WORKSHOP MANUAL

TF SERIES

ELECTRICAL-BODY AND CHASSIS

SECTION 8

ISUZU

ISUZU

International Service & Parts

Tokyo, Japan

NOTICE

Before using this Workshop Manual to assist you in performing vehicle service and maintenance operations, it is recommended that you carefully read and thoroughly understand the information contained in Section - OA under the headings “GENERAL REPAIR INSTRUCTIONS” and “HOW TO USE THIS MANUAL”.

All material contained in this Manual is based on the latest product information available at the time of publication.
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SECTION 8
ELECTRICAL-BODY AND CHASSIS

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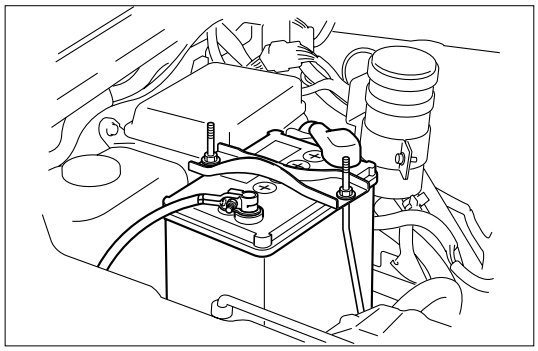
GENERAL INFORMATION

The body and chassis electrical system operates on a twelve volt power supply with negative ground polarity.
The main harness consists of the engine harness, the instrument harness, the body harness, and the chassis harness.
The harnesses use a split corrugated tube to protect the wires from the elements.
Wire size is determined by current flow, circuit length, and voltage drop.
All wires have color-coded insulation.
Wire color-codes are shown in the circuit diagrams.
This makes it easier to trace circuits and to make the proper connections.

Each circuit consists of the following:

1. Power source - The battery and the alternator
2. Wires - To carry electrical current through the circuit
3. Fuses - To protect the circuit against current overload
4. Relays - To protect voltage drop between the battery and the circuit parts and to protect the switch points against burning
5. Switches - To open and close the circuit
6. Load - Any device, such as a light or motor, which converts the electrical current into useful work
7. Ground - To allow the current to flow back to the power source

NOTES FOR WORKING ON ELECTRICAL ITEMS



BATTERY CABLE

Disconnecting the Battery Cable

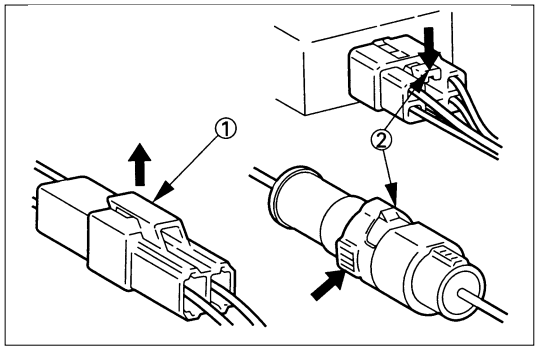
1. All switches should be "OFF" position.
2. Disconnect the battery ground cable.
3. Disconnect the battery positive cable.

CAUTION:
It is important that the battery ground cable be disconnected first.
Disconnecting the battery positive cable first can result in a short circuit.

Connecting the Battery Cable

Follow the disconnecting procedure in the reverse order to connect the battery cables.

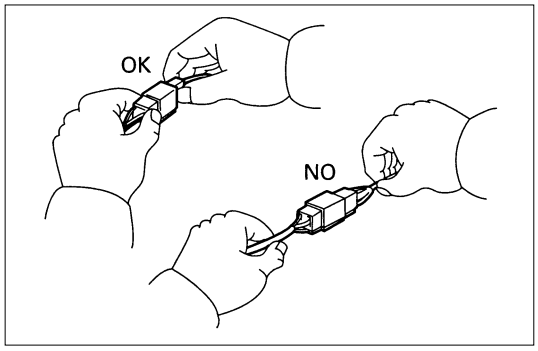
CAUTION:
Clean the battery terminal and apply light coat of grease to prevent terminal corrosion.



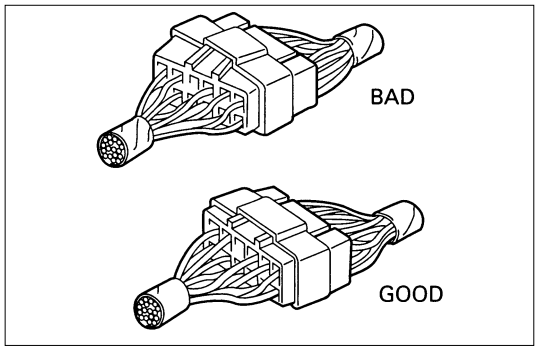
CONNECTOR HANDLING

Disconnecting the Connectors

Some connectors have a tang lock to hold the connectors together during vehicle operation.
Some tang locks are released by pulling them towards you ①.
Other tang locks are released by pressing them forward ②.
Determine which type of tang lock is on the connector being handled.

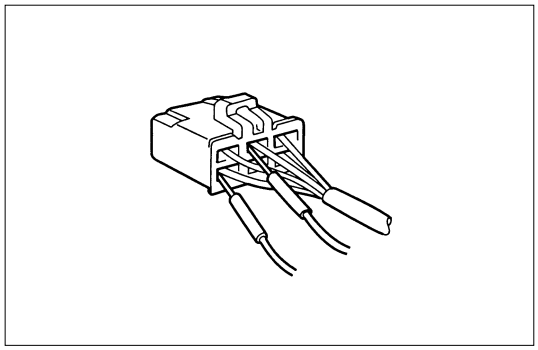


Firmly grasp both sides (male and female) of the connector.
Release the tang lock and carefully pull the two halves of the connector apart.
Never pull on the wires to separate the connectors.
This will result in wire breakage.



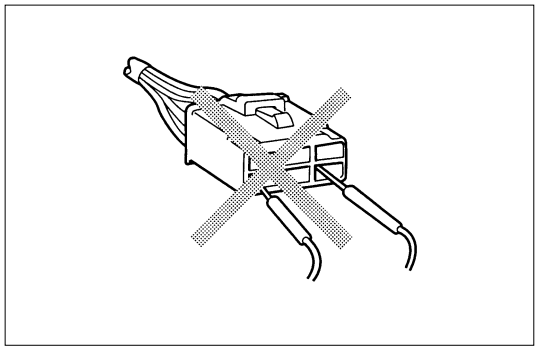
Connecting the Connectors

Firmly grasp both sides (male and female) of the connector.
Be sure that the connector pins and pin holes match.
Be sure that both sides of the connector are aligned with each other.
Firmly but carefully push the two sides of the connector together until a distinct click is heard.

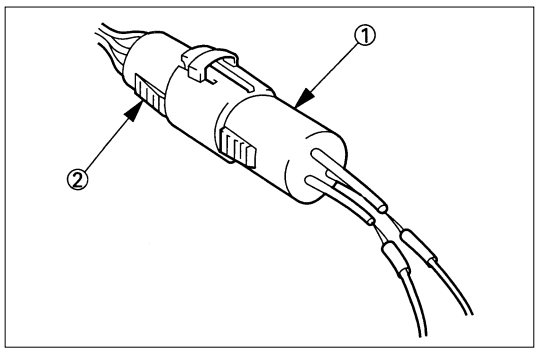


Connector Inspection

Use a circuit tester to check the connector for continuity.
Insert the test probes from the connector wire side.

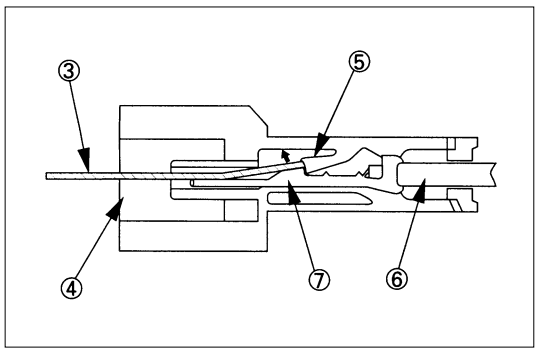


CAUTION
Never insert the circuit tester test probes into the connector open side to test the continuity.
Broken or open connector terminals will result.



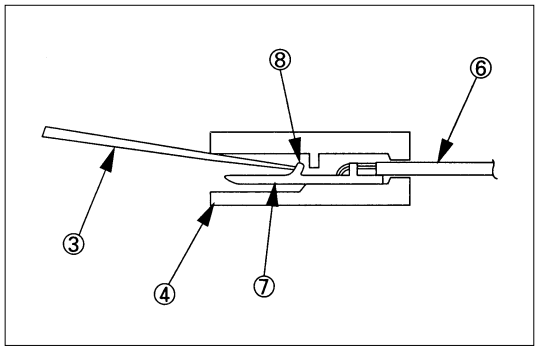
Waterproof Connector Inspection

It is not possible to insert the test probes into the connector wire side of a waterproof connector.
Use one side of a connector ① with its wires cut to make the test.
Connect the test connector to the connector ② to be tested.
Connect the test probes to the cut wires to check the connector continuity.



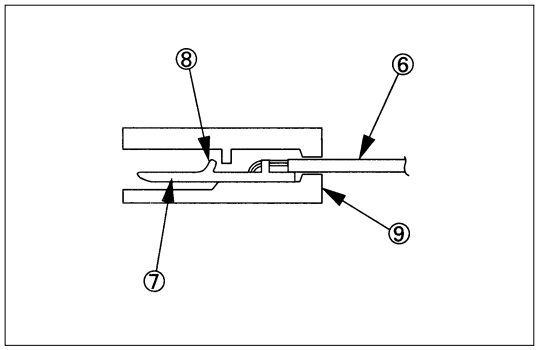
Connector Pin Removal
Connector Housing Tang Lock Type

1. Insert a slender shaft ③ into the connector housing open end ④.
2. Push the tang lock ⑤ up (in the direction of the arrow in the illustration).
   Pull the wire ⑥ with pin ⑦ free from the wire side of the connector.



Pin Tang Lock Type

1. Insert a slender shaft ③ into the connector housing open end ④.
2. Push the tang lock ⑧ flat (toward the wire side of the connector).
   Pull the wire ⑥ with pin ⑦ free from the wire side of the connector.

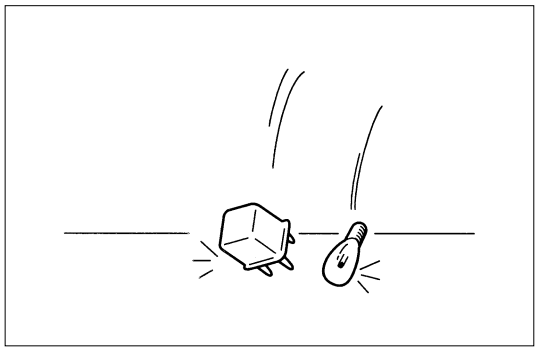


Connector Pin Insertion

1. Check that the tang lock ⑧ is fully up.
2. Insert the pin ⑦ from the connector wire side ⑨.
   Push the pin in until the tang lock closes firmly.
3. Gently pull on the wires ⑥ to make sure that connector pin is firmly set in place.

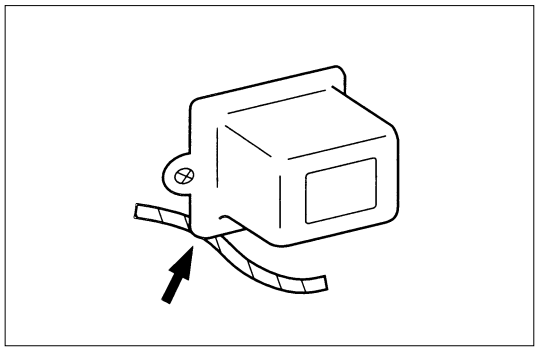
Fuse Replacement

The replacement fuse must have the same amperage specification as the original fuse.
Never replace a burn out fuse with a fuse of a different amperage specification.
Doing so can result in an electrical fire or other serious circuit damage.



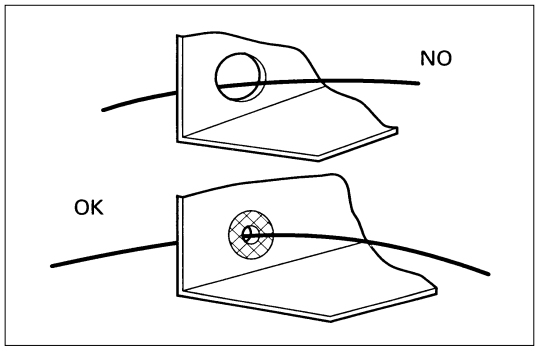
Parts Handling

Be careful for parts handling and any part should not be dropped or thrown, otherwise short circuit or disorder may result.

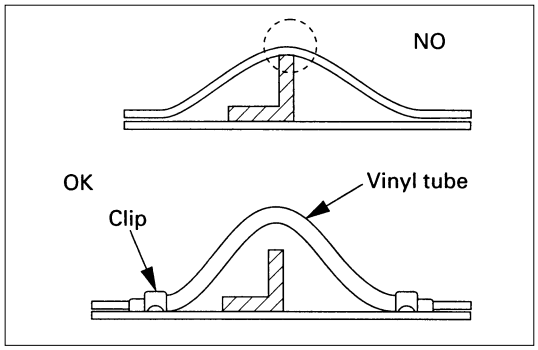


Wiring Harness

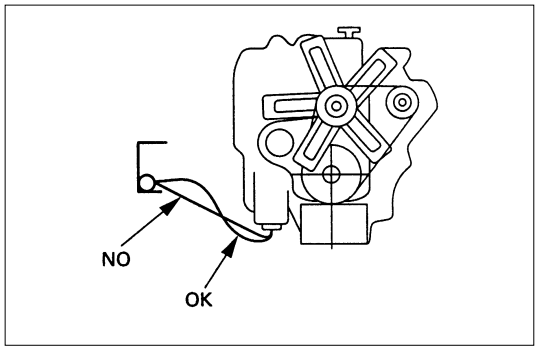
1. When assembling the parts, be careful not to bite or wedge the wiring harness.
2. All electrical connections must be kept be kept clean and tight.



3. Use a grommet or guard tube to protect the wiring harness from contacting a sharp edge or surface.



4. Position the wiring harness with enough clearance from the other parts and guard the wiring harness with a vinyl tube to avoid direct contact.



5. The wiring harness between engine and chassis should be long enough to prevent chafing or damage due to various vibrations.

SPLICING WIRE

Open the Harness

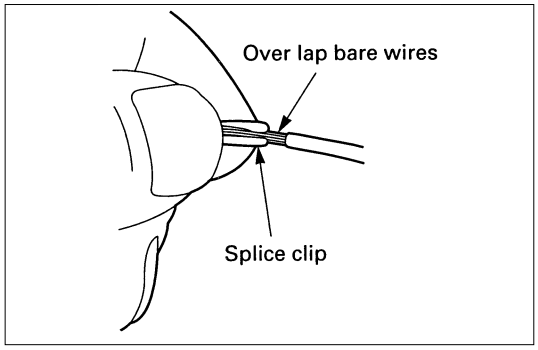
If the harness is taped, remove the tape.
To avoid wire insulation damage, use a sewing "seam ripper" (available from sewing supply stores) to cut open the harness.
If the harness has a black plastic conduit, simply pull out the desired wire.

