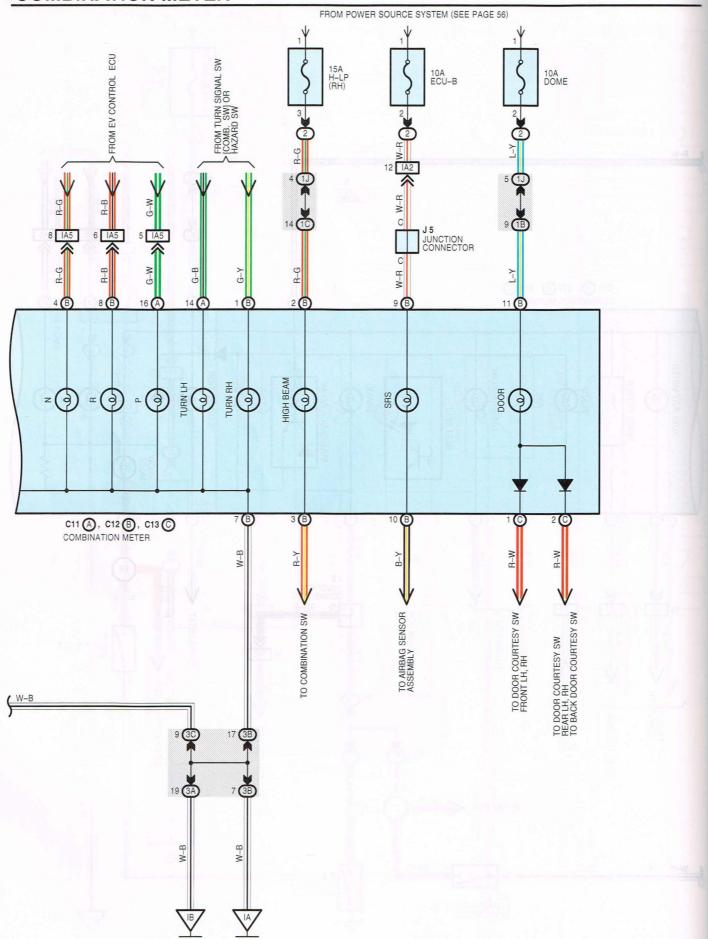
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
IB1	50	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)
IC1	50	Floor Wire and Instrument Panel Wire (Left Kick Panel)
IH1	50	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)

: GROUND POINTS

Code	See Page	Ground Points Location
IC	50	Instrument Panel Brace RH







SERVICE HINTS

B3 BRAKE FLUID LEVEL WARNING SW

1-2: Closed with the float down

C11 (A), C12 (B) COMBINATION METER

(A) 3-GROUND : Approx. 12 volts with the motor SW at ON or ST position

(A) 2, (B) 7-GROUND: Always continuity

(A)15-GROUND : Approx. 12 volts with the motor SW at ST position

(B) 9, (B)11-GROUND : Always approx. 12 volts

P5 PARKING BRAKE SW

1-GROUND: Closed with the parking brake lever pulled up

: PARTS LOCATION

Code		See Page	Code	See Page	Code	See Page	
B2		34	F9	34	M5	39	
B3		34	F37	39	P5	39	
C11	Α	38	J2	39	S7	39	
C12	В	38	J5	39			
C13	С	38	J10	39	P TITE	a IIp	

) : RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)				
2	23	Motor Room R/B (Motor Compartment Left)				
3	24	EV R/B (Motor Compartment Left)				

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)
1B		
1C	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)
8 11		
1J	28	Motor Room Main Wire and Instrument Panel J/B (Lower Finish Panel)
3A		
3B		
3C	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)
3D		
3E		

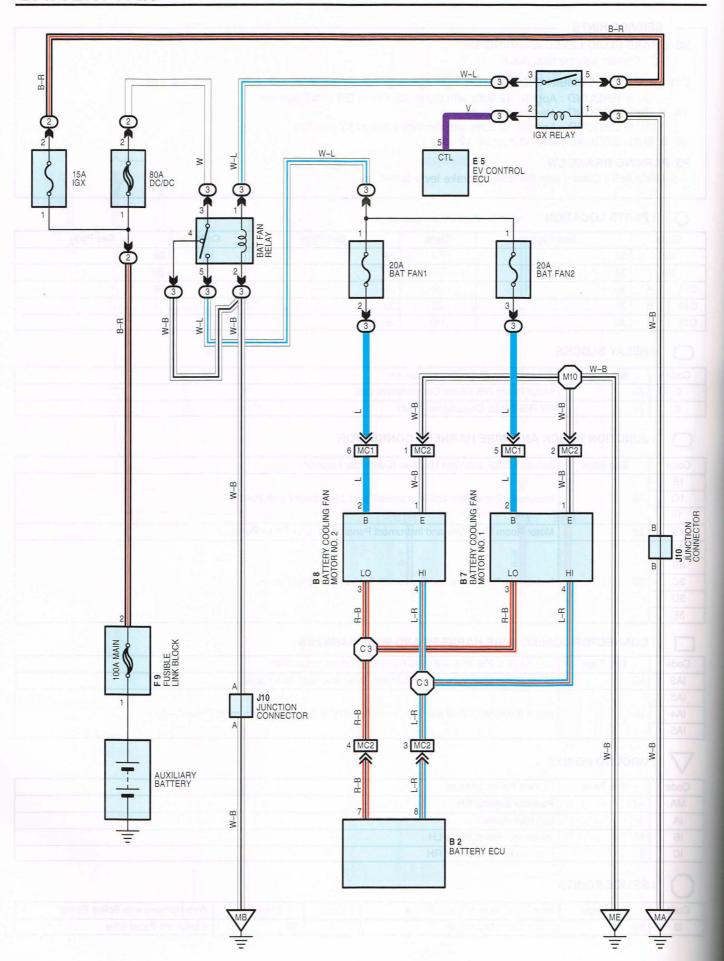
: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Co	ode	See Page	Joining Wire Harness and Wire Harness (Connector Location)
1/	42	50	Motor Room Main Wire and Instrument Panel Wire (Left Kick Panel)
1/	43		
1/	44	50	Motor Room Main Wire and Instrument Panel Wire (Under the Instrument Panel Center)
1/	45		

: GROUND POINTS

Code	See Page	Ground Points Location
MA	42	Radiator Support RH
IA	50	Left Kick Panel
IB	50	Instrument Panel Brace LH
IC	50	Instrument Panel Brace RH

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
12	50	Motor Room Main Wire	13	50	Instrument Panel Wire



IGX RELAY

3-5 : Closed with the motor SW at ON or ST position

BAT FAN RELAY

3-5 : Closed with the motor SW at ON or ST position

B7 BATTERY COOLING FAN MOTOR NO.1

2-GROUND : Approx. 12 volts with the motor SW at ON or ST position

1-GROUND : Always continuity

B8 BATTERY COOLING FAN MOTOR NO.2

2-GROUND: Approx. 12 volts with the motor SW at ON or ST position

1-GROUND : Always continuity

O : PARTS LOCATION

Code	See Page	Code	See Page	Code	See Page
B2	34	B8	37	F9	34
B7	37	E5	34	J10	39

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)
3	24	EV R/B (Motor Compartment Left)

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

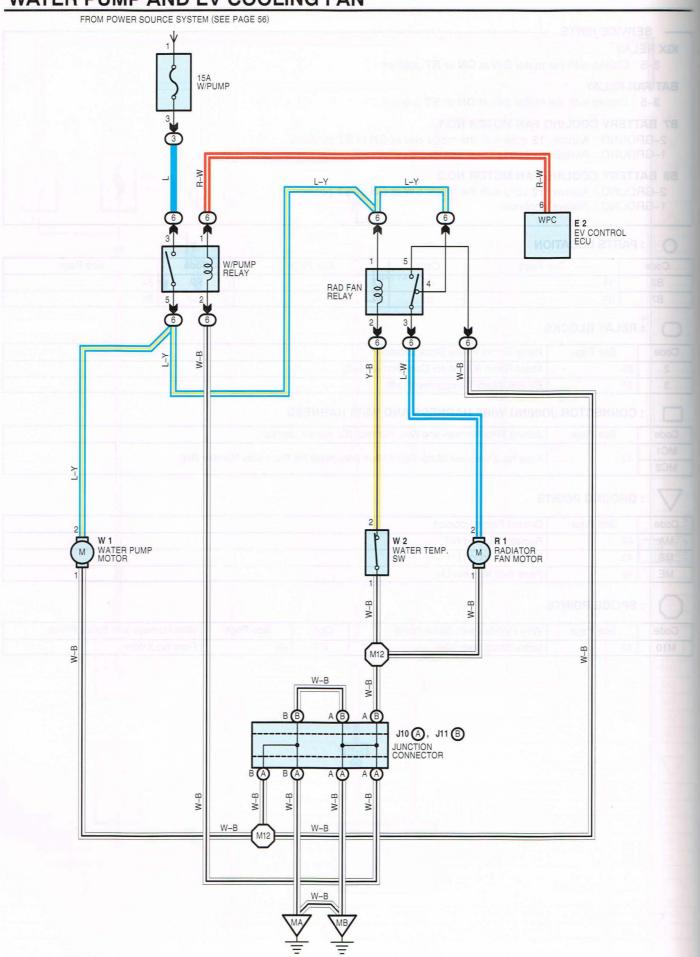
ı	Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
I	MC1	12	Floor No.3 Wire and Motor Room Main Wire (Near the Front Side Member RH)
ı	MC2	42	Ploof No.5 Wife and Motor Room Main Wife (Near the Profit Side Member Art)

: GROUND POINTS

Code	See Page	Ground Points Location
MA	42	Radiator Support RH
MB	42	Radiator Support LH
ME	42	Front Side Member LH

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
M10	42	Motor Room Main Wire	C3	48	Floor No.3 Wire

WATER PUMP AND EV COOLING FAN



SYSTEM OUTLINE

1. WATER PUMP MOTOR OPERATION

Among the temp. signals provided from respective systems to the EV control ECU, if any of the following conditions are met, the current flows from TERMINAL WPC of the EV control ECU to TERMINAL1 of the W/PUMP relay to TERMINAL 2 to GROUND. As a result, the W/PUMP relay point side is closed, and current flows from W/PUMP fuse to TERMINAL 3 of the W/PUMP relay to TERMINAL 1 to TERMINAL 2 of the water pump motor to TERMINAL 1 to GROUND, and operates the water pump motor.

- * EV motor inverter temp. is above 50°C (122°F)
- * EV charger temp. is above 45°C (113°F)
- * DC/DC converter temp. is above 70°C (158°F)

2. RADIATOR FAN MOTOR OPERATION

When the engine coolant temp. exceeds 55°C (131°F), the water temp. SW is opened. At this time, if the water pump motor is operating, the current to the RAD FAN relay coil side is shut off, and is switched to the point side. Consequently, the current flows from the W/PUMP fuse to TERMINAL 3 of the W/PUMP relay to TERMINAL 5 to TERMINAL 4 of the RAD FAN relay to TERMINAL 3 to TERMINAL 2 of the radiator fan motor to TERMINAL 1 to GROUND, and operates the radiator fan motor.

SERVICE HINTS

W/PUMP RELAY

3-5 : Closed with the EV motor inverter above approx. 50°C (122°F)
Closed with the EV charger above approx. 45°C (113°F)
Closed with the DC/DC converter above approx. 70°C (158°F)

RAD FAN RELAY

4-3: Closed with the water temp. SW close

W2 WATER TEMP. SW

2-1 : Open with the engine coolant temp. exceeds 55°C (131°F)

E2 EV CONTROL ECU

WPC-GROUND: Approx. 12 volts with the EV motor inverter above 50°C (122°F) or EV charger above approx. 45°C (113°F) or DC/DC converter approx. 70°C (158°F)

: PARTS LOCATION

Co	de	See Page	Code		See Page	Code	See Page	
E	2	34	J11	В	39	W1	35	
J10	Α	39	R		35	W2	35	

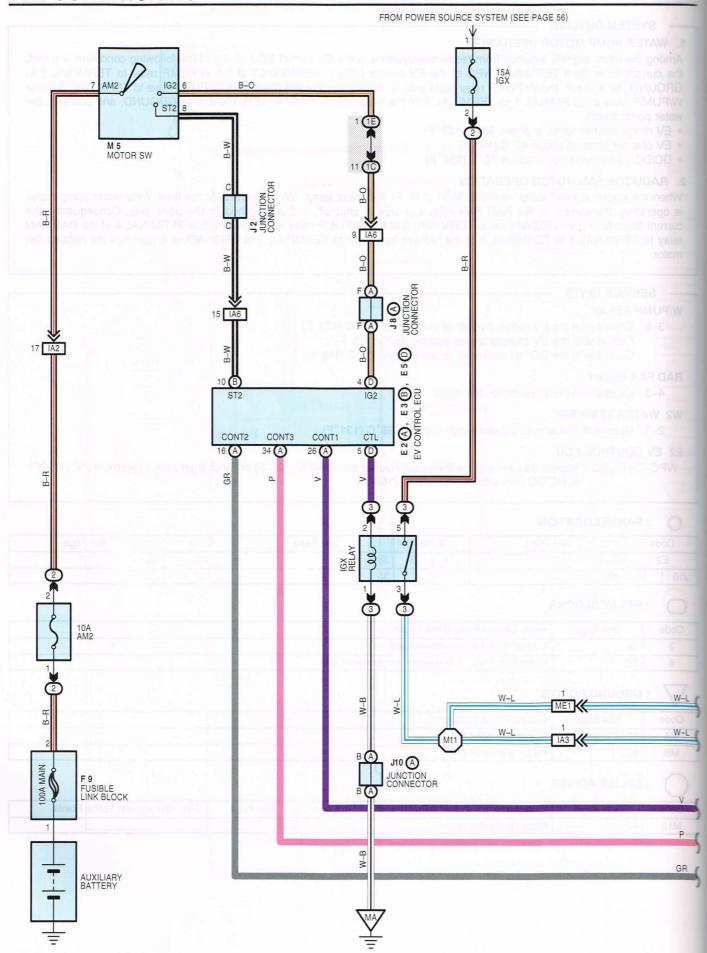
: RELAY BLOCKS

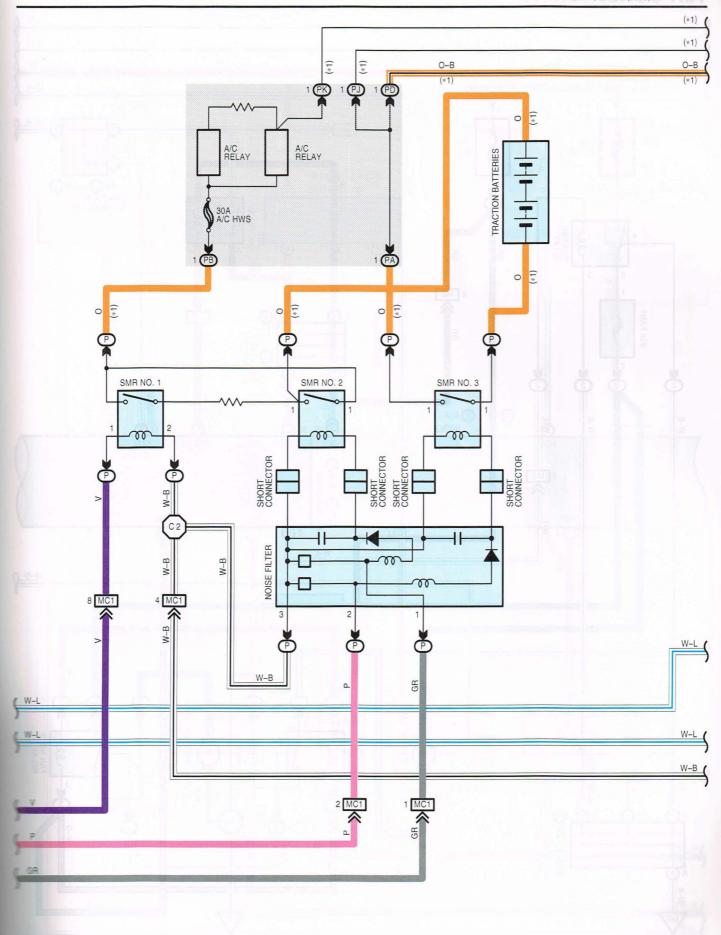
Code	See Page	Relay Blocks (Relay Block Location)				
3	24	EV R/B (Motor Compartment Left)	TEN			
6	26	Motor Room No.2 R/B (Motor Compartment Left)	-			