Cut the wire

Begin by cutting as little wire off the harness as possible.
You may need the extra length of wire later if you decide to cut more wire off to change the location of a splice.
You may have to adjust splice locations to make certain that each splice is at least 1-1/2" (40 mm) away from other splices, harness branches, or connectors.

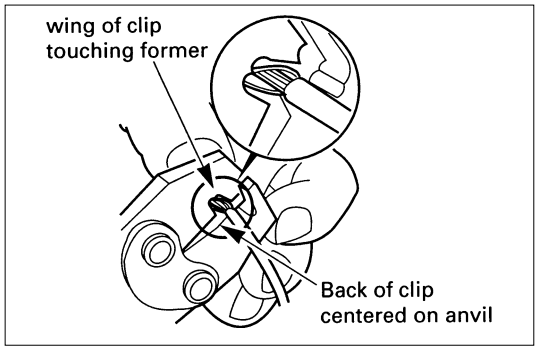
Strip the insulation

When replacing a wire, use a wire of the same size as the original wire.
Check the stripped wire for nicks or cut stands.
If the wire is damaged, repeat the procedure on a new section of wire.
The two stripped wire ends should be equal in length.

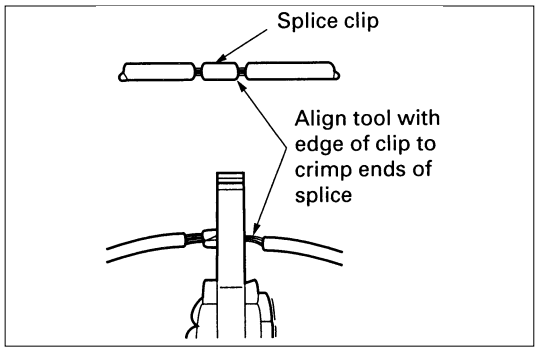


Crimp the Wires

Select the proper clip to secure the splice.
To determine the proper clip size for the wire being spliced, follow the directions included with your clips.
Select the correct anvil on the crimper.
(On most crimpers your choice is limited to either a small or large anvil.)
Overlap the two stripped wire ends and hold them between your thumb and forefinger.
Then, enter the splice clip under the stripped wires and hold it in place.



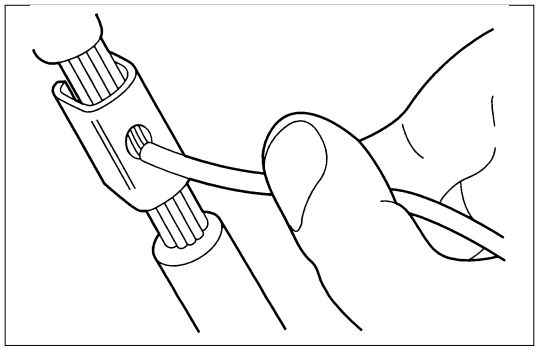
- Open the crimping tool to its full width and rest one handle on a firm flat surface.
- Center the back of the splice clip on the proper anvil and close the crimping tool to the point where the back of the splice clip touches the wings of the clip.
- Make sure that the clip and wires are still in the correct position. Then, apply pressure until the crimping tool closes.



Before crimping the ends of the clip, be sure that:

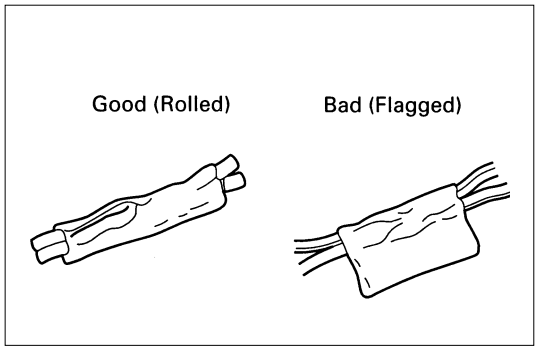
- The wires extend beyond the clip in each direction.
- No strands of wire are cut loose.
- No insulation is caught under the clip.

Crimp the splice again, once on each end.
Do not let the crimping tool extend beyond the edge of the clip or you may damage or nick the wires.



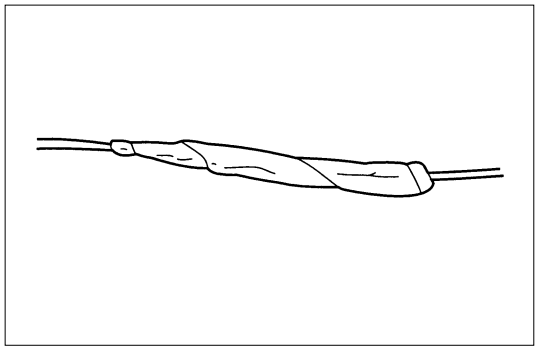
Solder

Apply 60/40 rosin core solder to the opening in the back of the clip.
Follow the manufacturer's instructions for the solder equipment you are using.



Tape the Splice

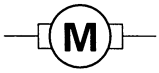
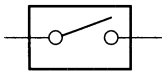
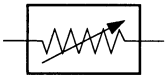
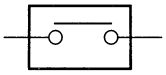
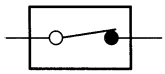
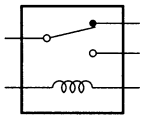
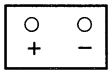
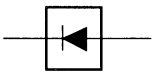
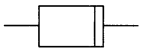
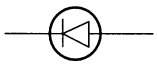
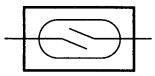
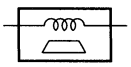
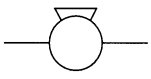
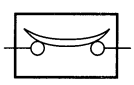
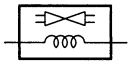
Center and roll the splicing tape.
The tape should cover the entire splice.
Roll on enough tape to duplicate the thickness of the insulation on the existing wires.
Do not flag the tape.
Flagged tape may not provide enough insulation, and the flagged ends will tangle with the other wires in the harness.



If the wire does not belong in a conduit or other harness covering, tape the wire again.
Use a winding motion to cover the first piece of tape.

SYMBOLS AND ABBREVIATIONS

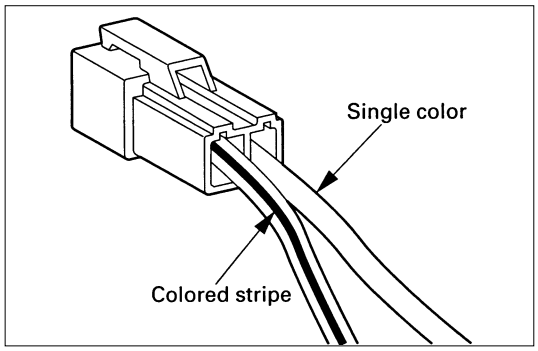
SYMBOLS

Symbol	Meaning of Symbol	Symbol	Meaning of Symbol
	Fuse		Bulb
	Fusible link		Double filament bulb
	Fusible link wire		Motor
	Switch		Variable resistor Rheostat
	Switch		Coil (inductor),solenoid, magnetic valve
	Switch (Normal close type)		Relay
	Contact wiring		
	Battery		
	Diode		Connector
	Electronic Parts		Light emitting diode
	Resistor		Reed switch
	Speaker		Condenser
	Buzzer		Horn
	Circuit breaker		Vacuum switching valve

ABBREVIATIONS

Abbreviation	Meaning of abbreviation	Abbreviation	Meaning of abbreviation
A	Ampere(S)	LH	Left hand
ABS	Anti-lock brake system	LWB	Long wheel base
ASM	Assembly	MPI	Multiport fuel injection
AC	Alternating current	M/T	Manual transmission
A/C	Air conditioner	QOS	Quick On Start system
ACC	Accessories	RH	Right hand
CARB	Carburetor	RR	Rear
C/B	Circuit breaker	RWAL	Rear wheel anti-lock brake system
CSD	Cold start device	SRS	Supplemental restraint system
DIS	Direct ignition system	ST	Start
EBCM	Electronic brake control module	STD	Standard
ECGI	Electronic control gasoline injection	SW	Switch
ECM	Engine control module	SWB	Short wheel base
ECU	Electronic control unit	TCM	Transmission control module
EFE	Early fuel evaporation	V	Volt
4×2	Two-wheel drive	VSV	Vacuum switching valve
4×4	Four-wheel drive	W	Watt(S)
FL	Fusible link	WOT	Wide open throttle
FRT	Front	W/	With
H/L	Headlight	W/O	Without
IC	Integrated circuit		
IG	Ignition		
kW	kilowatt		

PARTS FOR ELECTRICAL CIRCUIT



WIRING

Wire Color

All wires have color-coded insulation.
Wires belonging to system's main harness will have a single color.
Wires belonging to a system's sub-circuits will have a colored stripe.
Striped wires use the following code to show wire size and colors.

Example: 0.5 G / R

- Red (Stripe color)
- Green (Base color)
- Wire size ($0.5mm^2$)

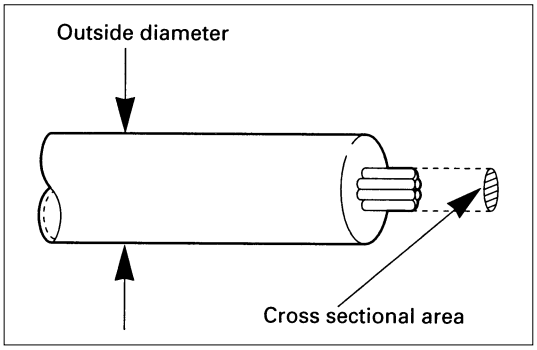
Abbreviations are used to indicate wire color within a circuit diagram.
Refer to the following table.

Wire Color-Coding

Color-Coding	Meaning	Color-Coding	Meaning
B	Black	BR	Brown
W	White	LG	Light green
R	Red	GR	Grey
G	Green	P	Pink
Y	Yellow	LB	Light blue
L	Blue	V	Violet
O	Orange		

Distinction of Circuit by Wire Base Color

Base color	Circuits	Base color	Circuits
B	Starter circuit and grounding circuit	Y	Instrument circuit
W	Charging circuit	L, O, BR, LG, GR, P, LB, V	Other circuits
R	Lighting circuit		
G	Signal circuit		

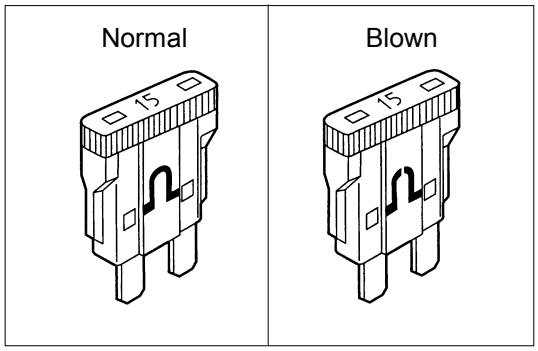


Wire Size

Wire size is specified with the metric gauge system.
The metric gauge system gives the wire size in cross sectional area measured in square millimeters.

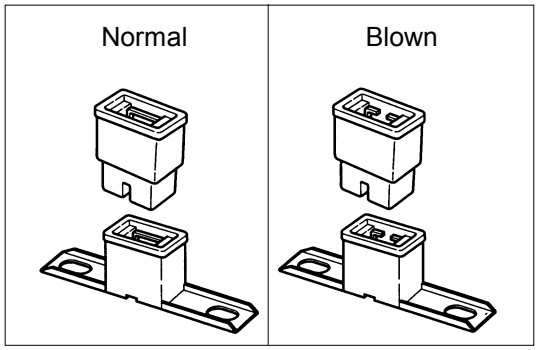
Wire Size Specifications

Normal size	Cross sectional area (mm^2)	Outside diameter (mm)	Allowable current (A)
0.3	0.372	1.8	9
0.5	0.563	2.0	12
0.85	0.885	2.2	16
1.25	1.287	2.5	21
2	2.091	2.9	28
3	3.296	3.6	37.5
5	5.227	4.4	53
8	7.952	5.5	67
15	13.36	7.0	75
20	20.61	8.2	97



FUSE

Fuses are the most common form of circuit protection used in vehicle wiring.
A fuse is a thin piece of wire or strip of metal encased in a glass or plastic housing.
It is wired in series with the circuit it protects.
When there is an overload of current in a circuit, such as a short of a ground, the wire or metal strip is designed to burn out and interrupt the flow of current.
This prevents a surge of high current from reaching and damaging other components in the circuit.
Determine the cause of the overloaded before replacing the fuse.
Never replace a blown fuse with a fuse of a different amperage specification.
Doing so can result in an electrical fire or other serious circuit damage.
A blown fuse is easily identified.

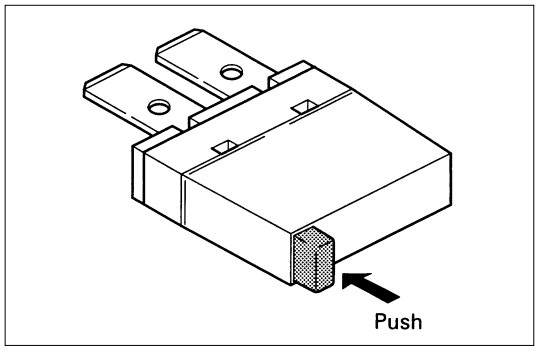


FUSIBLE LINK

The fusible link is primarily used to protect circuits where high amounts of current flow and where is would not be practical to use a fuse.
For example, the starter circuit.
When a current overload occurs, the fusible link melts open and interrupts the flow of current so as to prevent the rest of the wiring harness from burning.
Determine the cause of the overload before replacing the fusible link.
The replacement fusible link must have the same amperage specification as the original fusible link.
Never replace a blown fusible link with fusible link of a different amperage specification.
Doing so can result in an electrical fire or other serious circuit damage.
A blown fusible link is easily identified.

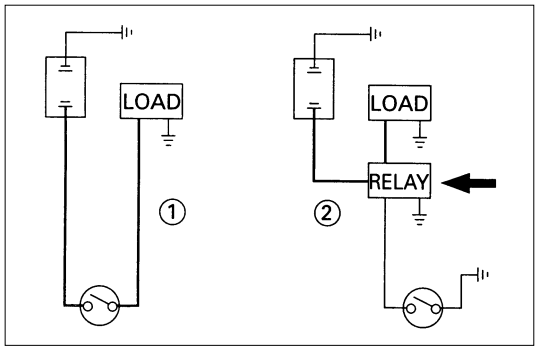
Fusible Link Specifications

Type	Rating	Case Color	Maximum Circuit Current(A)
Connector	30A	Pink	15
Connector	40A	Green	20
Bolted	50A	Red	25
Bolted	60A	Yellow	30
Bolted	80A	Black	40



CIRCUIT BREAKER

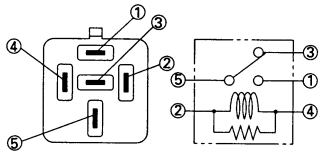
The circuit breaker is a protective device designed to open the circuit when a current load is in excess of rated breaker capacity.
If there is a short or other type of overload condition in the circuit, the excessive current will open the circuit between the circuit breaker terminals.
The reset knob pops out when the circuit is open.
Push the reset knob in place to restore the circuit after repairing it.



RELAY

Battery and load location may require that a switch be placed some distance from either component.
This means a longer wire and a higher voltage drop ①. The installation of a relay between the battery and the load reduces the voltage drop ②.
Because the switch controls the relay, amperage through the switch can be reduced.

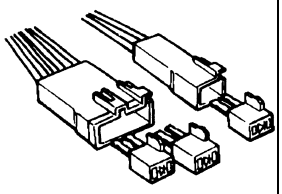
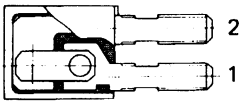
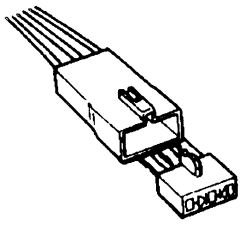
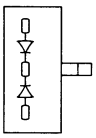
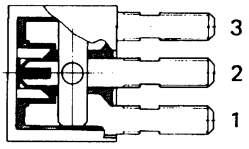
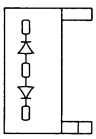
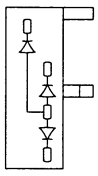
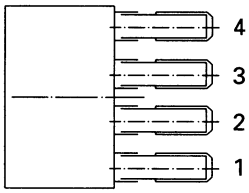
Relay Specifications and Configurations

Name/ Color	Rated voltage/ Coil resistance	Internal circuit
1T (MR5C) /Black	12V Approx. 90Ω Minimum operating voltage:7V at 25°C (77°F)	
1T (MR5C) /Brown	12V Approx. 90Ω Minimum operating voltage: 10.5V at 25°C (77°F)	

* Relay contact shown in the wiring diagram indicates condition before actuation.

DIODE

Diode Specifications and Configurations

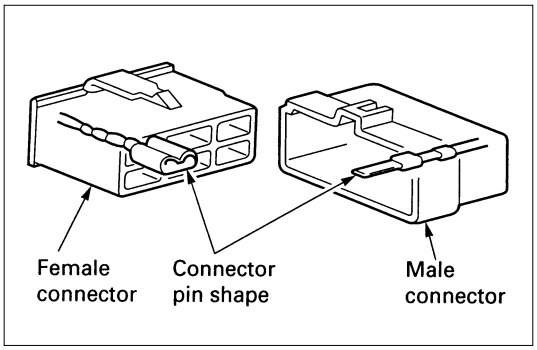
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<tr><th>SHAPE</th><th>MARK/
COLOR</th><th>CONSTRUCTION</th><th>CHECKING (THERE SHOULD BE CONTINUITY IN EITHER A OR B WHEN A CIRCUIT TESTER IS CONNECTED WITH DIODE TERMINAL)</th></tr>
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<tr><td rowspan="2">CONNECTION PATTERN</td><td>A</td><td>⊕</td><td>⊖</td></tr>
<tr><td>B</td><td>⊖</td><td>⊕</td></tr>
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<tr><td></td><td>⊕</td><td>⊖</td></tr>
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<tr><td></td><td>⊖</td><td>⊕</td><td></td></tr>
<tr><td rowspan="2">B</td><td>⊖</td><td></td><td>⊕</td><td></td></tr>
<tr><td></td><td></td><td>⊖</td><td>⊕</td></tr>
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Maximum Rating (Temp.=25°C)

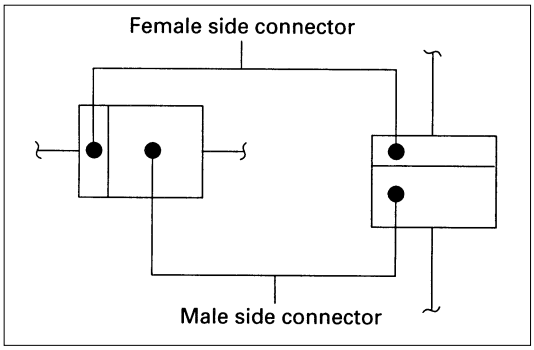
Items	Rating	Remarks
Peak reverse voltage	400V	
Transient peak reverse voltage	500V	
Average output current	1.5A	Temp.=40°C
Working ambient temperature	-30°C~80°C	
Storage temperature	-40°C~100ßC	

CONNECTOR

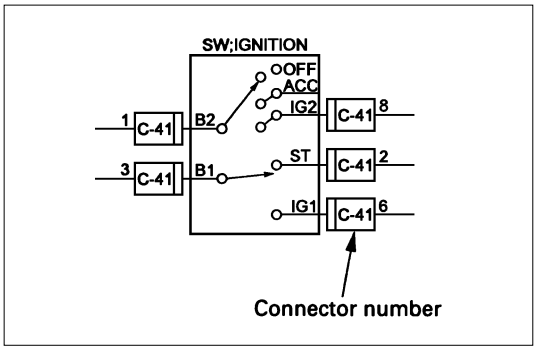
The connector pin shape determines whether the connector is male or female.
The connector housing configuration does not determine whether a connector is male or female.



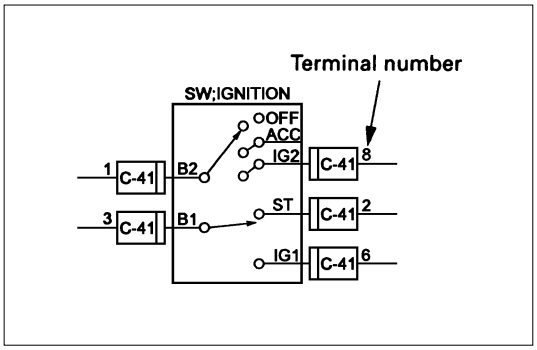
The symbol illustrated in the figure is used as connector in the circuit this section.



Connector is identified with a number.



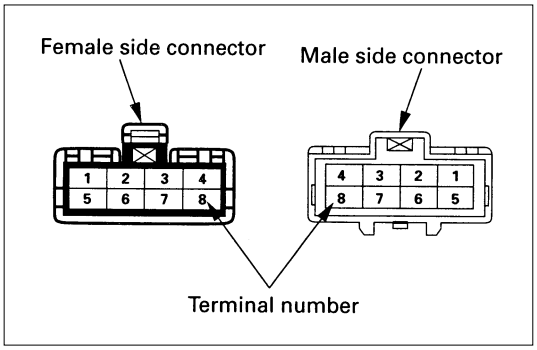
The applicable terminal number is shown for each connector.

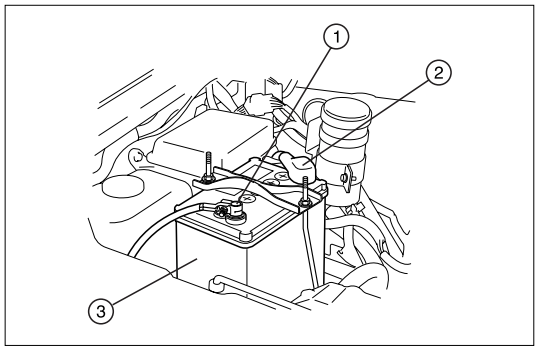


Connector terminal numbers are clearly shown.
Male side connector terminal numbers are in sequence from upper right to lower left.
Female side connector terminal numbers are in sequence from upper left to lower right.

NOTE:

For those connectors on which specific terminal numbers on symbols are shown, the terminal numbers or symbols are used in the circuit diagram, irrespective of the above rule.

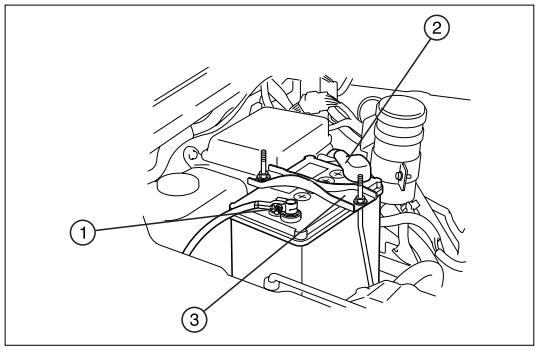




BATTERY

Inspection

1. Check the battery terminals ① for corrosion.
2. Check the battery cables ② for looseness.
3. Check the battery case ③ for cracks and other damage.
4. Check the battery electrolyte level.
   If the electrolyte level is excessively low, the battery must be replaced.
5. If the battery has a built-in hydrometer, perform the following steps.
   1) Carefully clean the battery upper surface.
   2) Check the hydrometer.
      The hydrometer design will vary with the battery manufacturer.
      Refer to the illustration shown on the battery.



Battery Replacement

1. Disconnect the battery ground cable ①.
2. Disconnect the battery positive cable ②.
3. Remove the battery clamp ③.
4. Remove the battery

Caution:
It is important that the battery ground cable be removed first.
Removing the battery positive cable first can result in a short circuit.

Jump Starting the Engine with a Booster Battery

The following description assumes that you are using a booster battery mounted on a second vehicle.
The listed steps (with some minor modifications) are also applicable if you are using a naked booster battery or special battery charging equipment.

Caution:
Never push or tow the vehicle in an attempt to start it. Extensive damage to the emission system and other vehicle parts will result.
(only catalytic converter vehicle)
Treat both the discharged battery and the booster battery with great care when using jumper cables.
Carefully follow the procedure outlined below.
Always be aware of the dangers of sparking.
Failure to follow the following procedure can result in:

a. Serious personal injury, specially to your eyes.
b. Extensive property damage from a battery explosion, battery acid discharge, or electrical file.
c. Extensive damage to the electronic components of both vehicles.

Do not use a 24 volt booster battery.
Serious damage to the vehicle's electrical system and electronic components will result.

Jump Starting Procedure

1. Set the parking brake on both vehicles.
2. If one or both vehicles is equipped with a manual transmission, place the gear shift in the "NEUTRAL" position.
3. Turn off the ignition on both vehicles.
4. Turn off all vehicle lights and accessories.
5. Check the built-in hydrometer on the discharged Battery (If so equipped).
   If there is no hydrometer indication abandon the jump start procedure.
6. Be sure that the two vehicles are not touching.
   Attach the end of one jumper cable to the booster battery positive terminal.
7. Attach the other end of the same cable to the discharged battery positive terminal.
8. Once again, check that the booster battery has a 12 volt rating.
9. Attach one end of the remaining booster cable to the booster battery negative terminal.
10. Attach the other end of the booster cable to a solid ground (such as the air conditioner compressor mounting bracket or the alternator mounting bracket) in the engine room of the vehicle with the discharged battery.
    Be sure that the ground connection is at least 500 mm (20 in) from the discharged battery.

Caution:
Do not attach the booster cable to the discharged battery negative terminal.

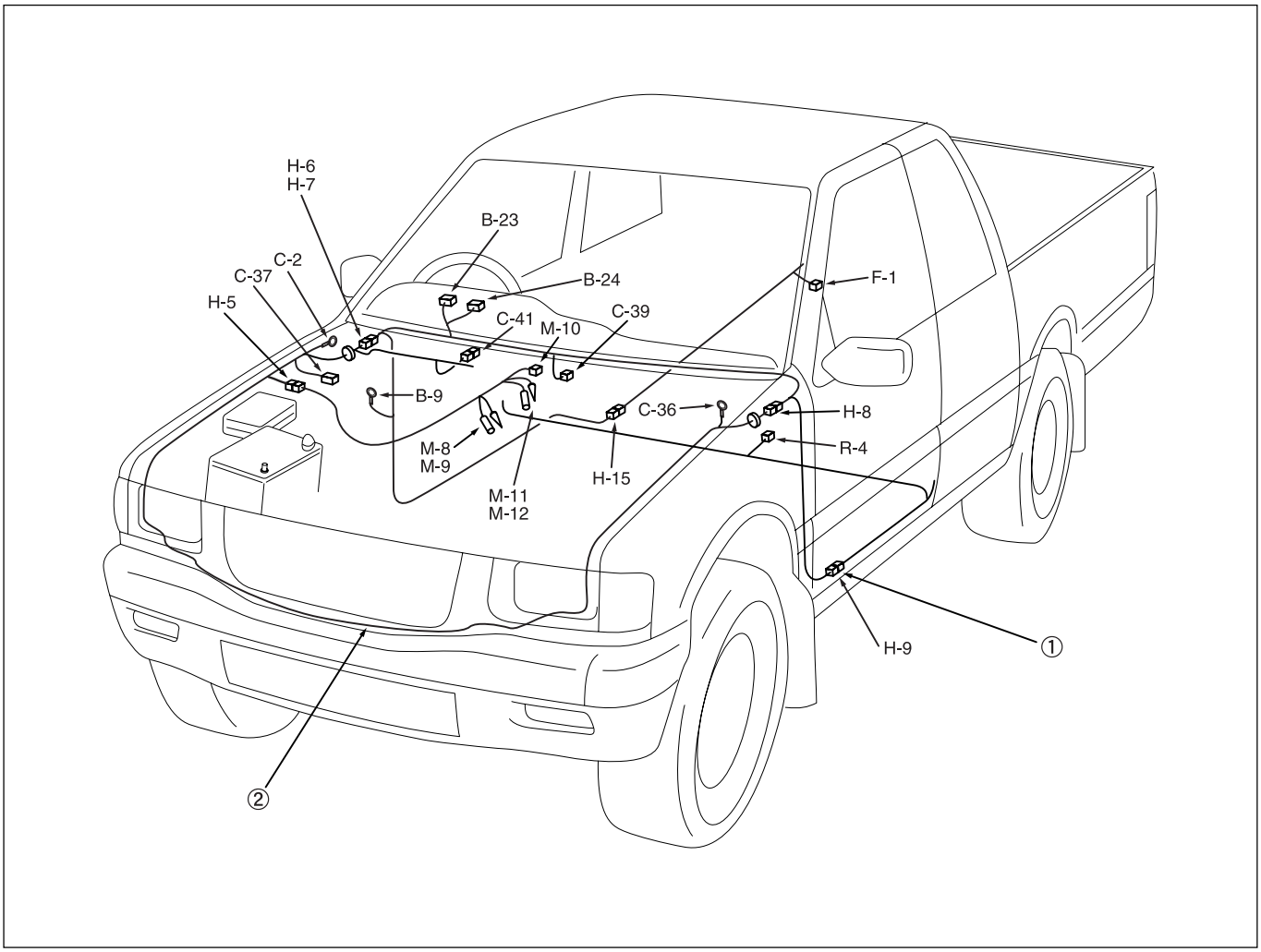
11. Start the engine of the vehicle with the booster battery. Check that all unnecessary electrical accessories are off.
12. Start the engine of the vehicle with the discharged battery.
13. Remove the jumper cables in the reverse order to which they were attached.

Caution:
Be absolutely sure to remove the negative jumper cable from the vehicle with the discharged battery first.