: GROUND POINTS

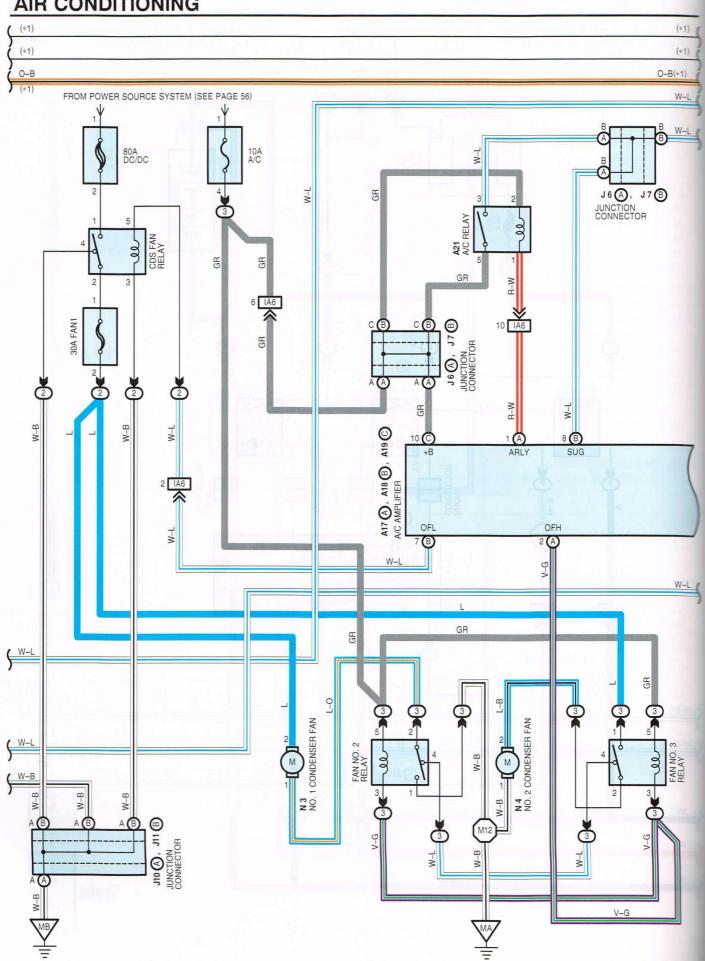
Code	See Page	Ground Points Location	di di
MA	42	Radiator Support RH	
MB	42	Radiator Support LH	

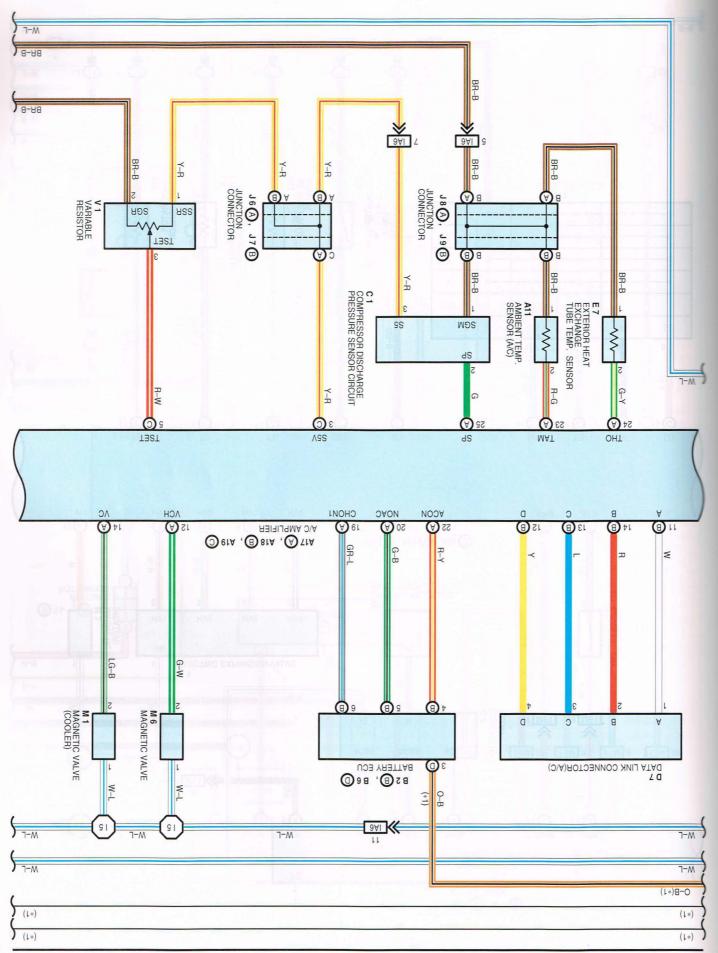
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
M12	42	Motor Room Main Wire			



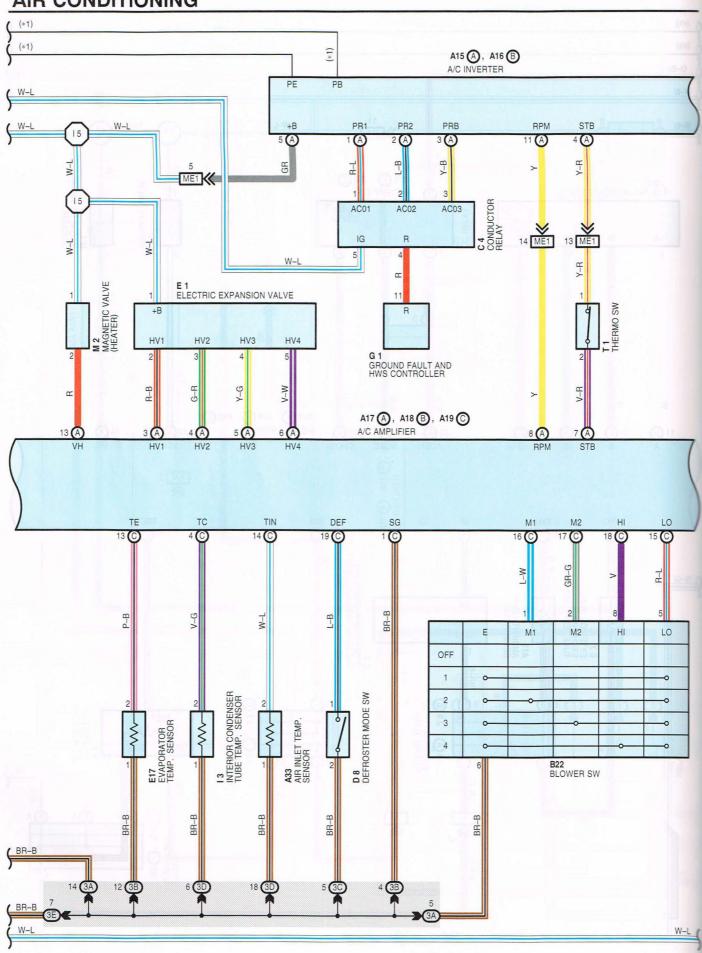


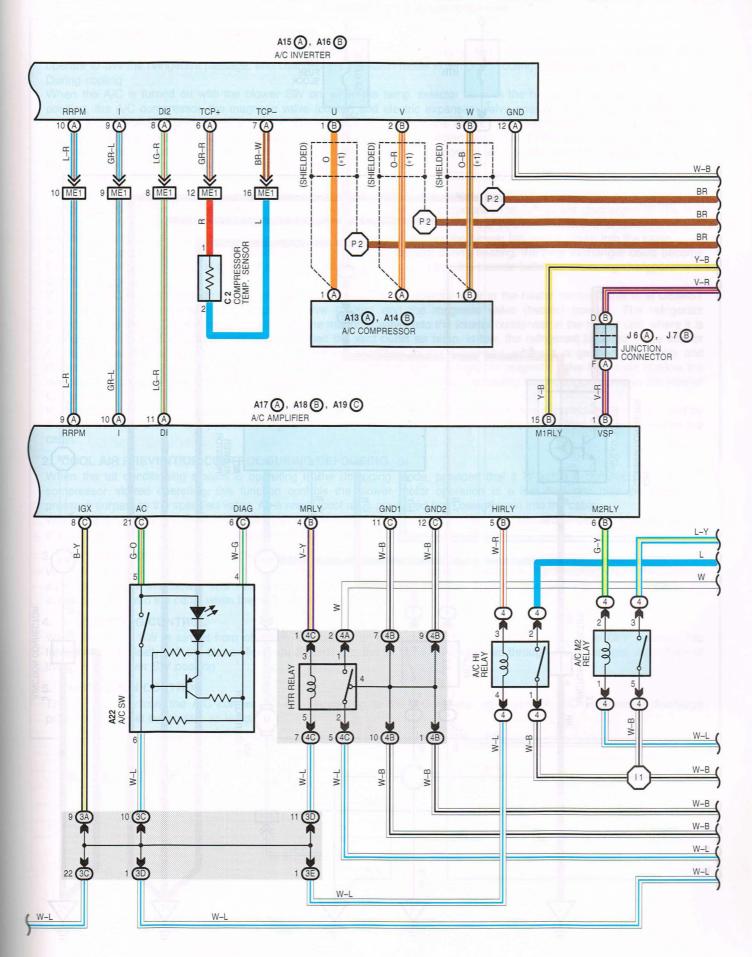
AIR CONDITIONING

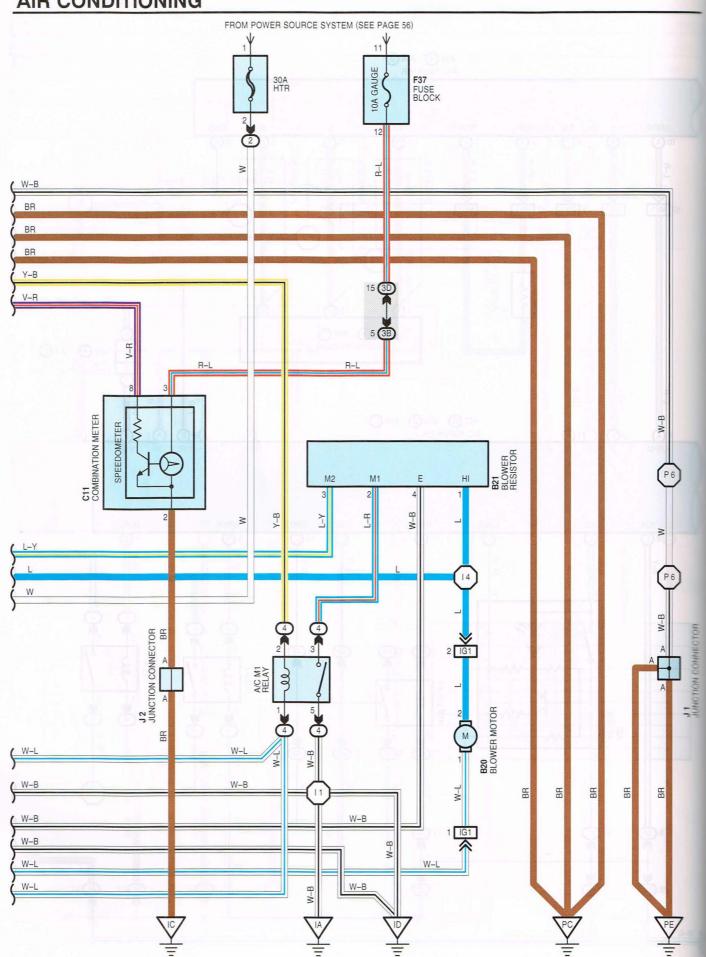




AIR CONDITIONING







SYSTEM OUTLINE .

1. HEATER PUMP AIR CONDITIONING SYSTEM

According to the position of the temp. selector lever in the heater control panel, the magnetic valve and the magnetic valve operate to SW the refrigerant passage, and changes the operation mode in 3 mode: cooling, heating and defogging.

During cooling

When the A/C is turned on with the blower SW on, while the temp. selector lever in the heater control panel is at COOL position, the A/C compressor, the magnetic valve (cooler) and electric expansion valve operate. The refrigerant discharged by the A/C compressor passes through the magnetic valve and flows to the exterior heat exchanger, where it is condensed and liquefied. Then, the refrigerant passes through the magnetic valve (cooler), and flows to the evaporator in the A/C unit. The refrigerant is gasified, and cools/dehumidifies the air around the evaporator. The cooled and dehumidified air is then blown into the cabin with the wind from the blower fan.

During heating

When the blower SW is turned on while the temp. selector lever in the heater control panel is at HOT position, the A/C compressor, the magnetic valve (heater) and the electric expansion valve operate. The refrigerant discharged by the A/C compressor flows through the magnetic valve, into the interior condenser in the A/C unit, where it is condensed and liquefied. The heat that is generated at this time is used to warm the air from the blower fan, and is blown into the cabin.

Because the exterior heat exchanger functions as an exterior evaporator during heating, the heat exchanger could become frosted. In that case, the frost is detected and is defrosted automatically when the traction batteries are being charged.

During defogging

When the A/C is turned on with the blower SW on , while the temp. selector lever in the heater control panel is at DEMIST position, the A/C compressor, the magnetic valve (cooler) and the magnetic valve (heater) operate. The refrigerant discharged by the A/C compressor flows through the magnetic valve, into the interior condenser in the heater unit, where it is condensed and liquefied, and generates heat. When the vent outlet air temp. is low, the refrigerant liquefied in the interior condenser passes through the magnetic valve (cooler) and flows to the evaporator, where it is gasified, and cools and dehumidifies the air around the evaporator. When the vent outlet air temp. is high, the magnetic valve is opened to allow the refrigerant to be gasified in both the evaporator and exterior condenser, thus increasing the heat generated in the interior condenser.

In this manner, the air initially cooled and dehumidified in the interior evaporator is cooled and dehumidified in the A/C unit by the wind from the blower fan, passes through the interior condenser in the A/C unit where it is heated, and is blown into the cabin.

2. COOL AIR PREVENTION CONTROL DURING DEFOGGING

When the air conditioning system is operating in the defogging mode, provided that it is within 3 minutes after the A/C compressor started operating, this function controls the blower motor operation at a low flow rate until the refrigerant pressure surpasses the specified value. As a result, cool air is prevented from being blown into the cabin.

When the refrigerant pressure surpasses the specified value or when 3 minutes have elapsed since the A/C compressor started operating, the blower motor operates at the flow rate selected at the blower SW.

3. OUTSIDE COOL AIR PREVENTION CONTROL

When the outside air temp. is under 10°C(50°F) and the refrigerant pressure is lower than the specified value, this function automatically SW the blower flow rate according to the refrigerant pressure. This function prevents cool air from being suddenly blown into the cabin when the outside air temp. is low.

4. A/C STARTING CONTROL

When the motor SW is turned from off to on for cooling, or when the A/C is set to COOL mode from OFF position, this function automatically SW the blower flow rate according to the air temp. which passed through the evaporator, regardless of the selected blower SW position.

5. PROTECTION CONTROL

This function controls the A/C compressor rpm, according to the A/C inverter input current, A/C compressor discharge pressure, and post evaporator air temp.

6. PRE-CONDITIONING CONTROL

When setting the charge ending time at timer charging, this function operates if the heater control panel is in the condition below, and the vehicle interior is maintained at a comfortable temp.

* When the Pre-Conditioning SW in the charger control panel is on and the Pre-Conditioning starting time is set + the temp. selector lever in the heater control panel is at HOT or COOL position.

7. DEFROSTING CONTROL

When the air conditioning system is operating in the heating mode and the frost that develops on the exterior heat exchanger must be removed, this function automatically defrosts while the traction batteries are being charged.