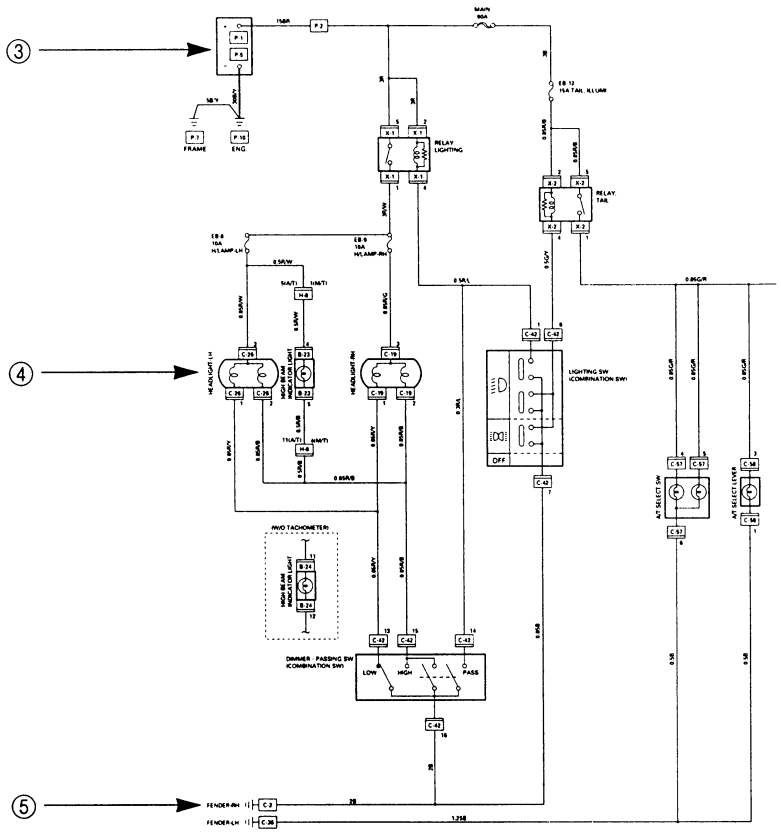
READING THE CIRCUIT DIAGRAM

In this manual, each system has its own parts location illustration and circuit diagram.
And connector configurations used in the circuit diagram are shown at the end of this manual.
PARTS LOCATION: The parts location shows the location of the connectors ① and the harnesses ② used in the each system.
CIRCUIT DIAGRAM: The circuit diagram shows the power supply ③, the load or loads ④ and the grounding point(s) ⑤.
CONNECTOR LIST: The connector configuration shows each connector's number ⑥, configuration ⑦ and the pin numbers ⑧.

PARTS LOCATION

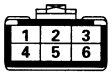
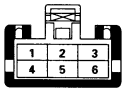


CIRCUIT DIAGRAM



CONNECTOR LIST

CONNECTOR LIST

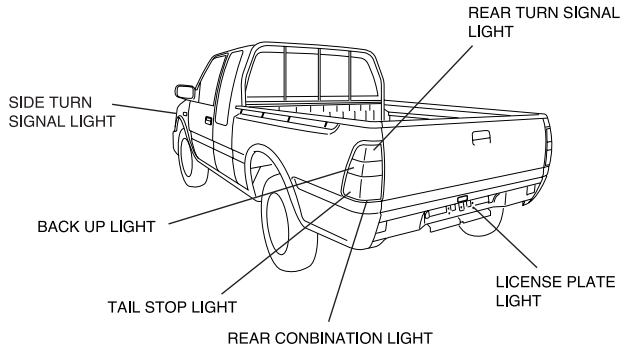
No.	Connector face	No.	Connector face
B-1		B-11	NOT USED
B-2		B-12	
B-3		B-13	
B-4	NOT USED	B-14	
			NOT USED

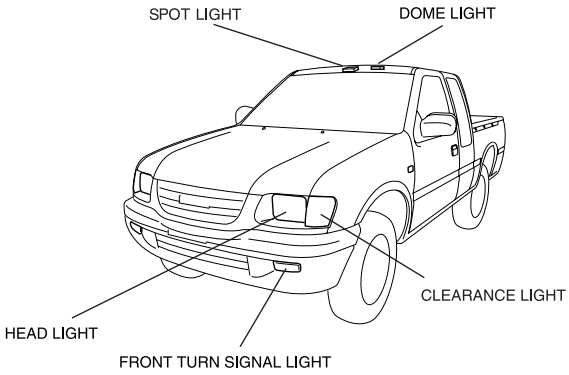
⑥
⑦
⑧

MAIN DATA AND SPECIFICATIONS

BULB SPECIFICATIONS

This illustration based on LHD



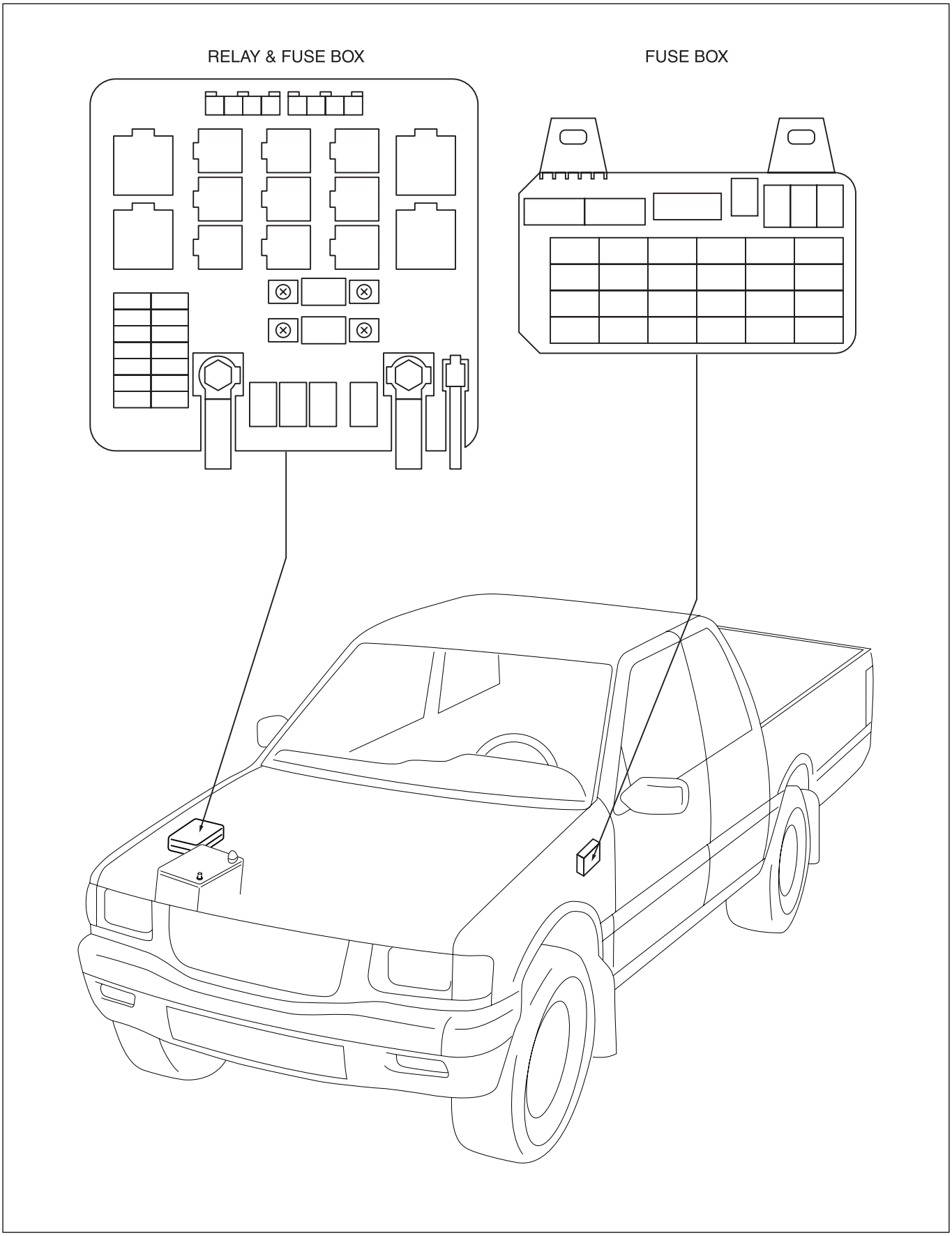


Light Name	Bulb No.	Rated Power V-W	Number of Bulbs	Lens Color	Remarks
Headlight	H4	12-60/55	2	White	Halogen
	R2	12-45/40	2	White	
Front turn signal light	-	12-23	2	Amber	
Side turn signal light	W5W	12-5	2	Amber	
Rear turn signal light	P21W	12-21	2	Amber	
Tail and stop light	P21/5W	12-21/5	2	Red	
Back up light	P21W	12-21	2	White	
License plate light	W5W	12-5	1 or 2	White	
Clearance light	W5W	12-5	2	White	
A/C-Heater control light	-	12-0.7	1	-	
Dome light	-	12-10	1	White	
Spot light	-	12-5	2	White	
Inspection light	-	12-5	1	White	

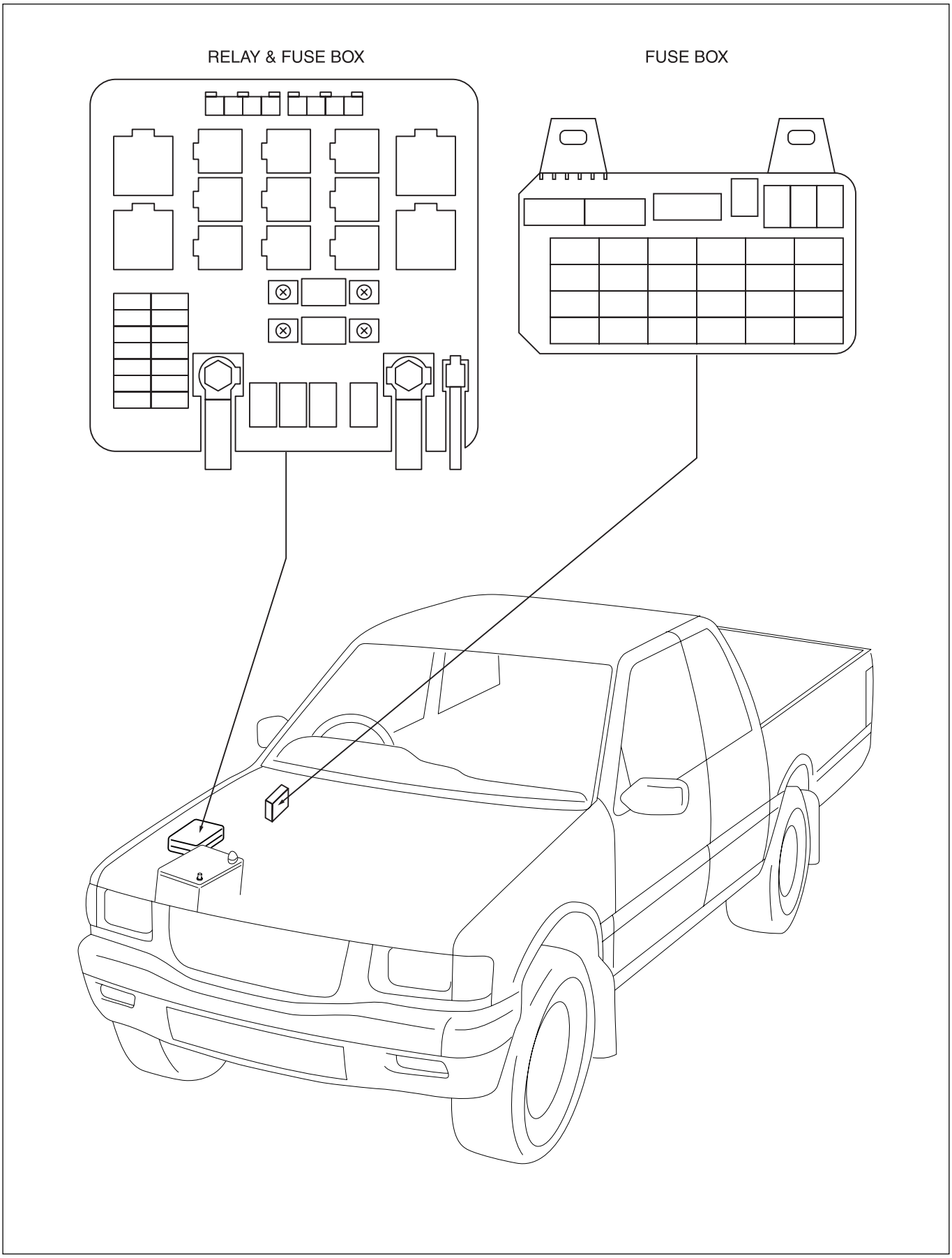
Light Name			Bulb No.	Rated Power V-W	Number of Bulbs	Lens Color	Remarks
Indicator/ Warning light	Charging system	Gasoline engine	-	14-3.0	1	Red	
	Check engine		74	14-1.4	1	Red	Gasoline engine
	Turn signal	W/O Tachometer	158	14-3.4	2	Green	
		W/Tachometer	74	14-1.4	2		
	High beam	W/O Tachometer	158	14-3.4	1	Blue	
		W/Tachometer	74	14-1.4	1		
	Low fuel	W/O Tachometer	-	14-3.0	1	Amber	
		W/Tachometer	74	14-1.4	1		
	Oil pressure		74	14-1.4	1	Red	
	Brake system		74	14-1.4	1	Red	
	4WD	W/O Tachometer	158	14-3.4	1	Green	
		W/Tachometer	74	14-1.4	1		
	Seat belt		-	14-2.0	1	Red	Gulf
	Oil temperature		74	14-1.4	1	Red	
	Diff. lock		74	14-1.4	1	Green	South Africa