SERVICE HINTS

E3 (B), E5 (D) EV CONTROL ECU

(B)10-GROUND: Approx. 12 volts with the motor SW at ST position

(D) 4-GROUND : Approx. 12 volts with the motor SW at ON or ST position

A17 (A), A18 (B), A19 (C) A/C AMPLIFIER

(C)10-GROUND: Always approx. 12 volts

(C)11-GROUND: Always continuity (C)12-GROUND: Always continuity

(A) 1-GROUND : Approx. 12 volts with the motor SW at OFF position

Below 1 volts with the motor SW at ON or ST position

(A) 2-GROUND: Approx. 12 volts with the A/C SW at on, blower SW on and temp. control lever hot

(B) 4-GROUND : Approx. 12 volts with the blower SW off

Below 1 volts with the blower SW on and A/C SW off

(B) 5-GROUND : Approx. 12 volts with the blower SW at HI position

(B) 6-GROUND : Approx. 12 volts with the blower SW at M2 position

(B) 15-GROUND: Approx. 12 volts with the blower SW at M1 position

A15 (A) A/C INVERTER

(A) 12-GROUND: Always continuity

C4 CONDUCTOR RELAY

5-GROUND: Approx. 12 volts with the motor SW at ON position

: PARTS LOCATION

Co	de	See Page	Co	de	See Page	Co	de	See Page
A	11	34	С	2	34	13		39
A13	Α	34	C	4	36	J1		36
A14	В	34	C	5	36	J:	2	39
A15	Α	36	C	11	38	J6	Α	39
A16	В	36	D	2	34	J7	В	39
A17	Α	38	D	7	38	J8	Α	39
A18	В	38	D	8	38	J9	В	39
A19	С	38	E	1	34	J10	Α	39
A21		38	E2	Α	34	J11	В	39
A	22	38 E3		В	34	M1		35
A	33	38	E5	D	34	M	2	35
B2	В	34	E7		34	M5		39
B6	D	36	E.	10	36	M	6	35
B20		38	E.	17	39	N3		35
B21		38	F	9	34	N4		35
B	22	38	F	37	39	T1		35
C	1	34	G	1	36	V1		39

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
2	23	Motor Room R/B (Motor Compartment Left)
3	24	EV R/B (Motor Compartment Left)
4	25	Driver Side R/B (Left Kick Panel)
Р	27	Power Control Unit R/B (In the Battery Tray)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)					
1C 28		Instrument Penel Wire and Instrument Penel I/P // ower Finish Penel)					
1E	720	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)					
ЗА							
3B		The same of the sa					
3C	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)					
3D							
3E		88 EQU (GND) W-8 (VI2)					
4A	32	Motor Room Main Wire and Passenger Side J/B (Right Kick Panel)					
4B	32	Instrument Panel Wire and Passenger Side J/B (Right Kick Panel)					
4C	32	Institutient Faller Wife and Fasseriger Side 5/B (Hight Nick Faller)					
PA	- 33	Main Battery Cable No.1 and Power Control Unit J/B (In the Power Control Unit)					
PB	33	Main battery Cable No.1 and Fower Control Onlt 3/B (in the Fower Control Onlt)					
PD	33	Motor Room No.4 Wire and Power Control Unit J/B (In the Power Control Unit)					
PJ	20	A/C Investor and Bower Control Linit I/P /In the Bower Control Linit)					
PK	33	A/C Inverter and Power Control Unit J/B (In the Power Control Unit)					

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

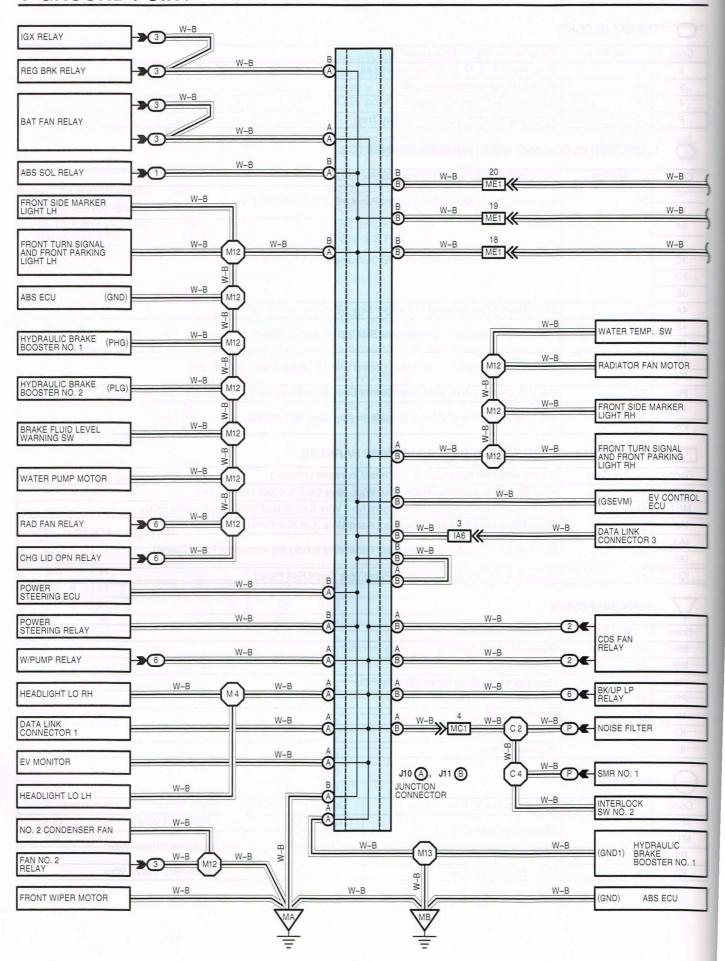
Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)
MC1	42	Floor No.3 Wire and Motor Room Main Wire (Near the Front Side Member RH)
ME1	42	Motor Room Main Wire and Motor Room No.2 Wire (Left Side of the Power Steering ECU)
IA2	50	Motor Room Main Wire and Instrument Panel Wire (Left Kick Panel)
IA3	E0.	Motor Room Main Wire and Instrument Panel Wire (Under the Instrument Panel Center)
IA6	50	Wolor Room Main Wire and instrument Failer Wire (Onder the instrument Failer Center)
IG1	50	Heater Blower Wire and Instrument Panel Wire (Right Kick Panel)

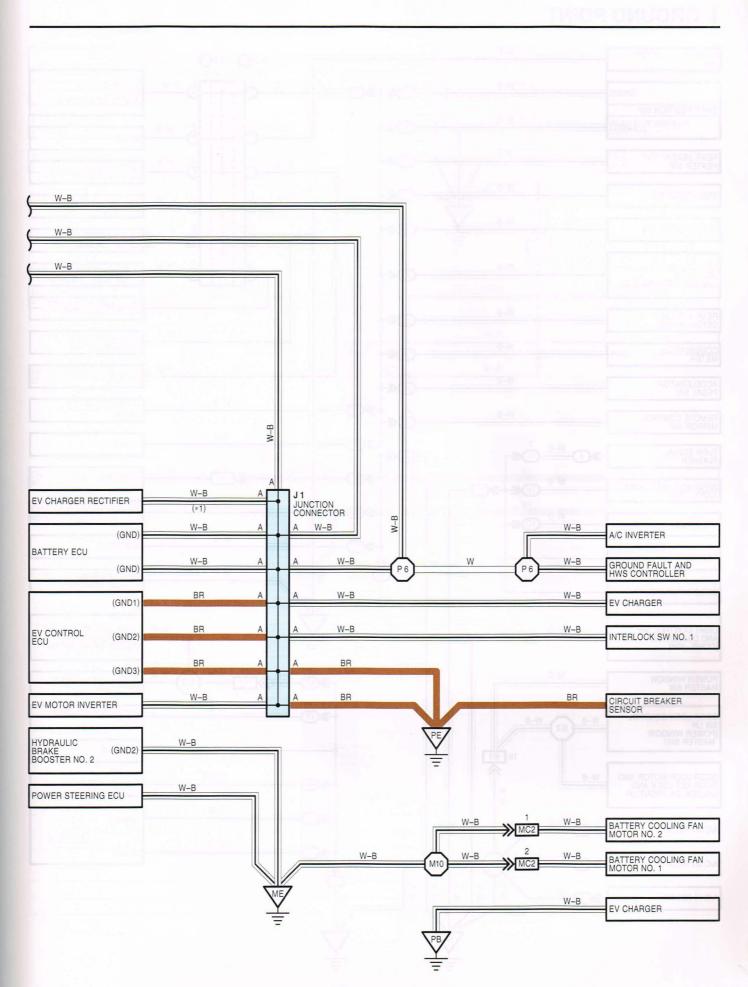
: GROUND POINTS

Code	See Page	Ground Points Location	STEEDING RELAY
MA	42	Radiator Support RH	
MB	42	Radiator Support LH	trazer shurson
PC	44	Rear Right Side of the Power Steering ECU	
PE	44	Left Side of the Power Steering ECU	THE CONTRACTOR
IA	50	Left Kick Panel	2011101
IC	50	Instrument Panel Brace RH	т потраимор
ID	50	Right Kick Panel	

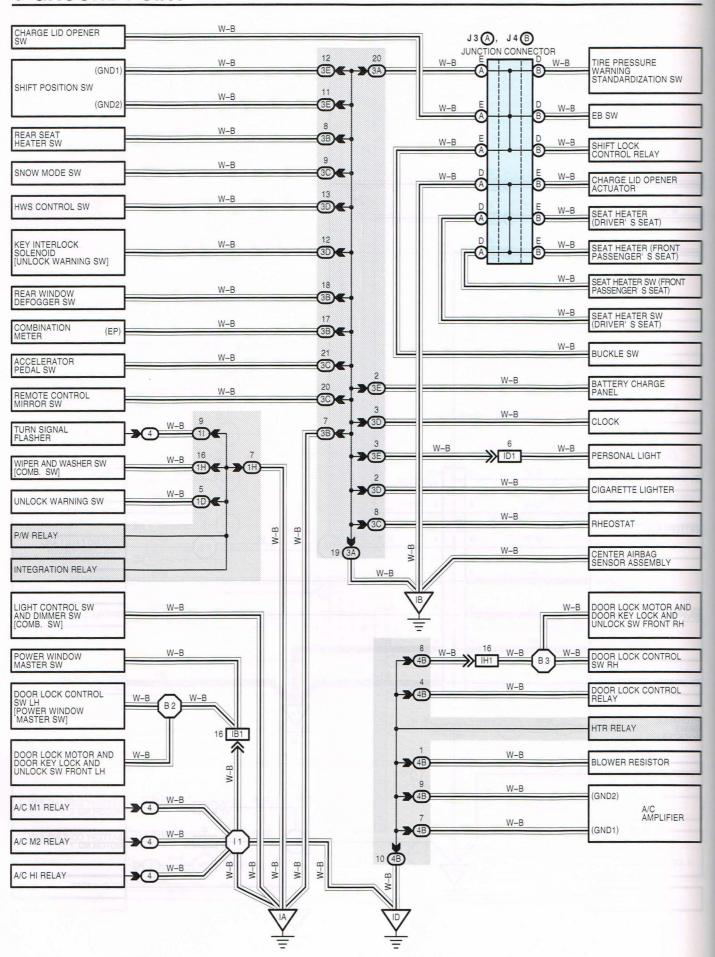
Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
M11	40	Motor Room Main Wire	C2	48	Floor No.3 Wire
M12	42	Wotor Room Wall Wire	l1	50	Instrument Panel Wire
P2	44	Motor Room No.4 Wire	14	7 50	Instrument Faller Wife
P6	44	Motor Room No.2 Wire	15	50	Motor Room Main Wire

I GROUND POINT

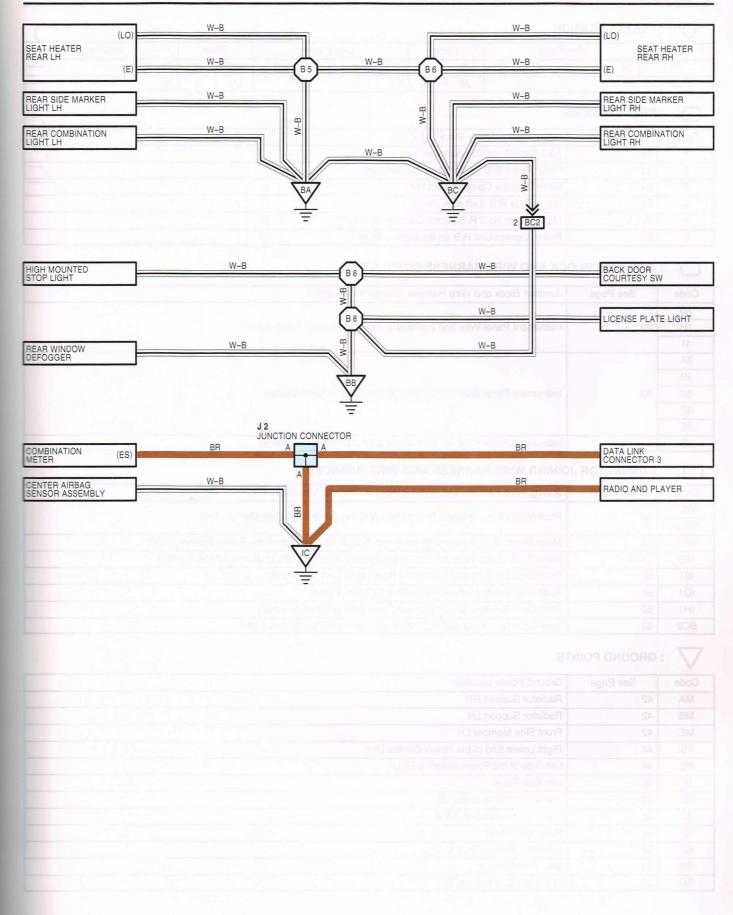




I GROUND POINT



TWICE GROUPS



I GROUND POINT

O : PARTS LOCATION

Code	See Page	Co	de	See Page	Co	de	See Page
J1	36	J3	Α	39	J10	Α	39
J2	39	J4	В	39	J11	В	39

: RELAY BLOCKS

Code	See Page	Relay Blocks (Relay Block Location)
1	26	ABS R/B (Motor Compartment Left)
2	23	Motor Room R/B (Motor Compartment Left)
3	24	EV R/B (Motor Compartment Left)
4	25	Driver Side R/B (Left Kick Panel)
6	26	Motor Room No.2 R/B (Motor Compartment Left)
Р	27	Power Control Unit R/B (In the Battery Tray)

: JUNCTION BLOCK AND WIRE HARNESS CONNECTOR

Code	See Page	Junction Block and Wire Harness (Connector Location)	
1D			
1H	28	Instrument Panel Wire and Instrument Panel J/B (Lower Finish Panel)	
11			
ЗА			1920
3B		[] [[[[[[[[[[[[[[[[[[
3C	30	Instrument Panel Wire and Center J/B (Instrument Panel Center)	
3D			
3E			
4B	32	Instrument Panel Wire and Passenger Side J/B (Right Kick Panel)	

: CONNECTOR JOINING WIRE HARNESS AND WIRE HARNESS

Code	See Page	Joining Wire Harness and Wire Harness (Connector Location)			
MC1	42	Floor No. 2 Wire and Mater Boom Main Wire (Near the Front Side Member DH)			
MC2	42	Floor No.3 Wire and Motor Room Main Wire (Near the Front Side Member RH)			
ME1	42	Motor Room Main Wire and Motor Room No.2 Wire (Left Side of the Power Steering ECU)			
IA6	50	Motor Room Main Wire and Instrument Panel Wire (Under the Instrument Panel Center)			
IB1	50	Front Door LH Wire and Instrument Panel Wire (Left Kick Panel)			
ID1	50	Roof Wire and Instrument Panel Wire (Left Kick Panel)			
IH1	50	Front Door RH Wire and Instrument Panel Wire (Right Kick Panel)			
BC2	52	Back Door No.1 Wire and Floor Wire (Beside Right Rear Comb. Light)			

: GROUND POINTS

Code	See Page	Ground Points Location
MA	42	Radiator Support RH
MB	42	Radiator Support LH
ME	42	Front Side Member LH
PB	44	Right Lower End of the Power Control Unit
PE	44	Left Side of the Power Steering ECU
IA	50	Left Kick Panel
IB	50	Instrument Panel Brace LH
IC	50	Instrument Panel Brace RH
ID	50	Right Kick Panel
ВА	52	Under the Center Pillar LH
BB	52	Back Door Center
ВС	52	Under the Center Pillar RH

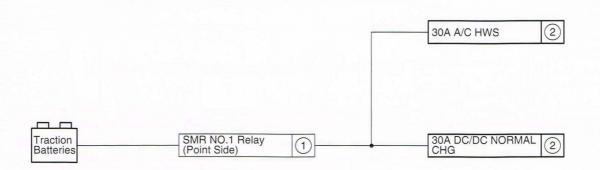
C

Code	See Page	Wire Harness with Splice Points	Code	See Page	Wire Harness with Splice Points
M4			l1	50	Instrument Panel Wire
M10	42	Motor Room Main Wire	B2	52	Front Door LH Wire
M12	7 42		В3	52	Front Door RH Wire
M13			B5	52	Floor Wire
P6	44	Motor Room No.2 Wire	B6	32	
C2	48	Floor No.3 Wire	B8	52	Back Door No.1 Wire
C4	7 40	Floor No.3 Wire			

J POWER SOURCE (Current Flow Chart)

The chart below shows the route by which current flows from the battery to each electrical source (Fusible Link, Circuit Breaker, Fuse, etc.) and other parts.

[288 Volts]



[LOCATION]

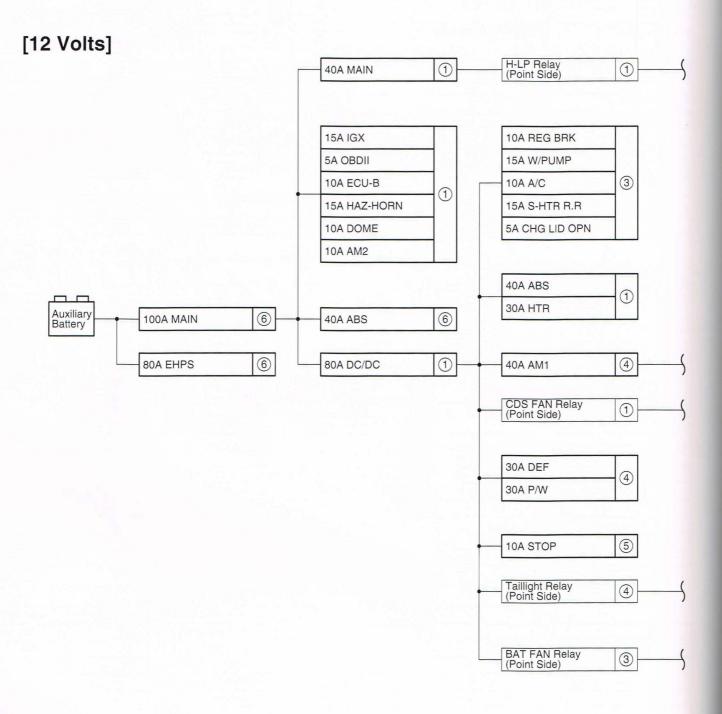
① : Power Control Unit R/B (See Page 27)

②: Power Control Unit J/B (See Page 33)



J POWER SOURCE (Current Flow Chart)

The chart below shows the route by which current flows from the battery to each electrical source (Fusible Link, Circuit Breaker, Fuse, etc.) and other parts.

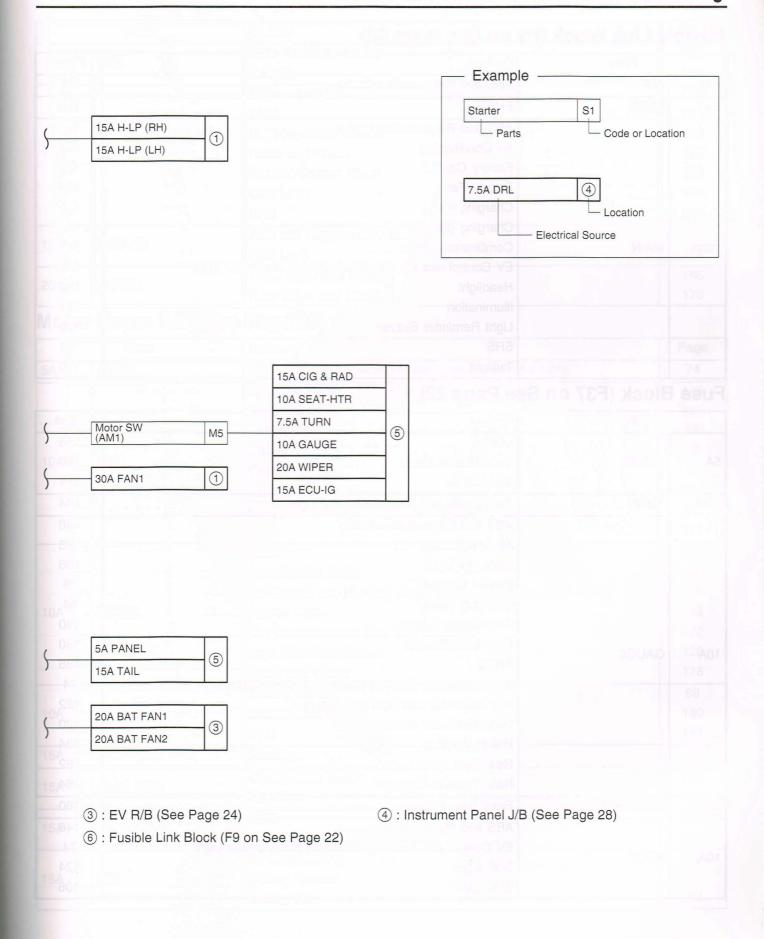


[LOCATION]

1 : Motor Room R/B (See Page 23)

2: ABS R/B (See Page 26)

⑤: Fuse Block (F37 on See Page 22)



J POWER SOURCE (Current Flow Chart)

Fusible Link Block (F9 on See Page 22)

	Fuse	System	Page
40A	ABS	ABS and Regenerative Brake	146
80A	EHPS	EHPS	138
		ABS and Regenerative Brake	146
		Air Conditioning	188
		Battery Control	88
	0 1	Battery Fan	184
	4.45	Charging (12V)	64
		Charging (288V)	70
100A	MAIN	Combination Meter	180
		EV Control and Running Mode Position Indicator Light	74
		Headlight	102
		Illumination	114
		Light Reminder Buzzer	120
		SRS	141
		Taillight	110

Fuse Block (F37 on See Page 22)

	Fuse	System	Page
		Clock	158
5A	PANEL	Combination Meter	180
		Illumination	114
7.5A	TURN Turn Signal and Hazard Warning Light ABS and Regenerative Brake Air Conditioning Back-Up Light Battery Control Charging (12V) Combination Meter		104
	1 EL/1 /	ABS and Regenerative Brake	146
		Air Conditioning	188
		Back-Up Light	108
		Battery Control	88
		Charging (12V)	64
	GAUGE	Combination Meter	180
10A		Door Lock Control	130
IUA		EHPS	138
		EV Control and Running Mode Position Indicator Light	74
		Key Reminder and Seat Belt Warning	122
		Light Reminder Buzzer	120
		Power Window	134
		Rear Seat Heater	162
		Rear Window Defogger	164
10A SEAT-HTR		Front Seat Heater	160
LOCA	ПОМ	ABS and Regenerative Brake	146
10A	STOP	EV Control and Running Mode Position Indicator Light	74
IUA	3108	Shift Lock	124
		Stop Light	106

^{*} These are the page numbers of the first page on which the related system is shown.

970	Fuse	System	Page
100	TAIL	Light Reminder Buzzer	120
10A	TAIL	Taillight	110
	Let Maria Maria	Cigarette Lighter	156
		Clock	158
	3,63	Light Reminder Buzzer	120
15A	CIG & RAD	Radio and Player	178
		Remote Control Mirror	128
		Shift Lock	124
		SRS	141
150	FOLLIC	ABS and Regenerative Brake	146
15A	ECU-IG	Shift Lock	124
20A	WIPER	Front Wiper and Washer	166
ZUA	VVIEL	Rear Wiper and Washer	170

Motor Room R/B (See Page 23)

	Fuse	System	Page
5A	OBDII	EV Control and Running Mode Position Indicator Light	74
90		ABS and Regenerative Brake Air Conditioning Battery Control Charging (10)	146 188 88 64
10A	AM2	Charging (12V) Charging (288V) Combination Meter EV Control and Running Mode Position Indicator Light SRS	70 180 74 141
10A	DOME	Clock Combination Meter EV Control and Running Mode Position Indicator Light Interior Light Key Reminder and Seat Belt Warning Light Reminder Buzzer Radio and Player	158 180 74 118 122 120 178
10A	ECU-B	Battery Control Combination Meter SRS	88 180 141
15A	H-LP (LH)	Headlight	102
15A	H-LP (RH)	Combination Meter Headlight	180 102
15A	HAZ-HORN	Horn Turn Signal and Hazard Warning Light	154 104
15A	IGX	Air Conditioning Battery Control Battery Fan	188 88 184

^{*} These are the page numbers of the first page on which the related system is shown.

J POWER SOURCE (Current Flow Chart)

198	Fuse	System	Page
		Charge Lid Opener	126
		Charging (12V)	64
150	IGX	Charging (288V)	70
15A	IGX	Combination Meter	180
		EV Control and Running Mode Position Indicator Light	74
		Heat Windshield	172
30A	30A FAN1 Air Conditioning		188
30A	HTR	Air Conditioning	188
40A	ABS	ABS and Regenerative Brake	146
40A	MAIN	Headlight	102
		Air Conditioning	188
		Battery Fan	184
		Charging (12V)	64
80A	DC/DC	EV Control and Running Mode Position Indicator Light	74
	at the same	Illumination	114
		Light Reminder Buzzer	120
		Taillight	110

EV R/B (See Page 24)

	Fuse	System	Page
5A	CHG LID OPN	Charge Lid Opener	126
100	A/C	Air Conditioning	188
10A	A/C	Charging (288V)	70
104	DEC BDK	ABS and Regenerative Brake	146
10A	REG BRK	EV Control and Running Mode Position Indicator Light	74
15A	S-HTR R.R	Rear Seat Heater	162
15A	W/PUMP	Water Pump and EV Cooling Fan	186
20A	BAT FAN1	Battery Fan	184
20A	BAT FAN2	Battery Fan	184

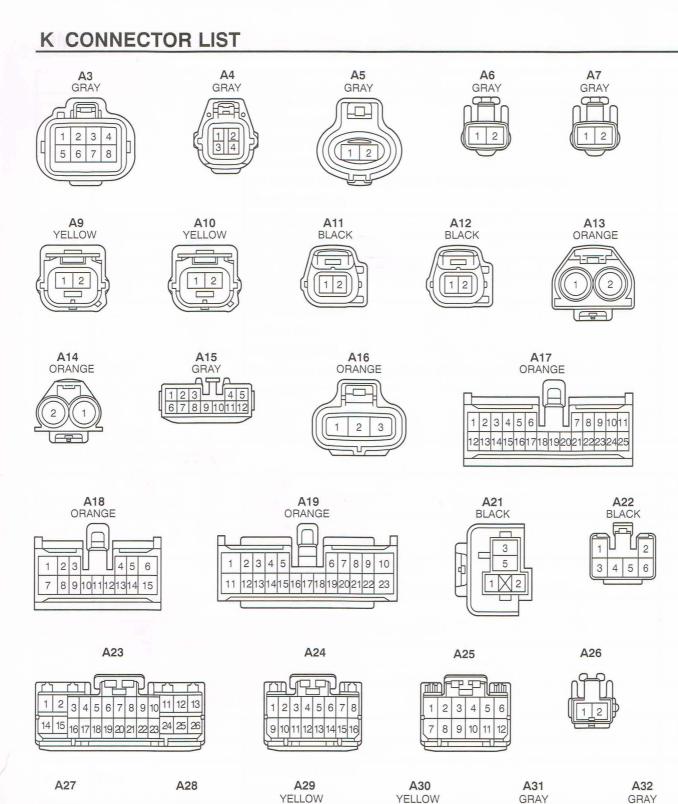
Instrument Panel J/B (See Page 28)

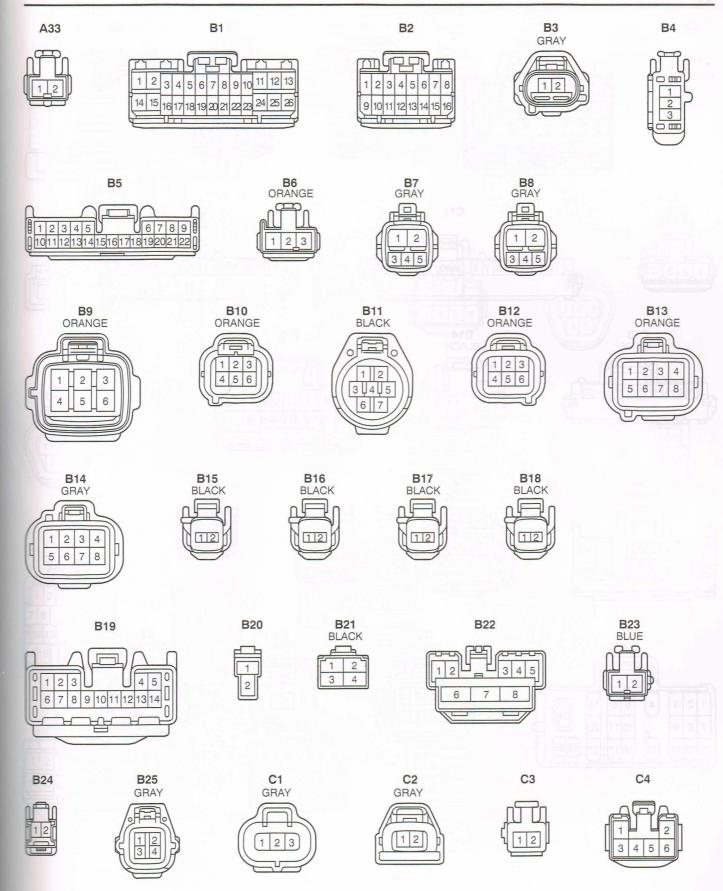
	Fuse	System	Page
30A	80A DEF Rear Window Defogger		164
30A	P/W	Door Lock Control	130
JUA	F/VV	Power Window	134

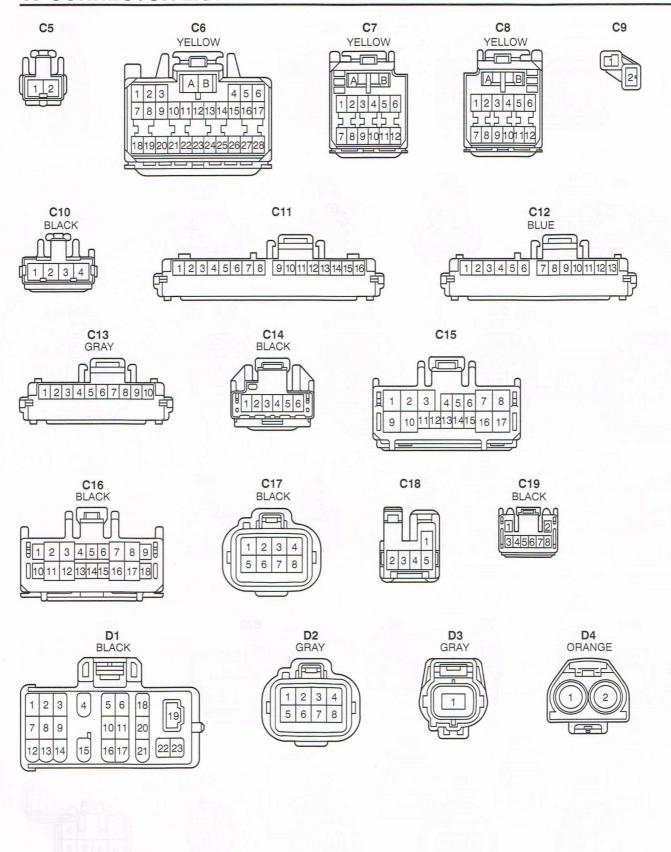
Power Control Unit J/B (See Page 33) [288V]

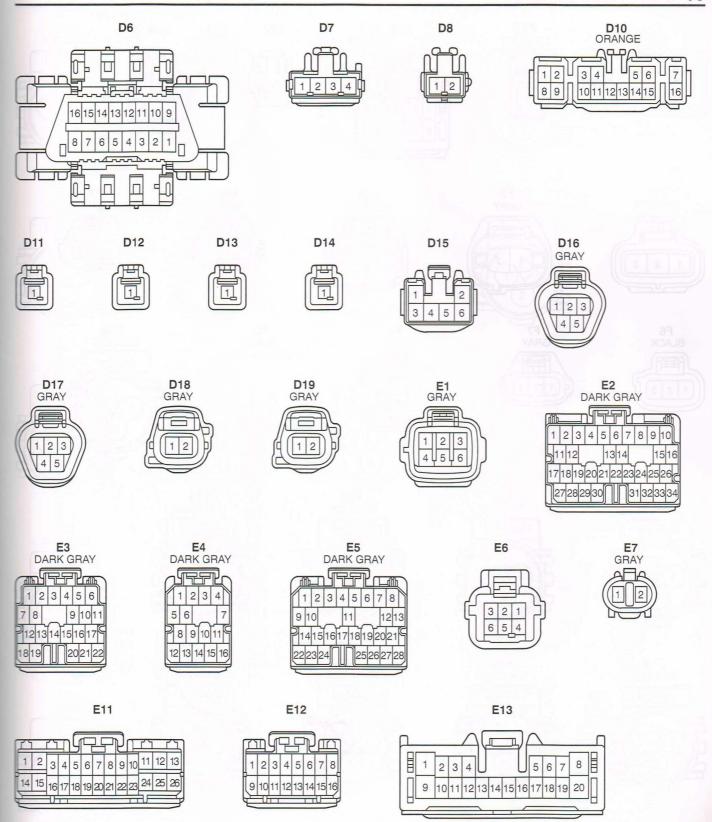
- 201	Fuse	System	Page
30A	A/C HWS	Air Conditioning	188
AUT	A/C HVVS	Heat Windshield	172
30A	DC/DC NORMAL CHG	Charging (12V)	64
SUA	DO/DO NORMAL ORG	Charging (288V)	70

^{*} These are the page numbers of the first page on which the related system is shown.