RELAY AND FUSE BOX LOCATION

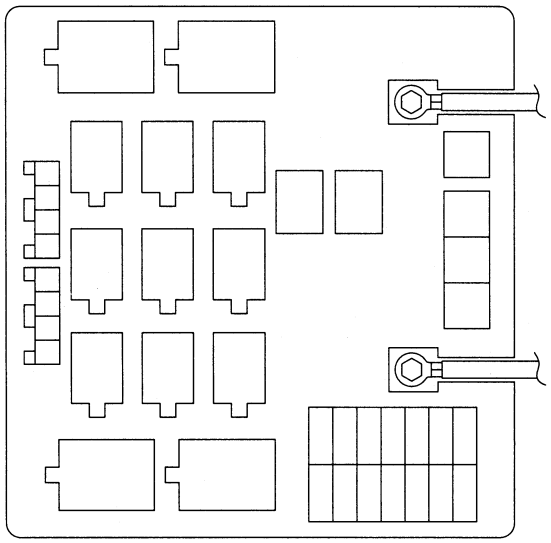
LHD

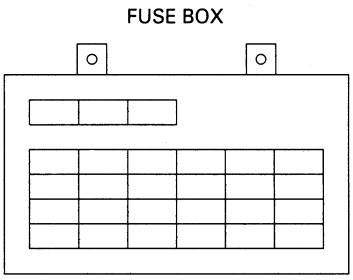


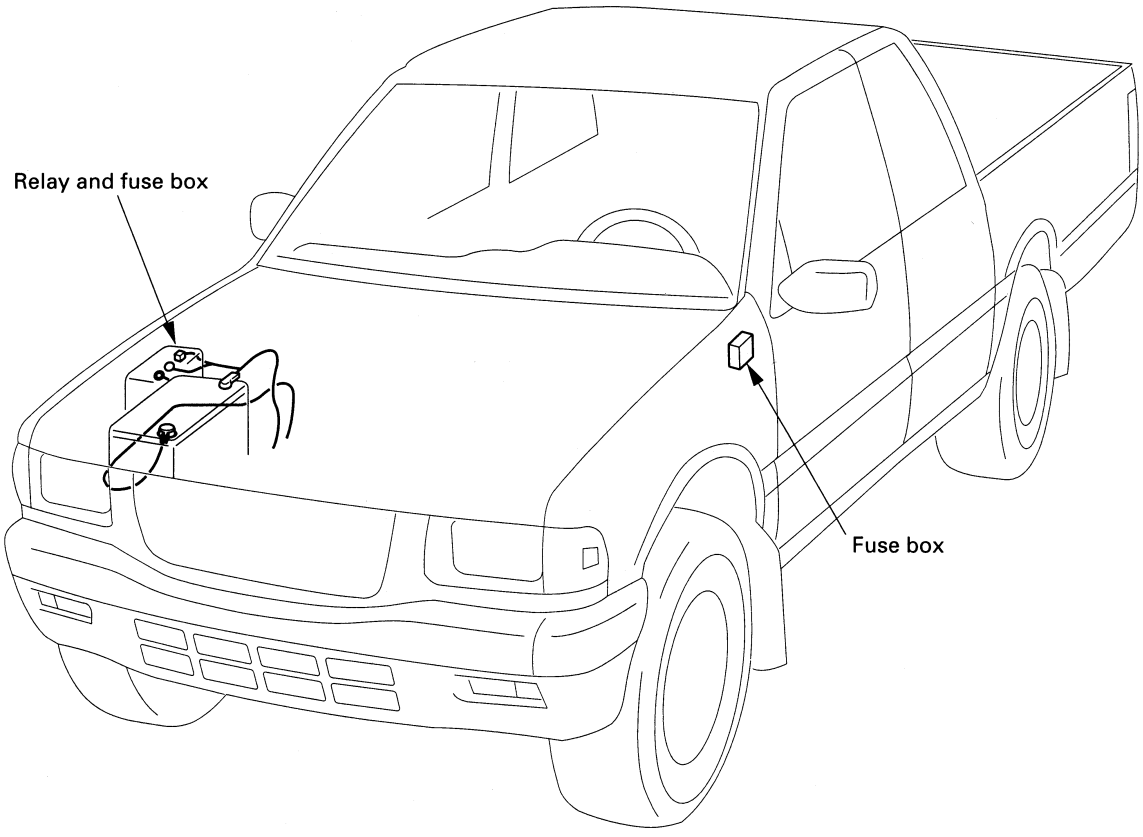
RHD



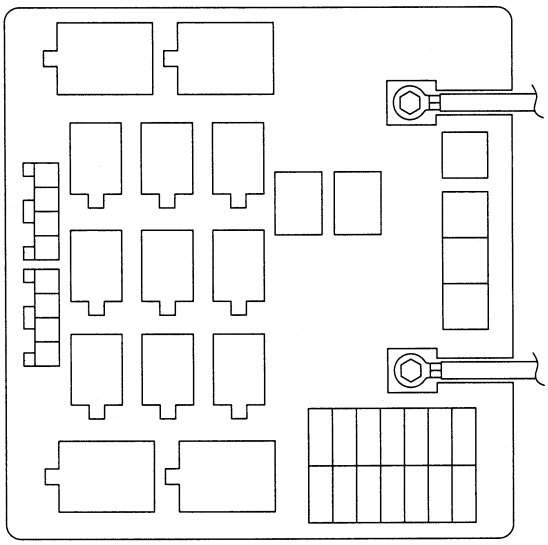
LHD (6VD1)

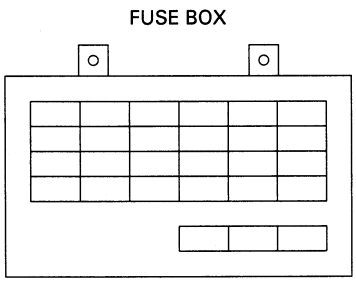


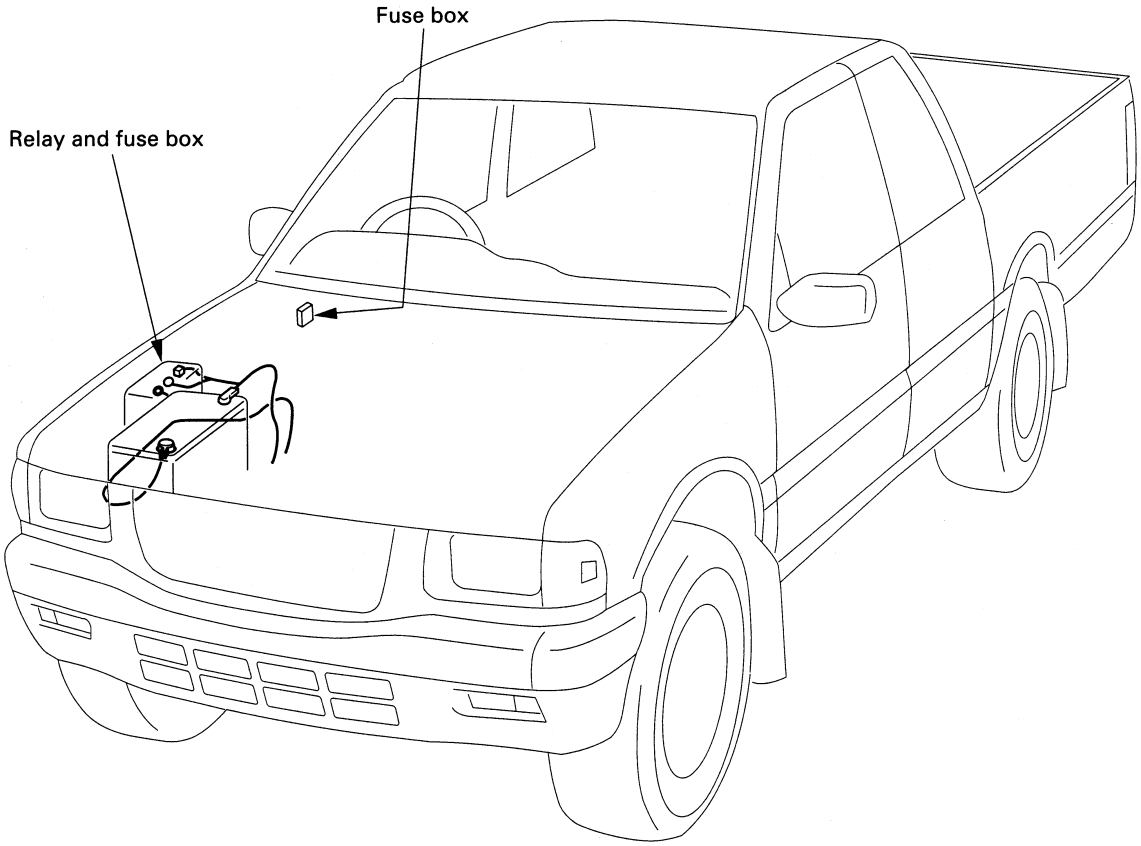




RHD (6VD1)

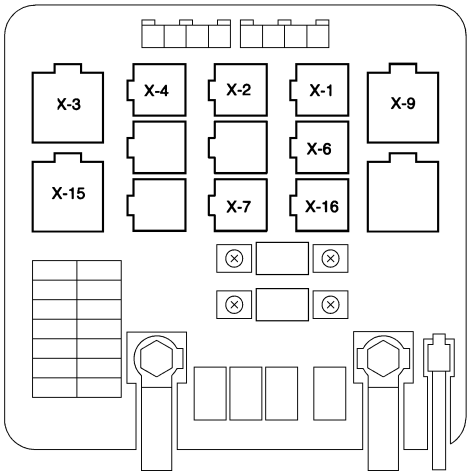






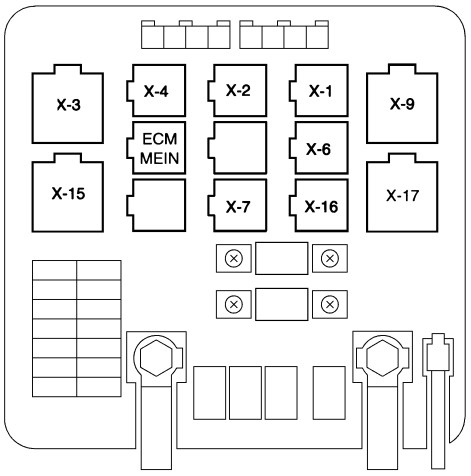
RELAY LOCATION-1 (RELAY AND FUSE BOX)

RELAY & FUSE BOX



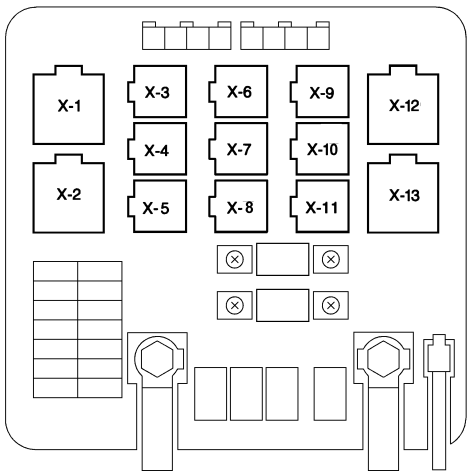
RELAY (HEC)

NO.	HEC Engine Series	NO.	HEC Engine Series
X-1	RELAY;HEAD LIGHT	X-16	(RELAY;COND.FAN)
X-2	RELAY;TAIL LIGHT	X-17	-
X-3	RELAY;HEATER		
X-4	RELAY;HORN		
X-6	RELAY;STARTER		
X-7	(RELAY;THERMO)		
X-9	RELAY;FUEL PUMP		
X-15	(RELAY;A/C COMP)		



RELAY (6VD1)

NO.	6VD1 Engine Series	NO.	6VD1 Engine Series
X-1	RELAY;HEAD LIGHT	X-16	RELAY;COND.FAN
X-2	RELAY;TAIL LIGHT	X-17	-
X-3	RELAY;HEATER		
X-4	RELAY;HORN		
X-6	RELAY;STARTER		
X-7	RELAY;THERMO		
X-9	RELAY;FUEL PUMP		
X-15	RELAY;A/C COMP		

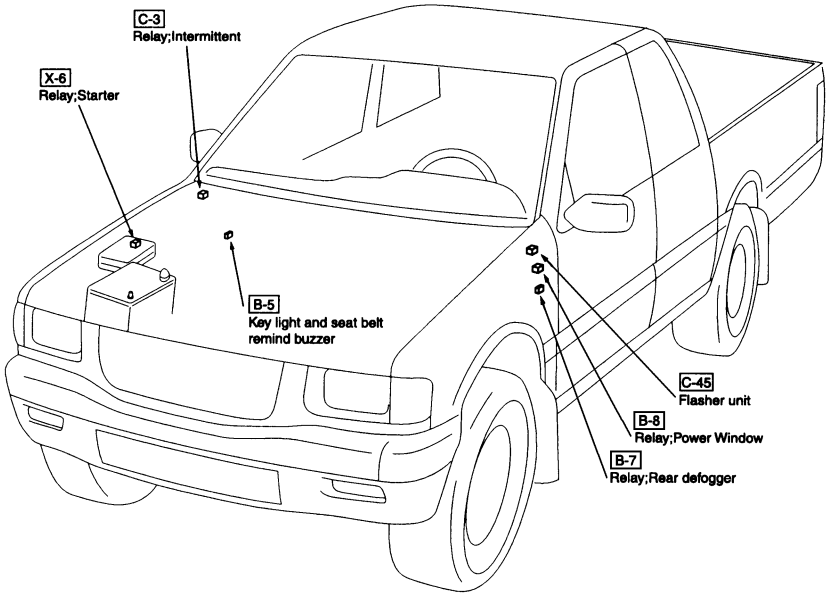


RELAY (4J)

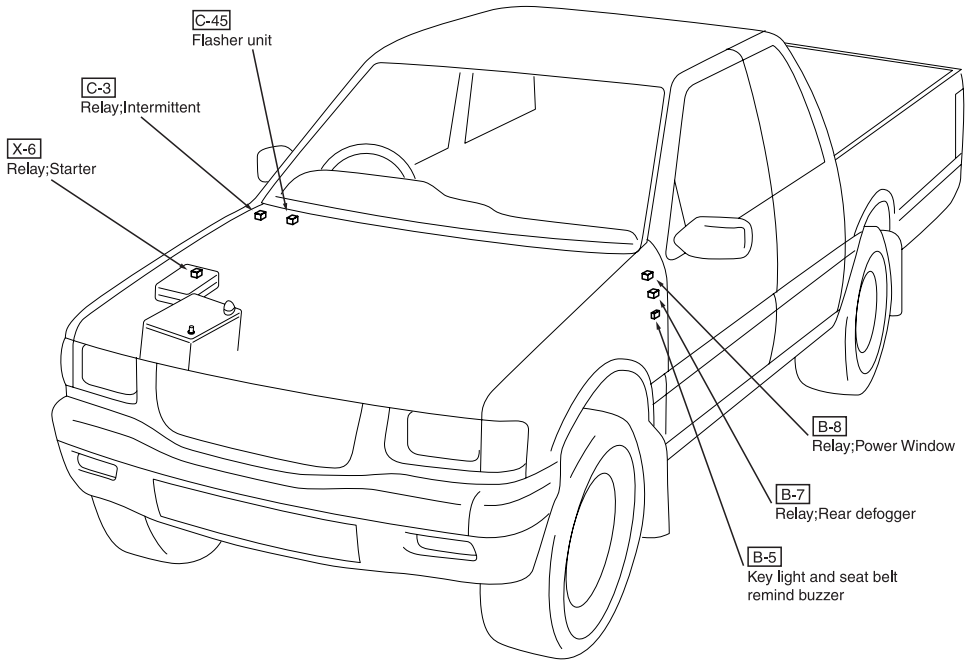
NO.	4J Engine Series	NO.	4J Engine Series
X-1	RELAY;HEATER	X-9	RELAY;HEAD LIGHT
X-2	RELAY;CHARGE	X-10	RELAY;QWS
X-3	RELAY;HORN	X-11	RELAY;RR FOG
X-4	-	X-12	RELAY;DIMMER
X-5	RELAY;IMMOBILIZER	X-13	RELAY;STARTER
X-6	RELAY;TAIL LIGHT		
X-7	-		
X-8	RELAY;THERMO		

RELAY LOCATION-2 (HEC ENGINE MODEL)

(LHD)



(RHD)