F12

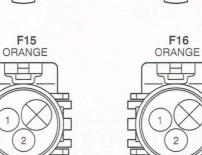
ORANGE



F9 BLACK (See Page 22)





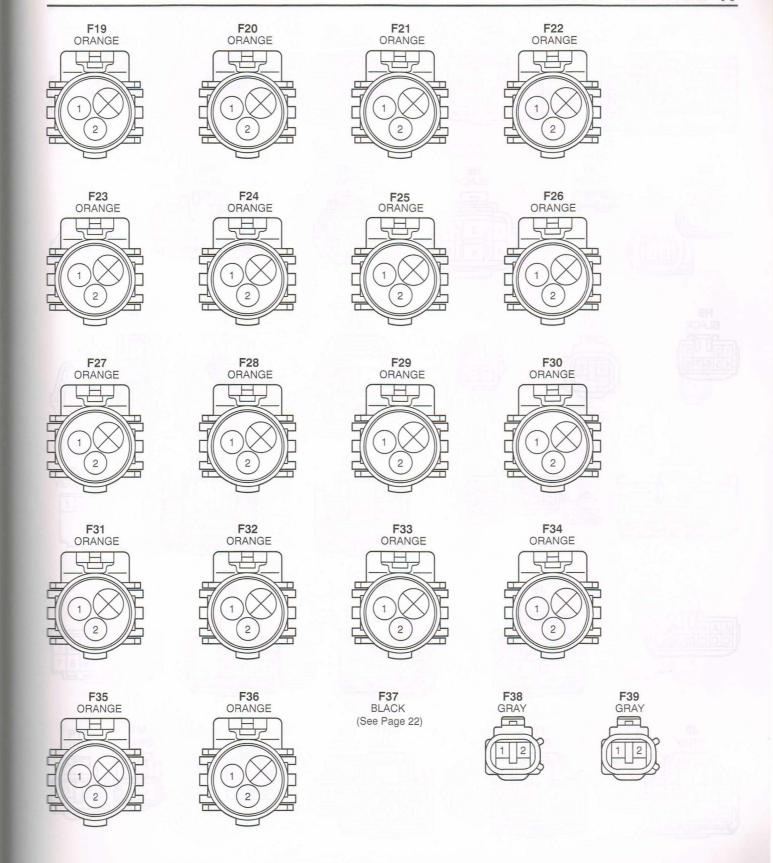


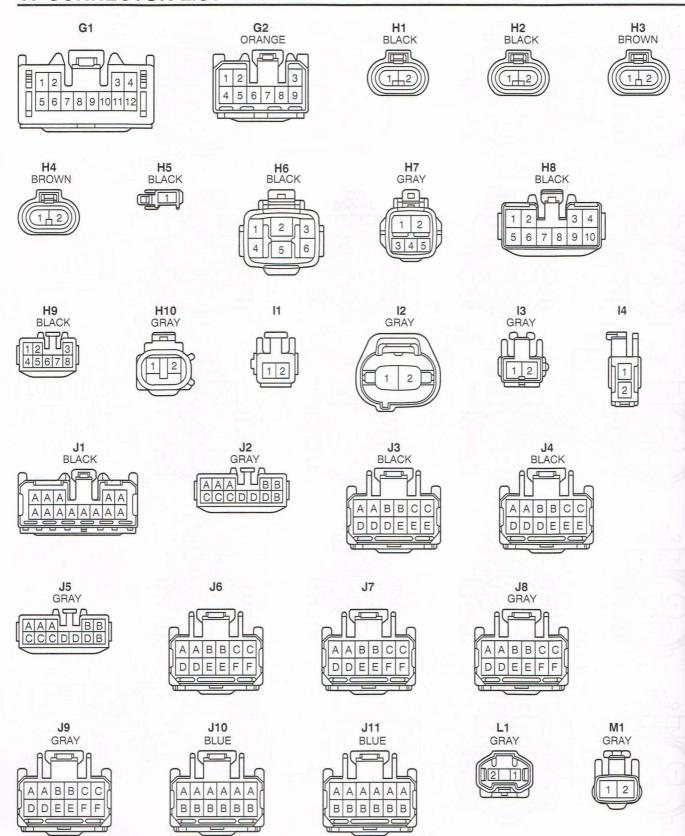


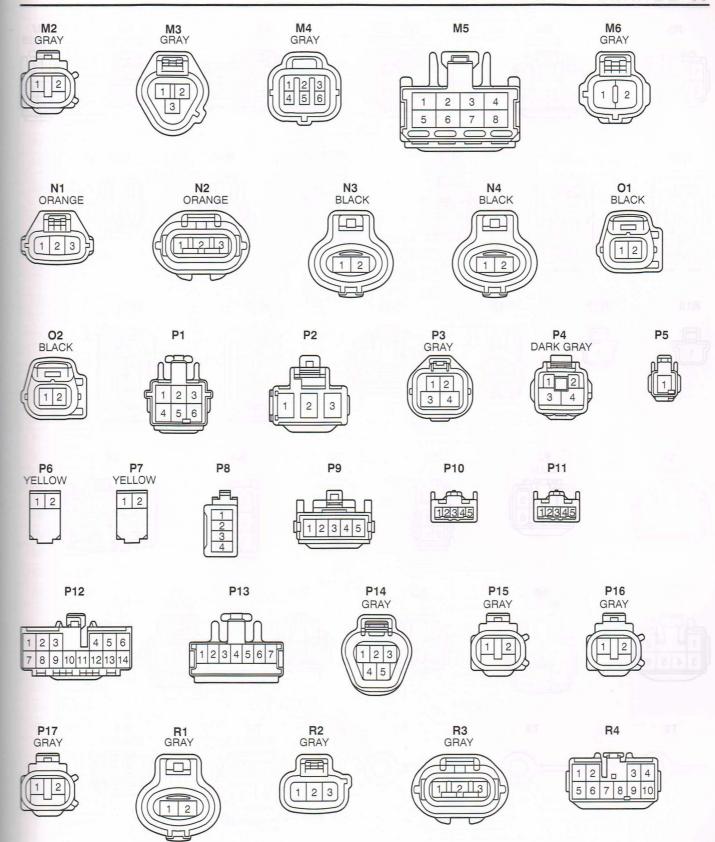


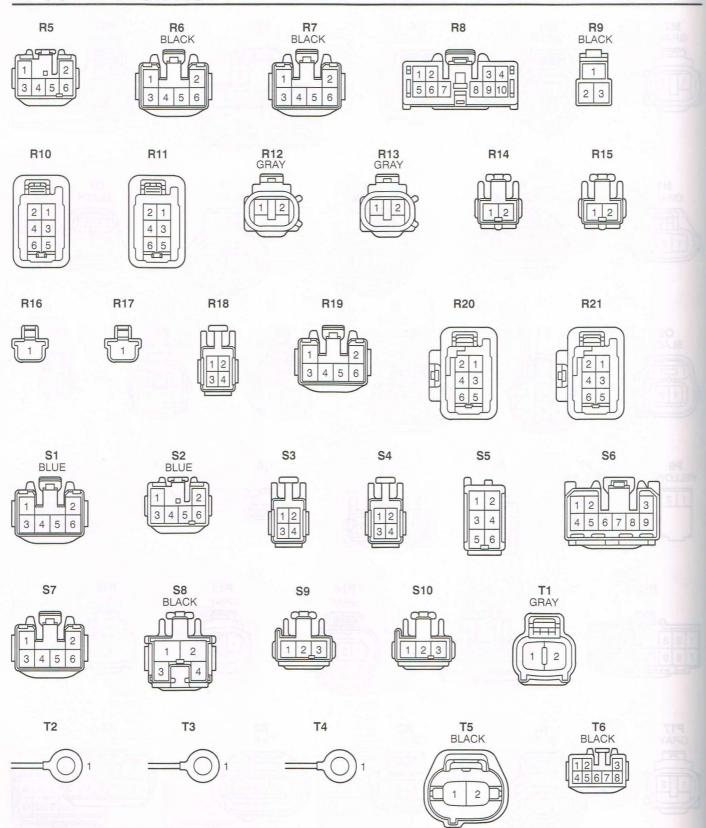








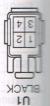












L PART NUMBER OF CONNECTORS

Code	Part Name	Part Number	Code	Part Name	Part Number
A 3	ABS Actuator	90980-10891	B18	Battery Tray Temp. Sensor	90980-11189
A 4	ABS Actuator	90980-10942	B19	Battery Charge Panel	90980-11556
A 5	ABS Actuator	90980-10928	B20	Blower Motor	90980-10214
A 6	ABS Speed Sensor Front LH	90980-11075	B21	Blower Resistor	90980-1017
A 7	ABS Speed Sensor Front RH	30300-11073	B22	Blower SW	90980-1046
A 9	Airbag Sensor Front LH	90980-11856	B23	Brake Warning Buzzer	90980-1090
A10	Airbag Sensor Front RH	30000 11000	B24	Buckle SW	90980-1121
A11	Ambient Temp. Sensor (A/C)	90980-11070	B25	Back Door Courtesy SW and Back Door Lock Motor	90980-1094
A12	Ambient Temp. Sensor (Tire Pressure)	00000 11070			
A13	A/C Compressor	82824-42020	C 1	Compressor Discharge Pressure Sensor Circuit	90980-1084
A14	A/C Compressor	82824-42010	C 2	Compressor Temp. Sensor	90980-1088
A15	A/C Inverter	90980-10803	C 3	Circuit Breaker Sensor	90980-1082
A16	A/C Inverter	90980-10841	C 4	Conductor Relay	90980-1079
A17	A/C Amplifier			90980-1086	
A18	A/C Amplifier			90980-1187	
A19	A/C Amplifier			90980-1187	
A21	A/C Relay			90980-1187	
A22	A/C SW	90980-11280	C 9	Cigarette Lighter	90980-1076
A23	ABS ECU	90980-11390	C10	Clock	90980-1101
A24	ABS ECU	90980-11391	C11	Combination Meter	90980-1111
A25	ABS ECU	90980-11424	C12	Combination Meter	90980-1111
A26	Accelerator Pedal SW	90980-10906	C13 Combination Meter		90980-1111
A27	Accelerator Position Sensor No. 1		C14	Combination SW	90980-1161
A28	Accelerator Position Sensor No. 2	90980-10908		and the second s	90980-1167
A29	Airbag Squib (Front Passenger Airbag Assembly)	90980-11884	C16	C15 Combination SW C16 Combination SW	
A30	Airbag Squib (Steering Wheel Pad)	90980-10850	C17	Charge Port	90980-1089
A31	ABS Speed Sensor Rear LH		C18	Charge Lid Opener Actuator	90980-1131
A32	ABS Speed Sensor Rear RH	90980-10859	C19	Charge Lid Opener SW	90980-1153
A33	Air Inlet Temp. Sensor	90980-10860	D 1	Data Link Connector 1	90980-1119
B 1	Battery ECU	90980-11390	D 2	DC/DC Converter	90980-1089
B 2	Battery ECU	90980-11391	D 3	DC/DC Converter	90980-1196
В3	Brake Fluid Level Warning SW	90980-11009	D 4	DC/DC Converter	82824-4202
B 4	Battery Current Sensor	90980-11490	D6	Data Link Connector 3	90980-1166
B 5	Battery ECU	90980-11502	D 7	Data Link Connector (A/C)	90980-1101
B 6	Battery ECU	90980-10908	D 8	Defroster Mode SW	90980-1090
B 7	Battery Cooling Fan Motor No.1		D10	Door Lock Control Relay	90980-1084
B 8	Battery Cooling Fan Motor No.2	90980-10946	D11	Door Courtesy SW Front LH	90090 1100
В9	Battery Sensor ECU	90980-11663	D12	Door Courtesy SW Front RH	90980-1109
B10	Battery Sensor ECU	90980-11034	D13	Door Courtesy SW Rear LH	00000 1007
B11	Battery Sensor ECU	90980-10931	D14	Door Courtesy SW Rear RH	90980-1087
B12	Battery Sensor ECU	90980-10988	D15	Door Lock Control SW RH	90980-1079
B13	Battery Sensor ECU	90980-10897	D16	Door Lock Motor and Door Key Lock and	
B14	Battery Sensor ECU	90980-10891	210	Unlock SW Front LH	90980-1159
B15	Battery Temp. Sensor (No.12)	00000-10001	D17	Door Lock Motor and Door Key Lock and Unlock SW Front RH	
B16	Battery Temp. Sensor (No.20)	90980-11189	D18	Door Lock Motor Rear LH	00000 1105
	Battery Temp. Sensor (No.5)	30300-11169	D10	DOOI LOCK IVIOLOI NEAI LN	90980-1125
B17	Dattery Terrip. Serisor (NO.5)				

Note: Not all of the above part numbers of the connector are established for the supply.

Code	Part Name	Part Number	Code	Part Name	Part Number
D19	Door Lock Motor Rear RH	90980-11255	F29	Fuse 17 (-)	
E 1	Electric Expansion Valve	90980-11194	F30	Fuse 19 (+)	
E2	EV Control ECU	90980-11221	F31	Fuse 20 (+)	
E3	EV Control ECU	90980-11220	F32	Fuse 20 (-)	
E 4	EV Control ECU	90980-11219	F33	Fuse 21 (-)	82610-42070
E 5	EV Control ECU	90980-11218	F34	Fuse 22 (-)	
E 6	EV Motor Revolution Sensor	plan g UP	F35	Fuse 23 (-)	
E 7	Exterior Heat Exchange Tube Temp. Sensor	90980-11140	F36	Fuse 24 (-)	
E11	EV Control ECU	90980-11390	F37	Fuse Block	82613-42030
E12	EV Control ECU	90980-11391	F38	Front Door Speaker LH	and is harward in
E13	EV Motor Inverter	90980-11469	F39	Front Door Speaker RH	90980-11003
E14	EV Battery Plug	G3831-42030	G 1	Ground Fault and HWS Controller	90980-11475
E15	EB SW	90980-10795	G 2	Ground Fault and HWS Controller	90980-11535
E16	EV Monitor	90980-11581	H 1	Headlight HI LH	P8 Persona L
E17	Evaporator Temp. Sensor	90980-10825	H 2	Headlight HI RH	90980-11095
E18	EV Charger Rectifier	90980-11001	H 3	Headlight LO LH	Pio Powe V
E19	EV Charger Rectifier	90980-10841	H 4	Headlight LO RH	90980-11096
F2	Front Side Marker Light LH		H 5	Horn	90980-10619
F3	Front Side Marker Light RH	90980-11149	H 6	Hydraulic Brake Booster No.1	90980-10939
- 4	Front Turn Signal Light LH and Front	1,000	H 7	Hydraulic Brake Booster No.2	90980-10946
F4	Parking Light LH	90980-11020	H 8	Hazard SW	90980-10801
F5	Front Turn Signal Light RH and Front Parking Light RH	00000 11020	H 9	HWS Control SW	90980-10799
F.0	100	00000 10001	H10	High Mounted Stop Light	90980-11003
F 6	Front Washer Motor	90980-10981	11	Interlock SW No.1	90980-10825
F 7	Front Wheel Cylinder Pressure Sensor	90980-11020	12	Interlock SW No.2	90980-11156
F8	Front Wiper Motor Fusible Link Block	90980-11194	13	Interior Condenser Tube Temp. Sensor	90980-10906
F 9		82620-42020	14	Interior Light	90980-10935
F10	Fuse Box		J 1	Junction Connector	90980-11542
F11	Fuse 1 (+)		J 2	Junction Connector	90980-10803
F12	Fuse 1 (-)		J 3	Junction Connector	1.5
F13	Fuse 2 (-)		J 4	Junction Connector	90980-11661
F14	Fuse 3 (-)	grander in	J 5	Junction Connector	90980-10803
F15	Fuse 4 (-)		J 6	Junction Connector	R10 Rest Col
F16	Fuse 5 (-)		J 7	Junction Connector	R11 Rear Comb
F17	Fuse 7 (+)		J 8	Junction Connector	R12 Rear Side 1
F18	Fuse 7 (-)	20010 10070	J 9	Junction Connector	90980-11661
F19	Fuse 8 (-)	82610-42070	J10	Junction Connector	Pis Rear Shial
F20	Fuse 9 (-)		J11	Junction Connector	to ca out of the
F21	Fuse 10 (-)		L 1	License Plate Light	90980-11159
F22	Fuse 11 (-)		M 1	Magnetic Valve(Cooler)	90980-11075
F23	Fuse 12 (-)		M 2	Magnetic Valve(Heater)	90980-11003
F24	Fuse 13 (+)		M 3	Master Cylinder Pressure Sensor	90980-11016
F25	Fuse 14 (+)		M 4	Motor Temp. Sensor	90980-10854
F26	Fuse 15 (+)		M 5	Motor SW	90980-11615
F27	Fuse 15 (-)		M 6	Magnetic Valve	90980-10923
F28	Fuse 17 (+)			3.5.5.5	10020

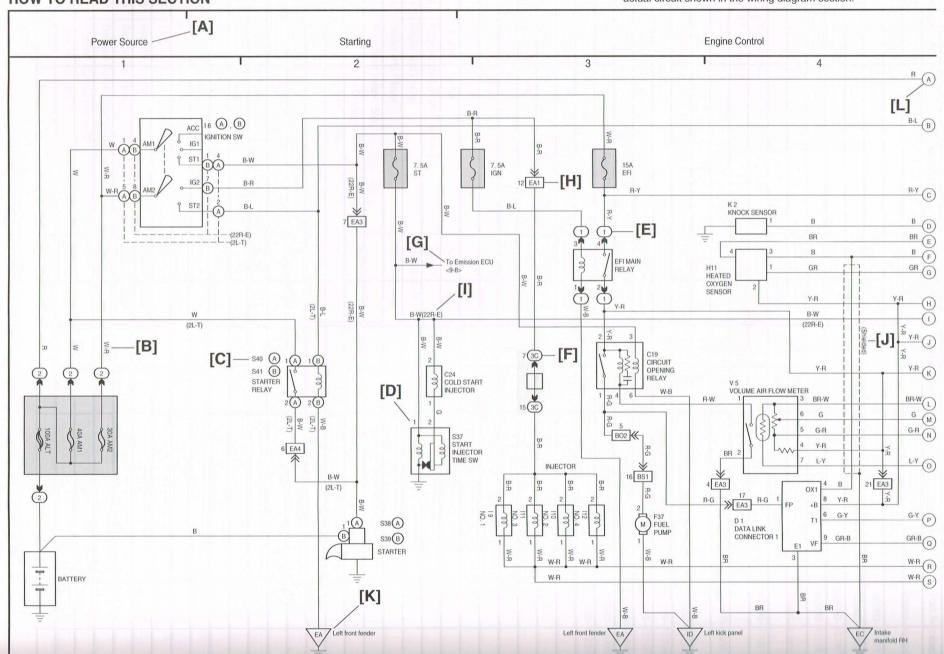
L PART NUMBER OF CONNECTORS

Code	Part Name	Part Number	Code	Part Name	Part Numbe
N 1	Noise Filter No.1	90980-11020	S 3	Seat Heater (Driver's Seat)	90980-1079
N 2	Noise Filter No.2	90980-11349	S 4	Seat Heater (Front Passenger's Seat)	90900-1079
N 3	No.1 Condenser Fan	90980-10928	S 5	Shift Lock Control Relay	90980-1101
N 4	No.2 Condenser Fan	90900-10928	S 6	Shift Position SW	90980-1153
01	Outer Temp. Sensor (DC)	90980-11070	S 7	Snow Mode SW	90980-1079
02	Over Temp. Sensor (HWS)	90900-11070	S 8	Stop Light SW	90980-1111
P 1	Power Steering ECU	90980-11001	S 9	Sear Heater Rear LH	90980-1090
P 2	Power Steering ECU	90980-10956	S10	Seat Heater Rear RH	30300-1030
P 3	Power Steering Motor	90980-11139	T 1	Thermo SW	90980-1105
P 4	Power Steering Relay	90980-11288	T 2	Traction Motor	
P 5	Parking Brake SW	90980-10871	Т3	Traction Motor	90980-9556
P 6	Pretensioner LH	90980-11862	T 4	Traction Motor	
P 7	Pretensioner RH	90900-11002	T 5	Transmission Revolution Sensor	90980-1115
P 8	Personal Light	90980-11187	Т6	Tire Pressure Warning Standardization SW	90980-1079
P 9	Power Window Control SW Front RH	90980-10789	U 1	Unlock Warning SW	90980-1079
P10	Power Window Control SW Rear LH	90980-10631	V 1	Variable Resistor	90980-1090
P11	Power Window Control SW Rear RH	30300-10031	W 1	Water Pump Motor	90980-1100
P12	Power Window Master SW	90980-11791	W 2	Water Temp. SW	90980-1123
P13	Power Window Master SW	90980-11165			1.0
P14	Power Window Motor Front LH	90980-11599		the state of the s	
P15	Power Window Motor Front RH	- III (124)			
P16	Power Window Motor Rear LH	90980-11003			
P17	Power Window Motor Rear RH	Markey of H			1 1 1 1 1 1 1 1 1
R 1	Radiator Fan Motor	90980-10928			
R2	Rear Washer Motor	90980-10981			
R3	Regenerative Brake Solenoid	90980-11349			
R 4	Radio and Player	90980-10997			
R5	Radio and Player	90980-10996			
R 6	Rear Seat Heater SW				140
R7	Rear Window Defogger SW	90980-10797			
R 8	Remote Control Mirror SW	90980-11450			
R9	Rheostat	90980-10216			
R10	Rear Combination Light LH				100
R11	Rear Combination Light RH	90980-11587			
R12	Rear Side Marker Light LH				- 11-1-1
R13	Rear Side Marker Light RH	90980-11003			
R14	Rear Speaker LH				1 1
R15	Rear Speaker RH	90980-10860			
R16	Rear Window Defogger				
R17	Rear Window Defogger	90980-11258			
R18	Rear Wiper Motor	90980-10795			
R19	Rear Wiper Relay	90980-10797			1 1 1 1 1 1
R20	Remote Control Mirror LH				
R21	Remote Control Mirror RH	90980-11452			
S 1	Seat Heater SW (Driver's Seat)	90980-10797			
S 2	Seat Heater SW (Front Passenger's Seat)	90980-10996	-		

Note: Not all of the above part numbers of the connector are established for the supply.

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	115 5 5				2 3
	District Control of the Control of t				2 1
E 8					2818
9 3	3 % 1				23
SE CE	6 8 12				_88
8 = 1					9.5
					10 9
					1 5 5
71 91		500			1 1
					2.0
			1111		1 1
					10 (1
					- 1
					- 0
					- 0
Part Number	Part Name	əboO	Part Number	Part Name	SpoO

OVERALL ELECTRICAL WIRING DIAGRAM



- [A] : System Title
- [B] : Indicates the wiring color.

Wire colors are indicated by an alphabetical code.

- B = Black
- W = White

BR = Brown

- L = Blue
- V = Violet
- SB = Sky Blue

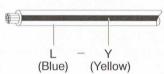
- R = Red
- G = Green
- LG = Light Green

- P = Pink
- Y = Yellow
- GR = Gray

O = Orange

The first letter indicates the basic wire color and the second letter indicates the color of the stripe.

Example: L-Y



- [C] : The position of the parts is the same as shown in the wiring diagram and wire routing.
- **[D]**: Indicates the pin number of the connector. The numbering system is different for female and male connectors.

Example: Numbered in order from upper left to lower right

Numbered in order from upper right to lower left



3 2 1 6 5 4 Male

The numbering system for the overall wiring diagram is the same as above

[E] : Indicates a Relay Block. No shading is used and only the Relay Block No. is shown to distinguish it from the J/B.

Example: 1 Indicates Relay Block No.1

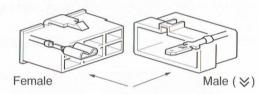
[F] : Junction Block (The number in the circle is the J/B No. and the connector code is shown beside it). Junction Blocks are shaded to clearly separate them from other parts.

Example:



3C indicates that it is inside Junction Block No.3

- [G] : Indicates related system.
- [H] : Indicates the wiring harness and wiring harness connector. The wiring harness with male terminal is shown with arrows (⋈). Outside numerals are pin numbers.



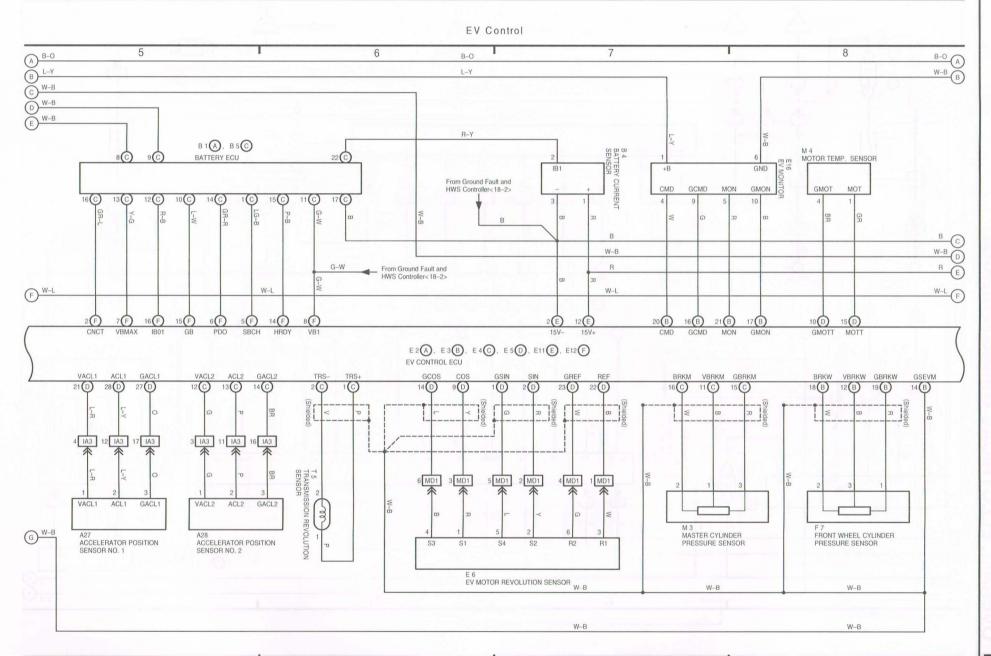
- [I] : () is used to indicate different wiring and connector, etc. when the vehicle model, engine type, or specification is different.
- [J] : Indicates a shielded cable.

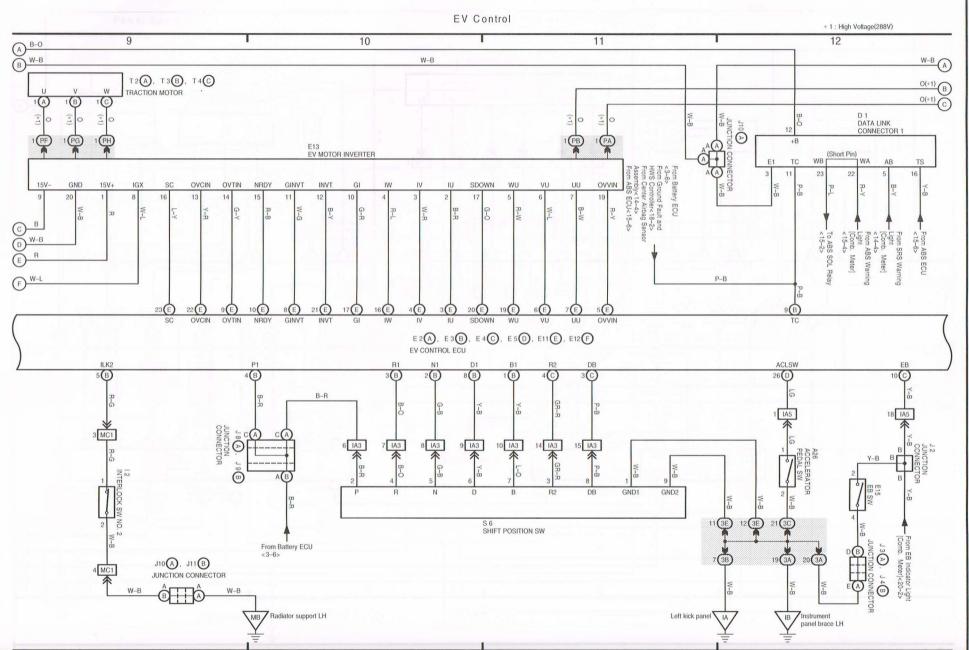


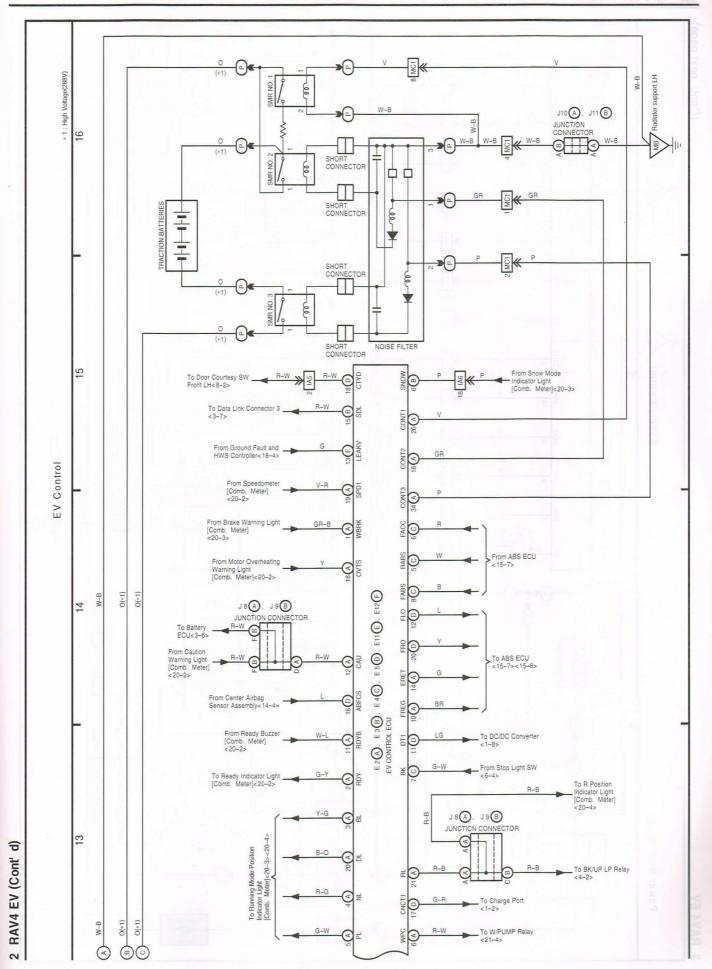
- [K] : Indicates and located on ground point.
- [L] : The same code occuring on the next page indicates that the wire harness is continuous.