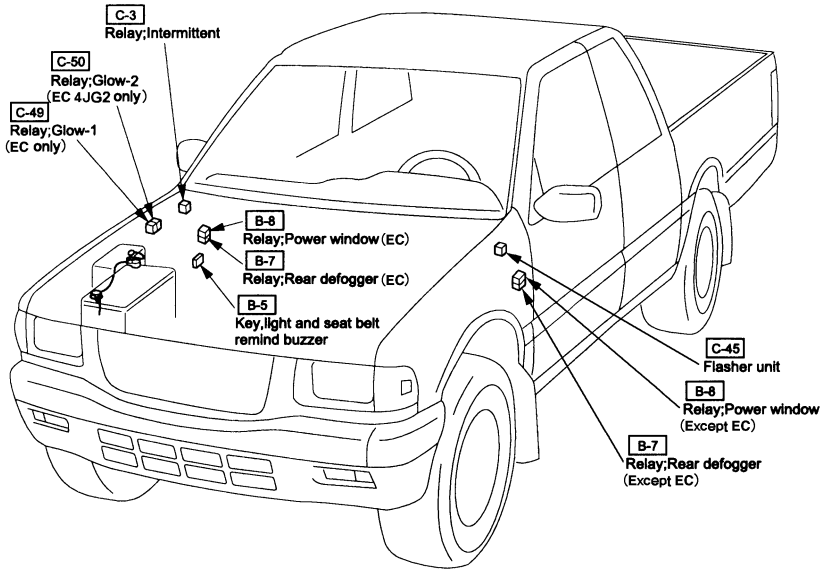
RELAY

Connector No.	C-3	C-45	B-5	B-7	B-8
HEC Engine Series	WINDSHIELD INTERMITTENT	FLASHER UNIT	KEY, LIGHT AND SEAT BELT REMIND BUZZER (For Gulf only)	REAR DEFOGGER (Except South Africa & Chile)	POWER WINDOW

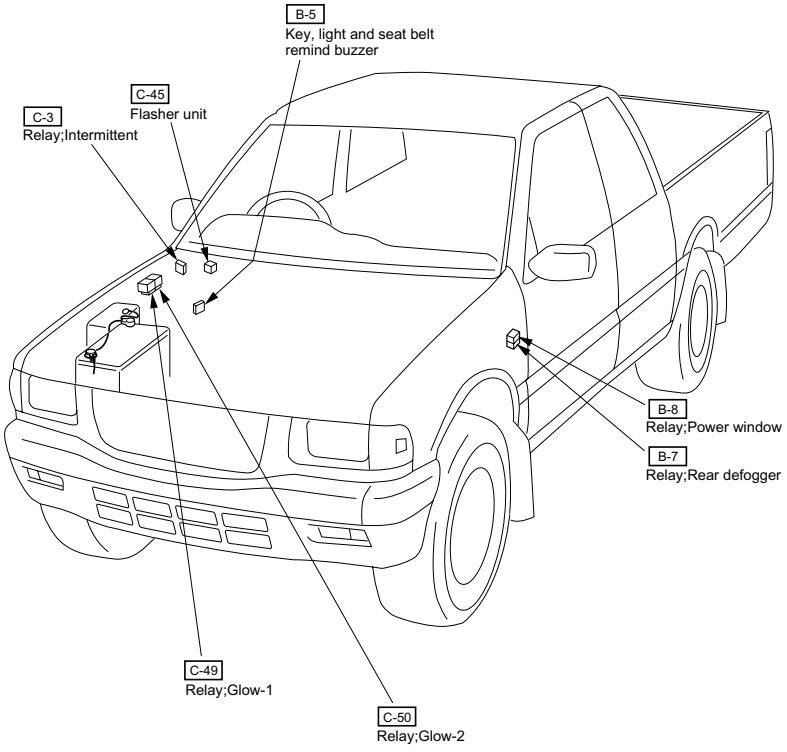
			Gulf only)		

RELAY LOCATION-3 (4J ENGINE MODEL)

(LHD)



(RHD)



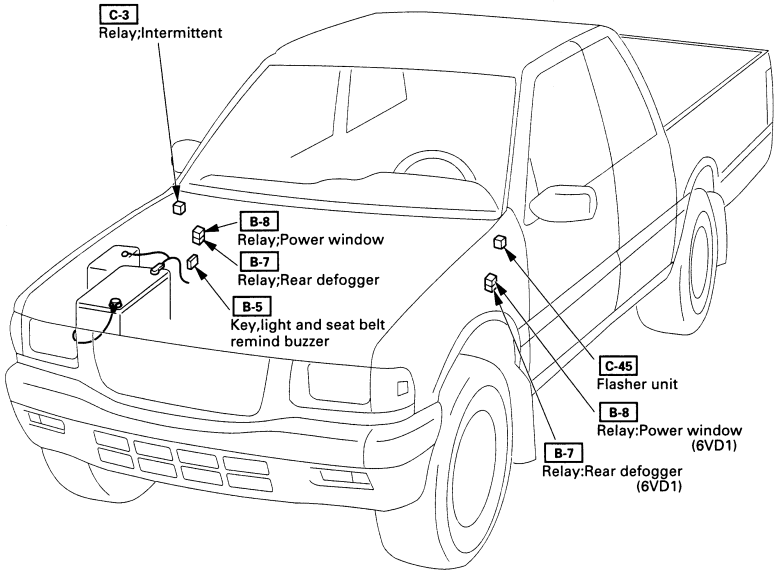
RELAY

Connector No.	C-3	C-45	B-5	B-7	B-8
4J Engine Series	WINDSHIELD INTERMITTENT	FLASHER UNIT	KEY, LIGHT AND SEAT BELT REMIND	REAR DEFOGGER	POWER WINDOW

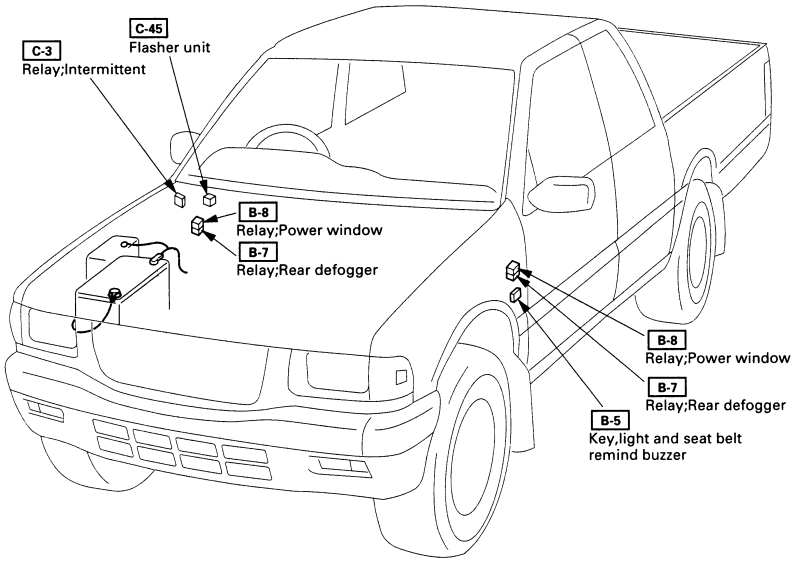
			BUZZER		

RELAY LOCATION-4 (6VD1 ENGINE MODEL)

(LHD)



(RHD)



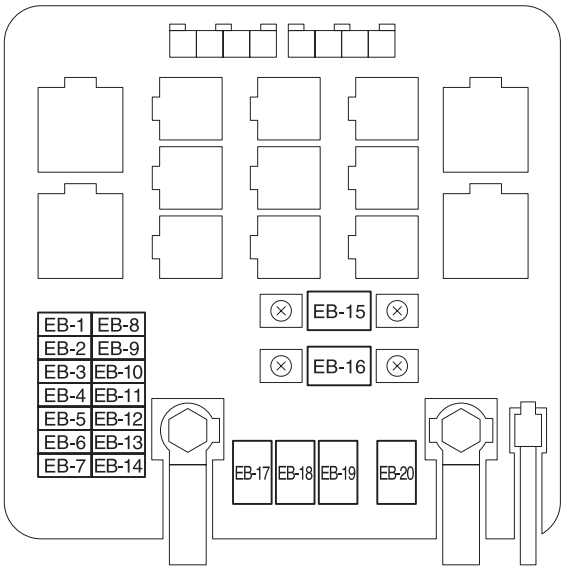
RELAY

Connector No. / Relay	C-3	C-45	B-5	B-7	B-8
	WINDSHIELD INTERMITTENT	FLASHER UNIT	KEY, LIGHT AND SEAT BELT	REAR DEFOGGER	POWER WINDOW

Engine model	INTERMITTENT		REMIND BUZZER	DEFOGGER	WINDOW
6VD1	O			O	O

FUSE AND FUSIBLE LINK LOCATION (RELAY AND FUSE BOX)

RELAY & FUSE BOX



FUSE

Engine model / NO.	HEC Engine Series	4J Engine Series	4J Engine Series (UK)	6VD1
EB-1	15A HAZARD	15A HAZARD	15A HAZARD	15A HAZARD
EB-2	10A HORN	10A HORN	10A HORN	10A HORN
EB-3	20A BLOWER	10A STOP LIGHT	-	20A BLOWER
EB-4	10A A/C	20A BLOWER	20A BLOWER	10A A/C
EB-5	20A INJECTOR	10A A/C	10A A/C	-
EB-6	15A FUEL	10A RR FOG LIGHT	-	15A FUEL PUMP
EB-7	10A O_2 SENSOR	10A CHARGE	10A CHARGE	10A O_2 SENSOR
EB-8	10A HEADLIGHT LH	10A H/LIGHT-RH (HI)	10A H/LIGHT-LH	10A HEADLIGHT LH
EB-9	10A HEADLIGHT RH	10A H/LIGHT-LH (HI)	10A H/LIGHT-RH	10A HEADLIGHT RH
EB-10	10A STOP LIGHT	10A H/LIGHT-RH (LO)	-	10A STOP LIGHT
EB-11	10A TAIL LIGHT	10A H/LIGHT-LH (LO)	10A STOP LIGHT	10A TAIL LIGHT
EB-12	-	10A TCM	10A TAIL LIGHT	10A TCM
EB-13	10A ALTERNATOR	10A TAIL LIGHT-RH	10A RR FOG LIGHT	10A ECM
EB-14	15A ECM	10A TAIL LIGHT-LH	-	20A ECM

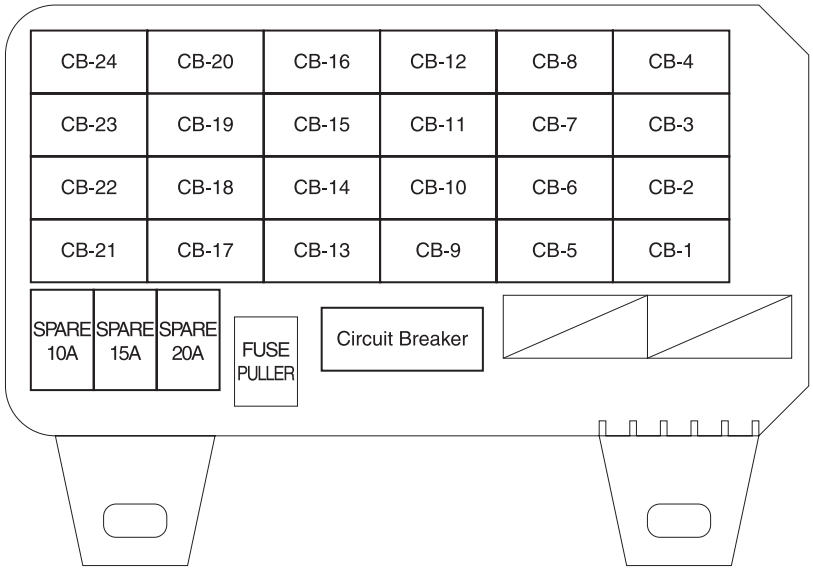
( ) ·····IF EQUIPPED

EB-15	40A IGN-B1	-	-	-
EB-16	100A MAIN	80A MAIN	100A MAIN	100A MAIN
EB-17	40A IGN-B2	40A IGN-B2	40A IGN-B2	40A IGN-B2
EB-18	-	30A HEAD LIGHT WASHER	-	30A RR DEF
EB-19	30A CONDENSER FAN	50A GLOW	50A GLOW	30A CONDENSER FAN
EB-20	-	40A IGN-B1	40A IGN-B1	40A IGN-B1

FUSE AND CIRCUIT BREAKER LOCATION (FUSE BOX)

LHD

FUSE BOX



FUSE

No.	Capacity	Indication on label	No.	Capacity	Indication on label
CB-1	10A	STARTER	CB-13	15A	(PR DEFOG.)
CB-2	-	-	CB-14	10A	DOME LIGHT
CB-3	15A	ENGINE-1	CB-15	20A	(DOOR LOCK)
CB-4	10A	ENGINE-2	CB-16	-	-
CB-5	-	-	CB-17	-	-
CB-6	-	-	CB-18	-	-
CB-7	15A	METER	CB-19	15A	AUDIO
CB-8	20A	FRONT WIPER	CB-20	15A	CIGAR
CB-9	-	-	CB-21	10A	SRS-2
CB-10	-	-	CB-22	10A	SRS-1
CB-11	15A	BACK UP, TURN	CB-23	20A	POWER WINDOW
CB-12	10A	(SEAT HEATER)	CB-24	20A	POWER WINDOW

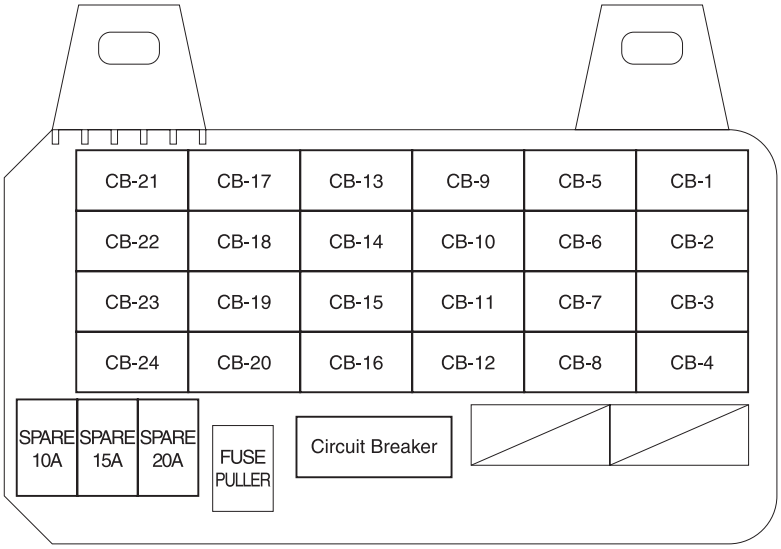
CIRCUIT BREAKER

No.	Capacity	Indication on label
B-31	30A	(POWER WINDOW)