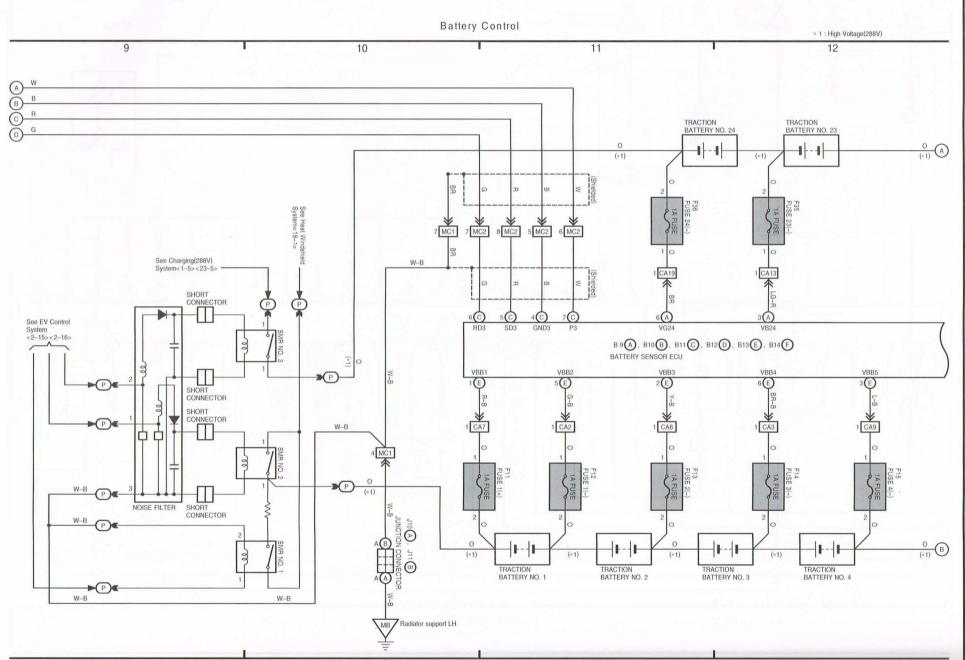
SYSTEM INDEX

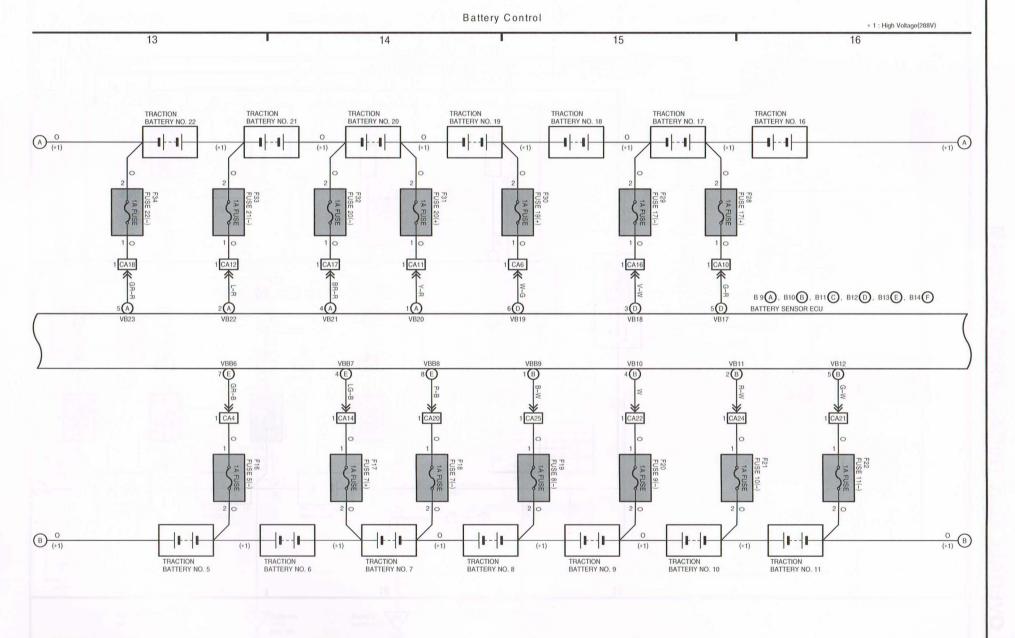
SYSTEMS	LOCATION	SYSTEMS	LOCATION
ABS	15–2	Horn	5–4
Air Conditioning	22–3	Illumination	7-2
Back-Up Light	4-2	Interior Light	8–3
Battery Control	3–2	Key Reminder and Seat Belt Warning	9–3
Battery Fan	21–2	Light Reminder Buzzer	9-2
Charge Lid Opener	19–4	Power Source	1~23-1
Charging (12V)	1-8	Power Window	12–2
Charging (288V)	1-2	Radio and Player	19–3
Cigarette Lighter	19–2	Rear Seat Heater	16–4
Clock	8-2	Rear Window Defogger	13–4
Combination Meter	20-2	Rear Wiper and Washer	17–4
Door Lock Control	11–2	Remote Control Mirror	10–3
EHPS	13–2	Shift Lock	10–2
EV Control	2-2	SRS	14–2
Front Seat Heater	16–2	Stop Light	6–4
Front Wiper and Washer	17–2	Taillight	6–2
Headlight	4-3	Turn Signal and Hazard Warning Light	5–2
Heat Windshield	18–2	Water Pump and EV Cooling Fan	