( ) ····· IF EQUIPPED

RHD

FUSE BOX



FUSE

No.	Capacity	Indication on label	No.	Capacity	Indication on label
CB-1	10A	STARTER	CB-13	15A	(PR DEFOG.)
CB-2	-	-	CB-14	10A	DOME LIGHT
CB-3	15A	ENGINE-2	CB-15	20A	(DOOR LOCK)
CB-4	10A	ENGINE-1	CB-16	-	-
CB-5	15A	METER	CB-17	-	-
CB-6	20A	FRONT WIPER	CB-18	-	-
CB-7	-	-	CB-19	15A	AUDIO
CB-8	-	-	CB-20	15A	CIGAR
CB-9	-	-	CB-21	20A	POWER WINDOW
CB-10	-	-	CB-22	20A	POWER WINDOW
CB-11	15A	BACK UP, TURN	CB-23	10A	SRS
CB-12	-	-	CB-24	-	-

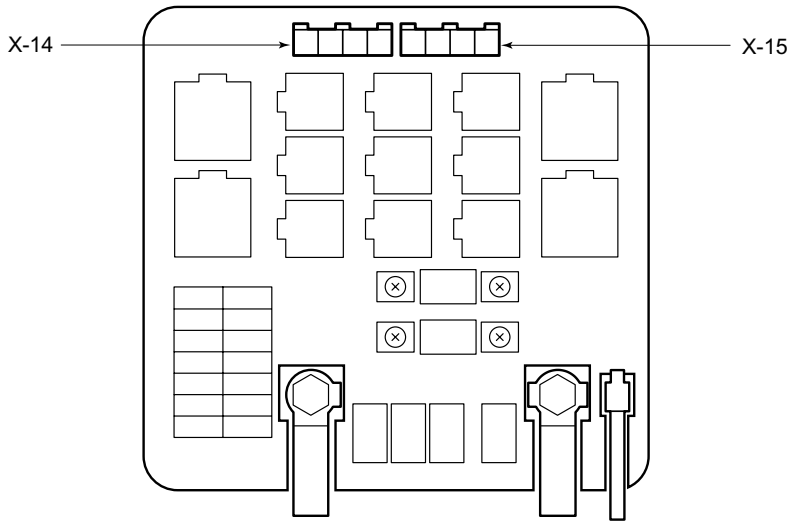
CIRCUIT BREAKER

No.	Capacity	Indication on label
B-31	30A	(POWER WINDOW)

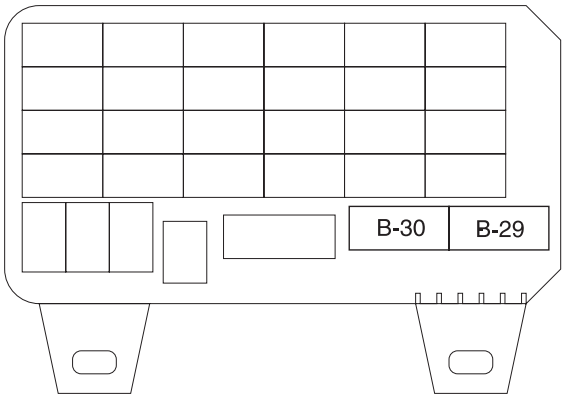
( ) ····· IF EQUIPPED

DIODE LOCATION

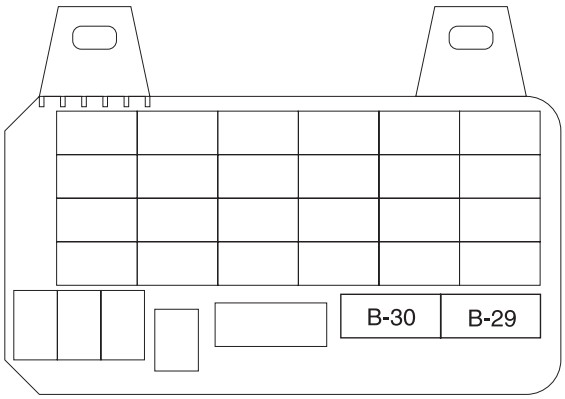
RELAY & FUSE BOX



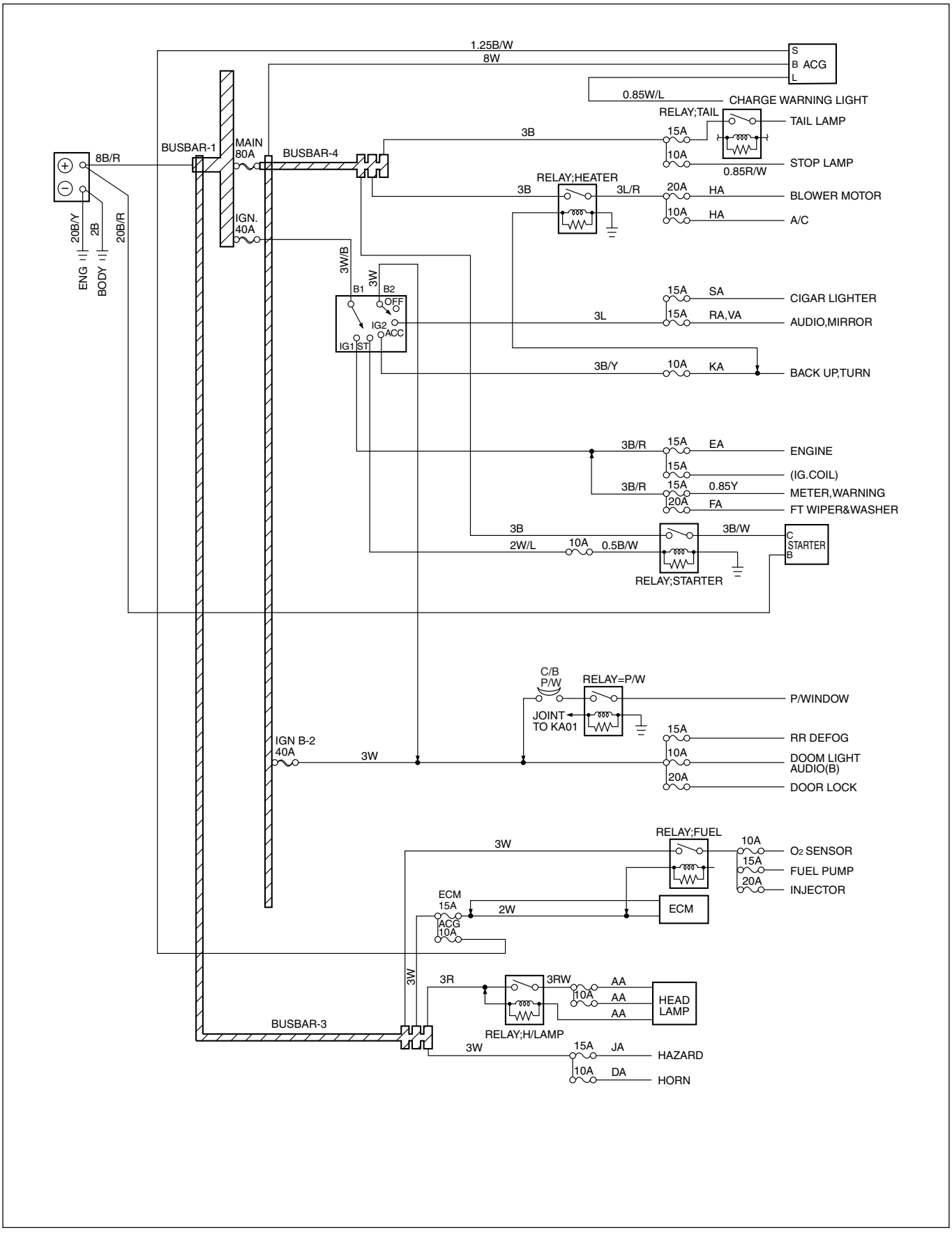
FUSE BOX (LHD)



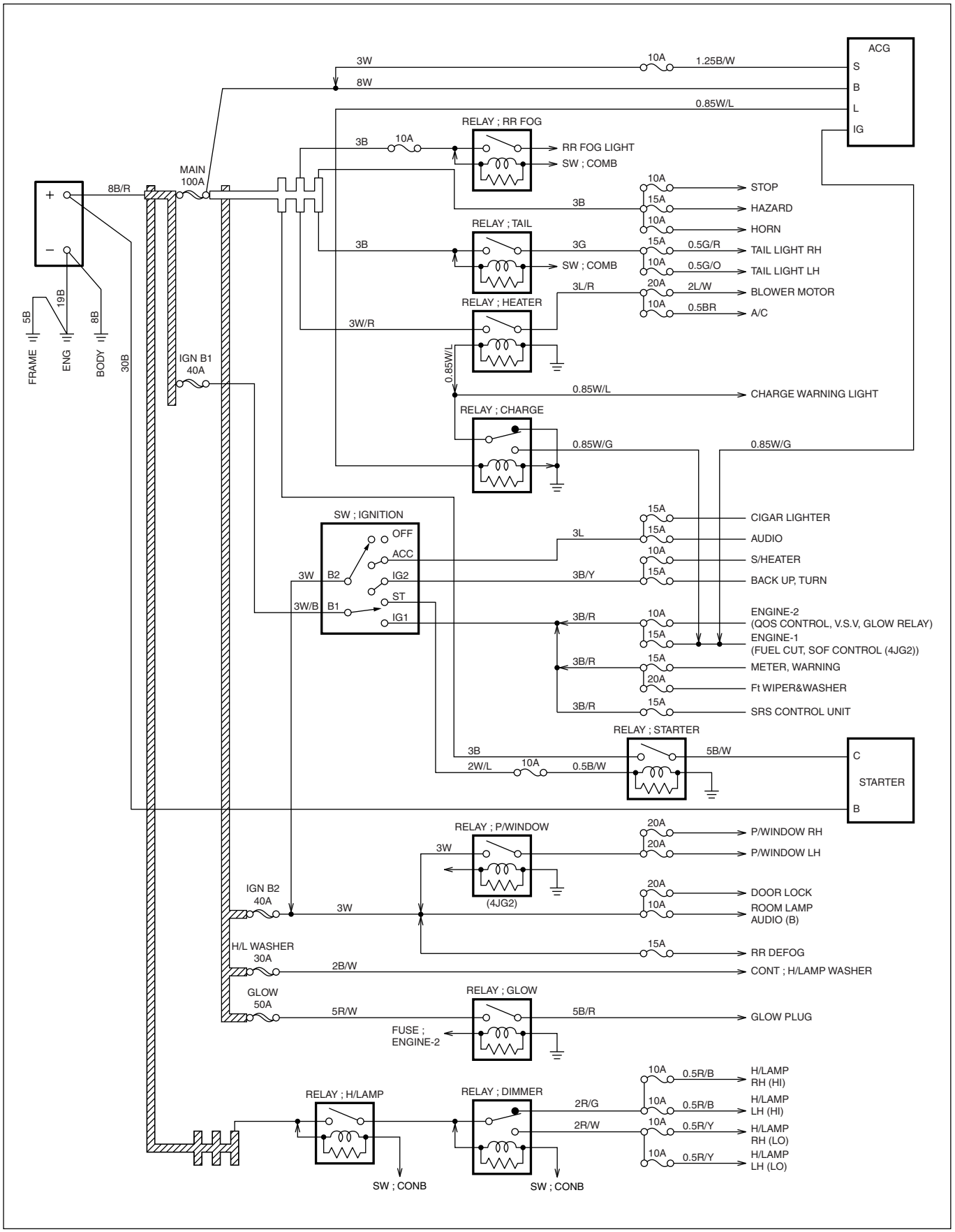
FUSE BOX (RHD)



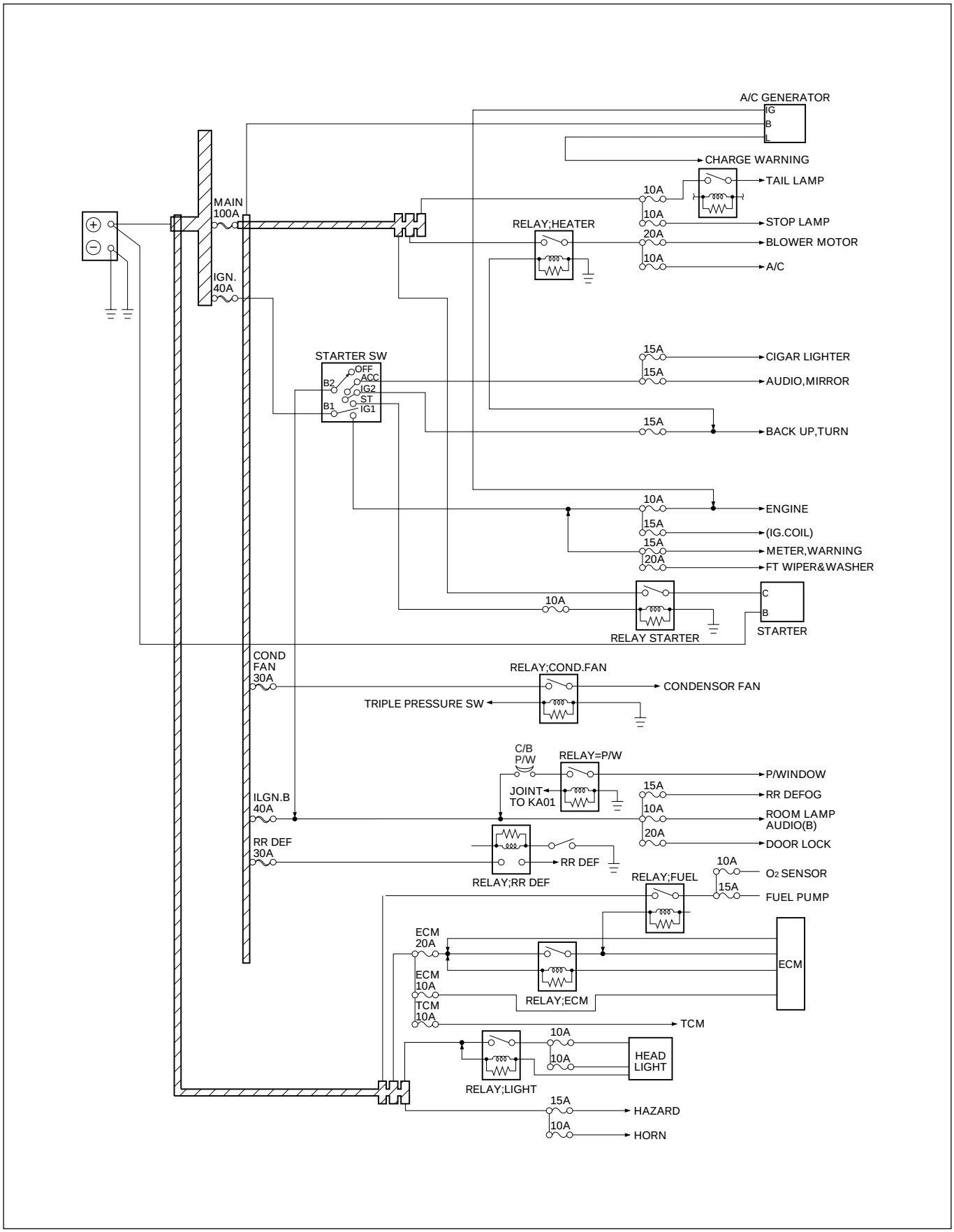
FUSE BLOCK CIRCUIT-1
HEC GASOLINE ENGINE