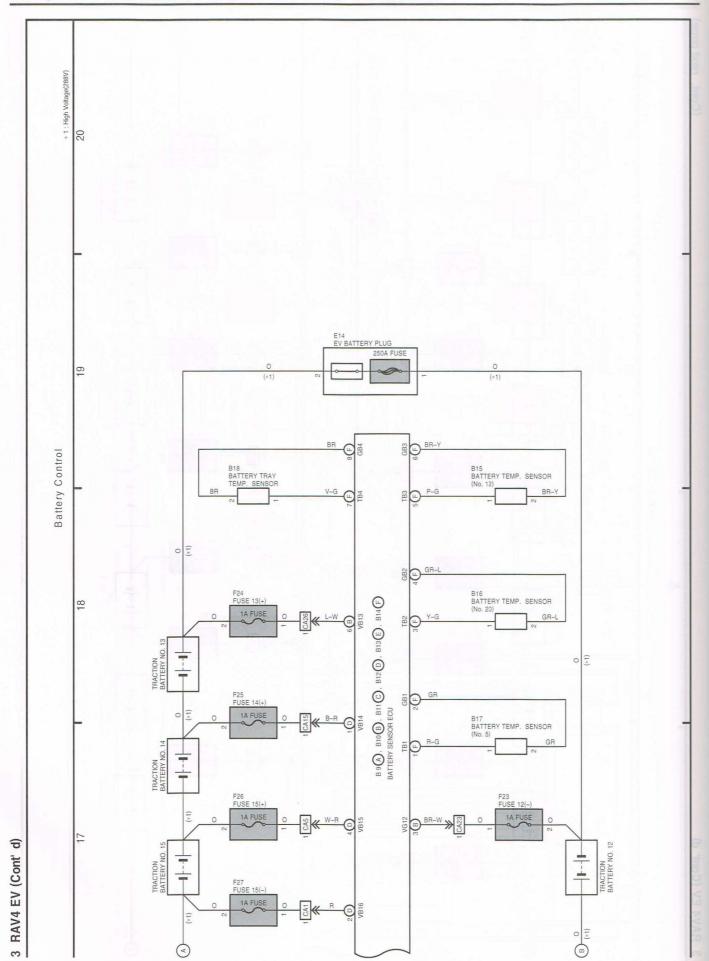




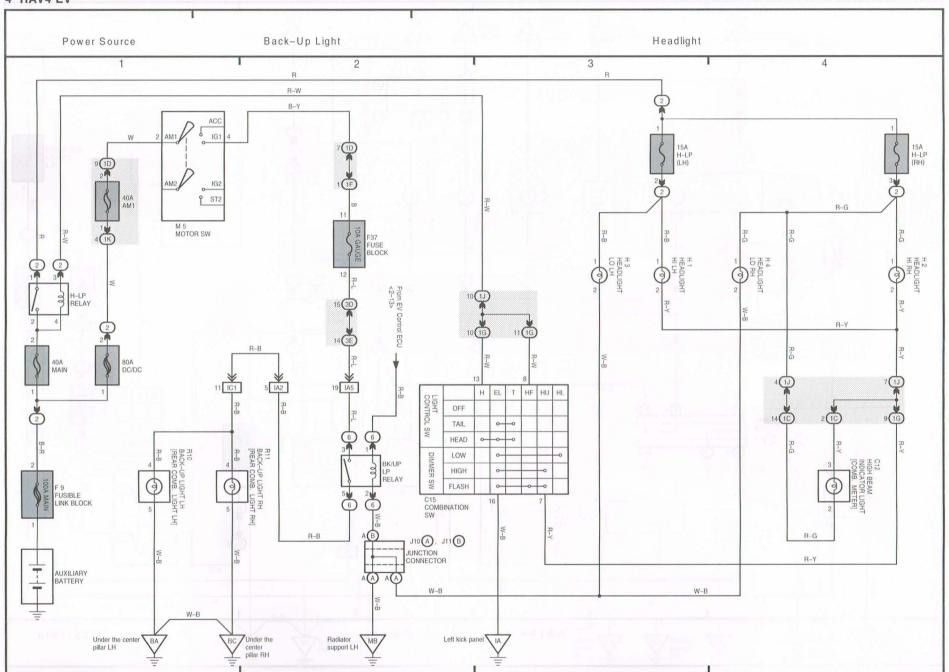


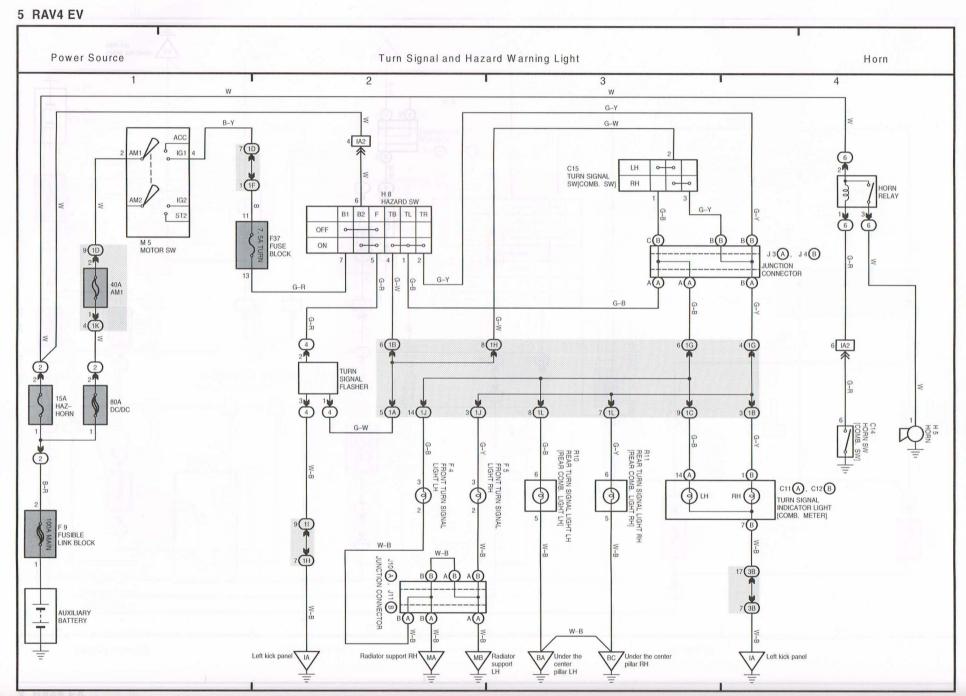


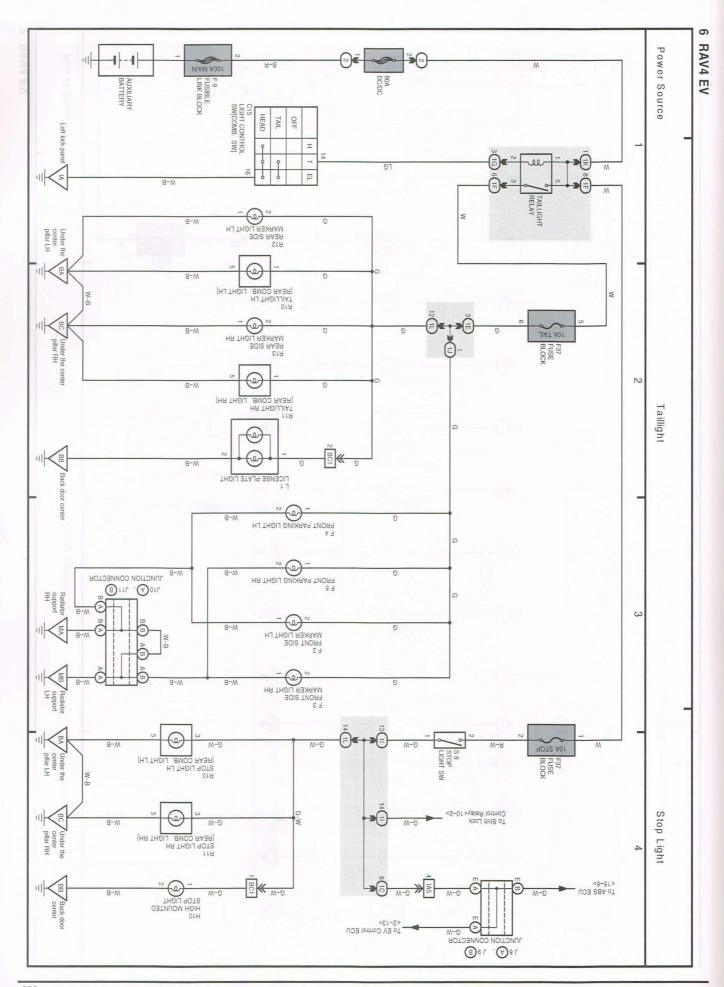


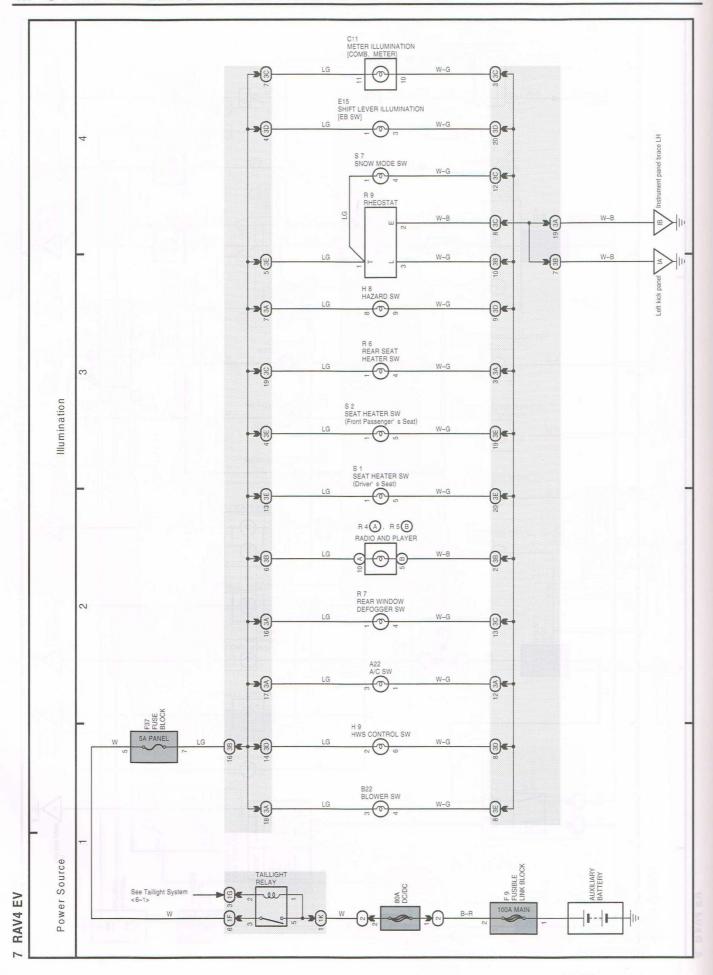


DAVAEV

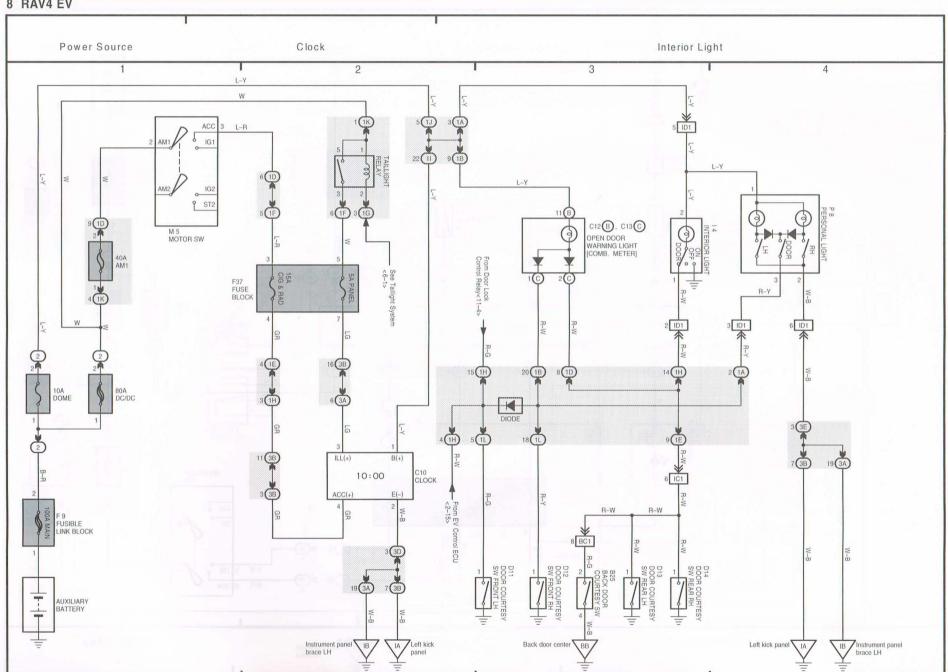




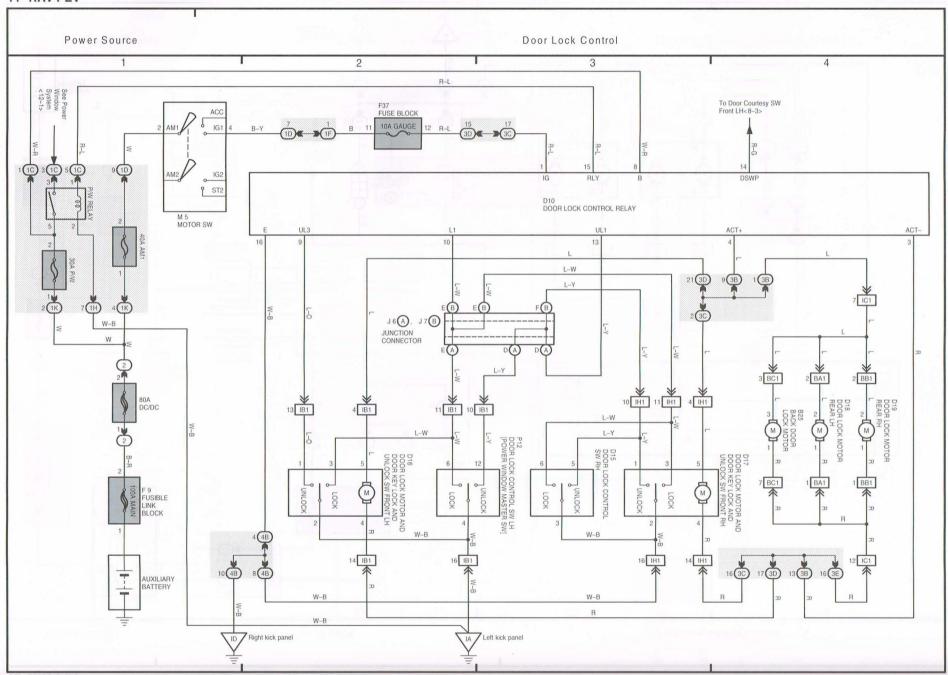




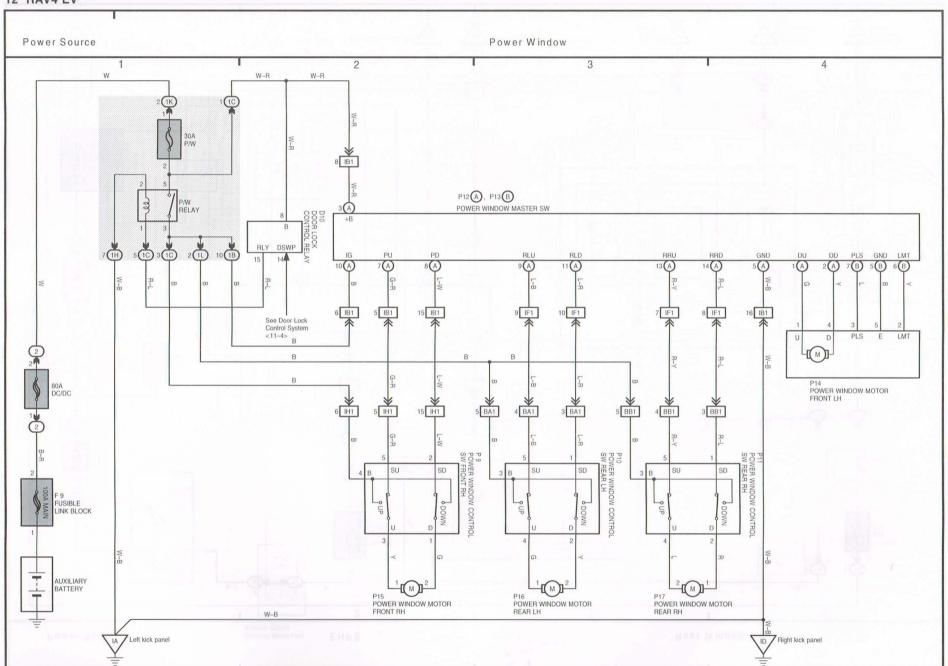
9 RAVA EV

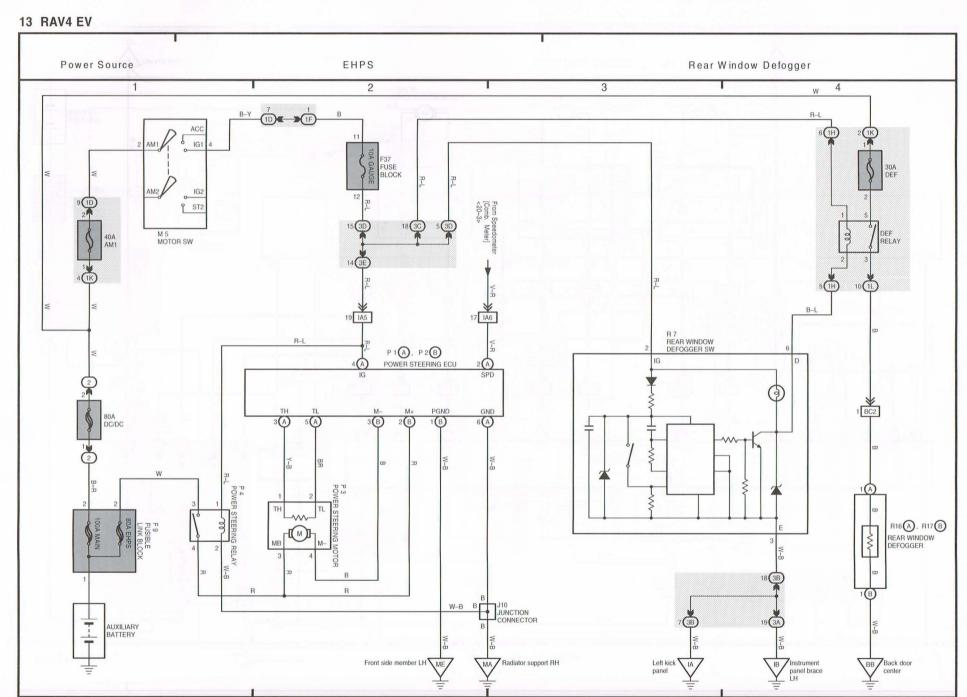


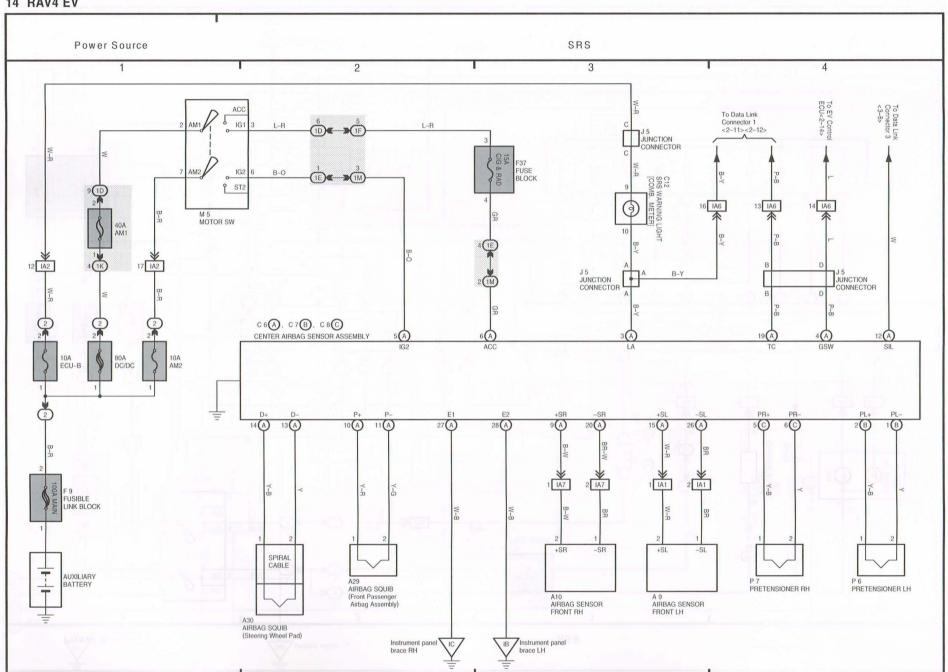
11 RAVA EV

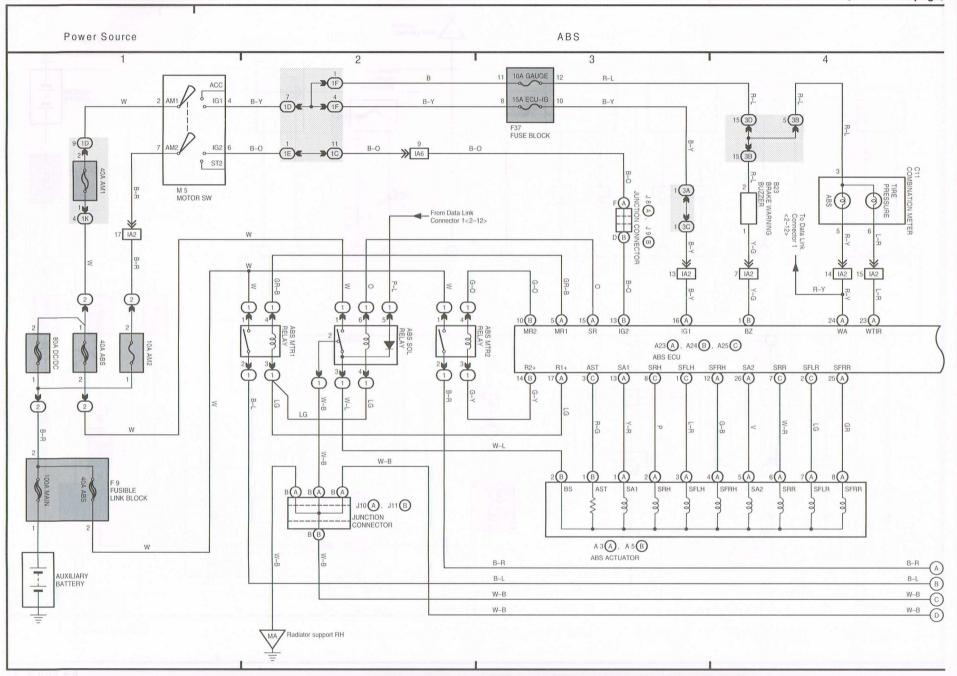


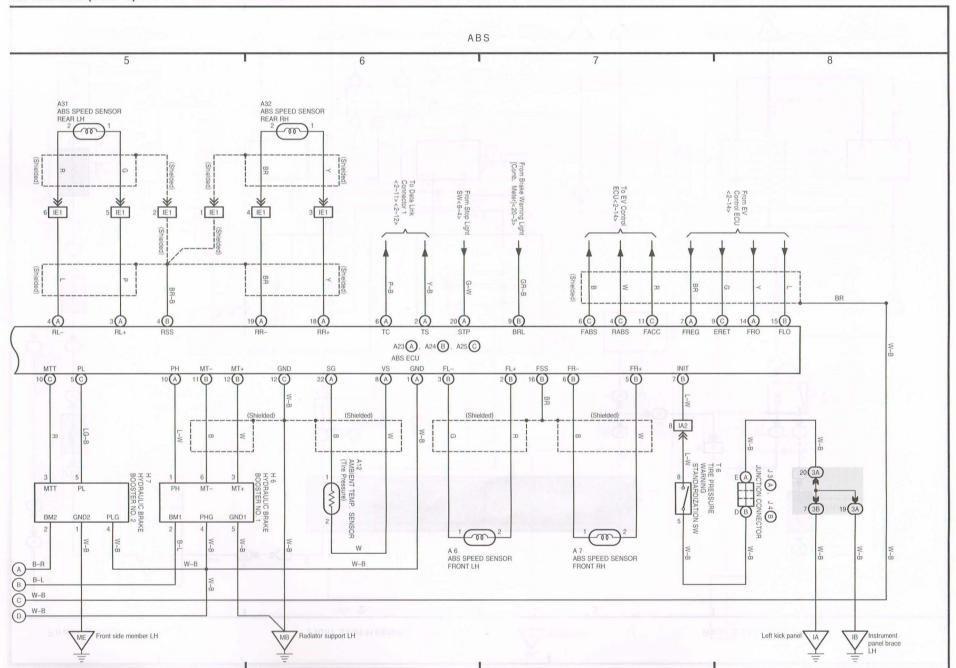
12 FIAVA EV

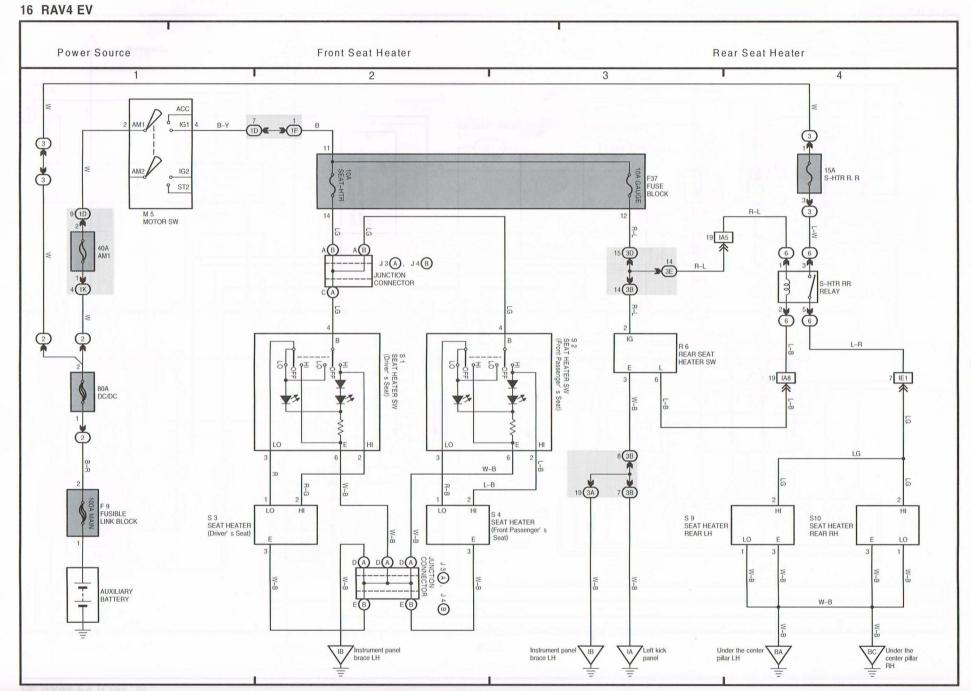












Left kick panel

F 8 FRONT WIPER MOTOR

Radiator support RH MA

R18 REAR WIPER MOTOR