FUSE BLOCK CIRCUIT-2
4J DIESEL ENGINE



FUSE BLOCK CIRCUIT-3
6VD1 GASOLINE ENGINE



REFERENCE TABLE OF FUSE, FUSIBLE LINK AND CIRCUIT BREAKER

FUSE
(Relay and fuse box)

Fuse No.	Capacity	Indication on lable	Parts(Load)
EB-1	15A	HAZARD	Hazard SW, Flasher unit
EB-2	10A	HORN	Horn relay, Horn SW, Horn
EB-3	20A	BLOWER	Blower motor, Control lever, Blower resistor
EB-4	20A	BLOWER	Blower motor, A/C thermo relay, Blower resistor (DIESEL ENGINE)
	10A	A/C	Pressure SW, A/C SW, Electronic thermostat, Fan SW, Magnetic clutch, A/C thermo relay, A/C relay
EB-5	20A	INJECTOR	Fuel rail, Injector, ECM (HEC ENGINE)
	10A	A/C	Pressure SW, A/C SW, Electronic thermostat, Fan SW, Magnetic clutch, FICD, A/C thermo relay
EB-6	15A	FUEL	Fuel pump
EB-7	10A	O_2 SENSOR	Oxygen sensor
EB-8	10A	HEADLIGHT LH	Headlight-LH, High beam, Indicator light, Dimmer·passing SW
EB-9	10A	HEADLIGHT RH	Headlight-RH, Dimmer·passing SW
EB-10	10A	STOP LIGHT	Stop light SW, Stop light, Highmount Stop light
EB-11	10A	TAIL LIGHT	Tail relay, Clearance light, Tail light, License plate light, Illumination lights, Lighting SW, Meter Panel
EB-12	10A	TAIL LIGHT	Tail relay, Clearance light, Tail light, License plate light, Illumination lights, Lighting SW, Meter Panel
	10A	TCM	TCM (6VD1 ENGINE)
EB-13	10A	ALTERNATOR	ACG (HEC ENGINE)
		TAIL LIGHT-RH	Tail light-RH
		RR FOG LIGHT	Relay RR fog light, RR fog light, Lighting SW
		ECM	ECM Back Up (6VD1)
EB-14	15A	ECM	Relay fuel pump, ECM (HEC ENGINE)
	10A	TAIL LIGHT-LH	Tail light-LH
	20A	ECM	ECM main relay, Fuel pump relay, ECM, Fuel injector, Idle control valve (6VD1 ENGINE)

EB15	40A	IGN-B1	-
EB16	100A	MAIN	-
EB17	40A	IGN-B2	-
EB18	-	-	-
EB19	30A	CONDENSER FAN	-
EB20	-	-	-

FUSE
(Fuse Box)

Fuse No.	Capacity		Indication on lable	Parts(Load)
CB-1	10A		STARTER	Starter relay, Starter
CB-2	-		-	-
CB-3	15A		ENGINE-1	Ignition SW, Coil Module, ECM
CB-4	10A		ENGINE-2	ECM
CB-5	15A	RHD	METER	Meter gauges. Indicator and warning lights, ECM
CB-6	20A	RHD	FRONT WIPER	Windshield wiper&washer SW, Windshield wiper motor, Windshield washer motor, Windshield intermittent relay
CB-7	15A	LHD	METER	Meter gauges. Indicator and warning lights, ECM
CB-8	20A	LHD	FRONT WIPER	Windshield wiper&washer SW, Windshield wiper motor, Windshield washer motor, Windshield intermittent relay
CB-9	-		-	-
CB-10	-		-	-
CB-11	15A		BACK UP, TURN	Control unit, Hazard SW, Back up light SW(M/T),Back up light
CB-12	10A	LHD	(SEAT HEATER)	-
CB-13	15A		(RR DEFOG.)	RR defogger relay, RR defogger SW, RR defogger
CB-14	10A		DOME LIGHT	Dome light, Spot light, Door SW, Audio Clock
CB-15	20A		(DOOR LOCK)	FRT power window&door lock SW-driver side, Door lock SW-driver side, Door lock actuator
CB-16	-		-	-
CB-17	-		-	-
CB-18	-		-	-
CB-19	15A		AUDIO	Audio
CB-20	15A		CIGAR	Cigaretter lighter, Clock
CB-21	-		-	-
CB-22	-		-	-
CB-23	-		-	-
CB-24	-		-	-

FUSIBLE LINK
(Relay and fuse box)

Fusible link No.	Capacity	Indication on label	Remarks
EB-15	40A	IGN-B1	-
EB-16	80A	MAIN	-
	100A	MAIN	-
EB-17	40A	IGN-B2	-
EB-18	30A	RR DEF	6VD1
EB-19	30A	CONDENSER FAN	-
EB-20	-	-	-

CIRCUIT BREAKER
(Fuse box)

Circuit breaker No.	Capacity	Indication on label	Parts(Load)
B-31	30A	(POWER WINDOW)	Power window & door lock SW, Power window motor, Power window relay

GROUNDING POINT

REFERENCE TABLE
(LHD)

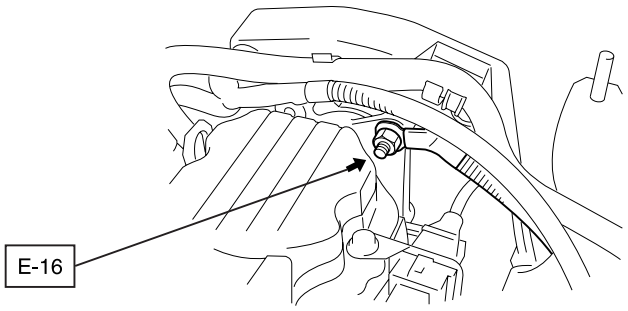
Connector No.	Cable harness	Location	Parts (Load)
B-9	Body harness	Body-RH	Fan SW, FRT power window & door lock SW-passenger side, Key light & seat belt remind buzzer
B-28		Body-LH	Turn signal indicator light, Illumination light (Meter, Heater & A/C control panel, Cigarette lighter, RR defogger SW, Audio, Hazard SW), FRT power window & door lock SW-driver side, RR power window SW, Power window relay, Door mirror control SW, RR defogger, RR defogger SW, Door lock SW-driver side, Audio, Clock, Cigarette lighter, High mounted stop light, Seat belt SW (For Gulf only)
B-34		RR Body-RH	Tail light, license plate light, Backup light, RR turn signal light, stop light, Fuel pump, Fuel tark unit
C-2	Engine room harness	Fender-RH	Heater relay, Dimmer·passing SW, Lighting SW, Condenser fan relay, O_2 Sensor, Starter relay, Radiator level sensor, Radiator level control unit, Windshield intermittent relay, Windshield wiper motor, Side turn signal light-RH, 4WD SW
C-36		Fender-LH	Vehicle speed sensor, Speed warning buzzer (Gulf), Speedometer, Fuel tank unit, Brake fluid level SW, Tachometer (W/Tachometer), Fuel gauge, Clearance light, Seat belt SW (Gulf), Windshield washer motor, Flasher unit, Side turn signal light-LH, FRT turn signal light, Engine coolant temperature gauge (W/Tachometer)
C-95		Engine-RH	Condenser fan
C-94		Engine-LH	Speed warning buzzer (Gulf), Speedometer, Tachometer (W/Tachometer), Fuel gauge, Engine coolant temperature gauge (W/Tachometer)
E-10	Engine harness	Engine	Under the Intake manifold
E-16			Head of Cylinder head
E-72	Engine harness	Common character: RH	Data link connector, ECM, Crank angle sensor
E-73			Ignition coil, ECM
E-74		Common character: LH	Ignition coil, ECM, MAF sensor shield, Cam angle sensor shield, Throttle position sensor shield
P-7	Battery harness	Body-RH	Right side of body
P-10		Body-RH	Right side of engine

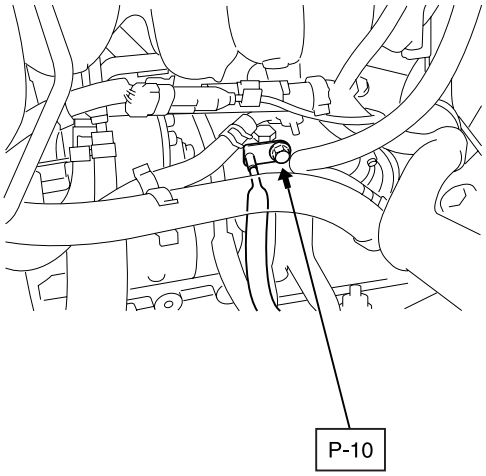
GROUNDING POINT

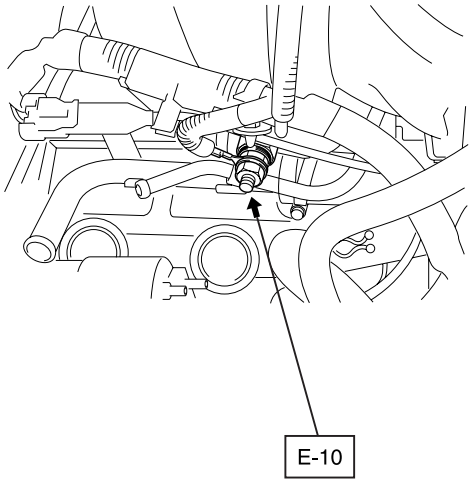
REFERENCE TABLE
(RHD)

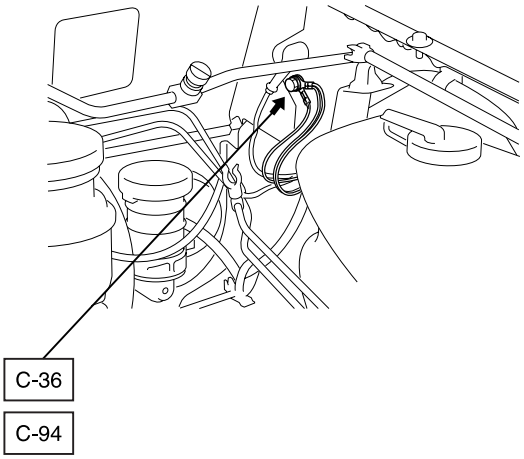
Connector No.	Cable harness	Location	Parts (Load)
B-9	Body harness	Body-LH	Fan SW, FRT power window & door lock SW-passenger side, RR power window SW, Key, light & seat belt remind buzzer (SOUTH AFRICA)
B-28		Body-RH	Illumination light (meter, Heater & A/C control panel, Cigarette lighter, Ashtray, RR defogger SW, Audio, Hazard SW), Turn signal indicator light, FRT power window & door lock SW-driver side, Power window relay, Door mirror control SW, RR defogger, RR defogger SW, Door lock SW-driver side, Audio, Clock, Cigarette lighter
B-34		RR Body-RH	Fuel tank unit, Tail light, License plate light, Fuel pump, Stop light, RR turn signal light, Back up light
C-2	Engine room harness	Fender-RH	Vehicle speed sensor, 4WD SW, Brake fluid level SW, Heater relay, Dimmer·passing SW, Lighter SW, Starter relay, Windshield intermittent relay, Windshield wiper motor, Flasher unit, Side turn signal light-RH, Condenser fan relay
C-36		Fender-LH	Clearance light, Seat belt SW (SOUTH AFRICA), Windshield washer motor, Side turn signal light-LH, FRT turn signal light
C-95		Engine-RH	Condenser fan
C-94		Engine-LH	Speedometer, Tachometor (W/Tachometer), Engine coolant temperature gauge (W/Tachometer), Fuel gauge
E-10	Engine harness	Engine	Under the Intake manifold
E-16			Head of cylinder head
E-72	Engine harness	Common character: RH	Data link connector, ECM, Crank angle sensor
E-73			Ignition coil, ECM
E-74		Common character: LH	Ignition coil, ECM, MAF sensor shield, Cam angle sensor shield, Throttle position sensor shield
P-7	Battery harness	Body-RH	Right side of body
P-10		Body-RH	Right side of Engine

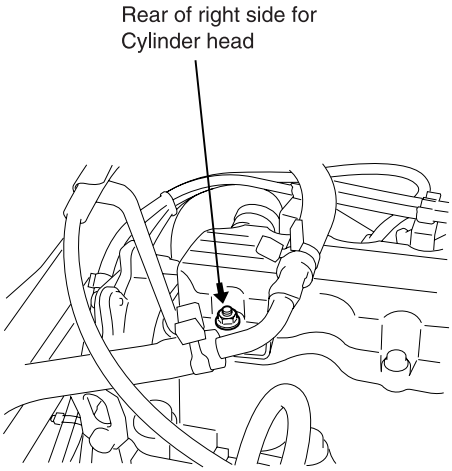
LOCATION

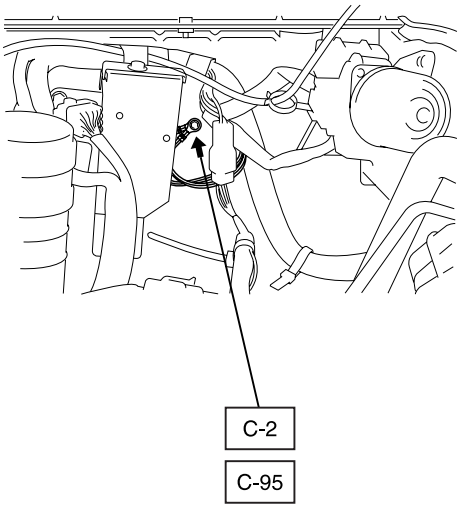

E-16

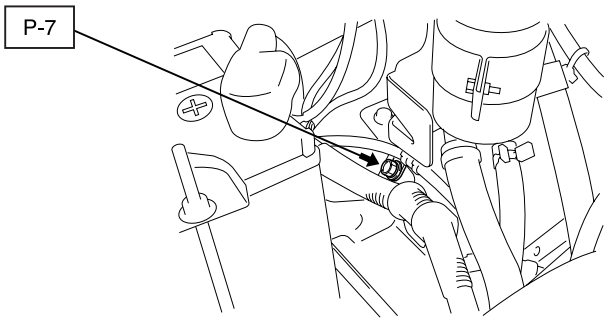

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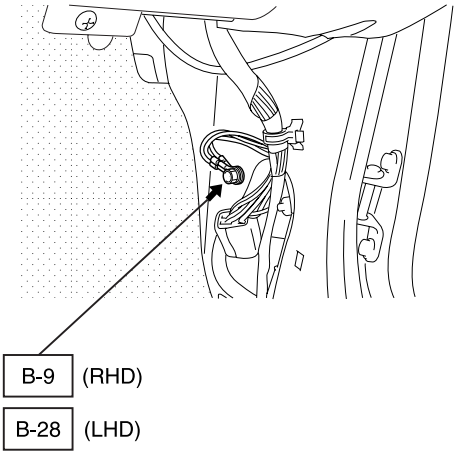

E-10

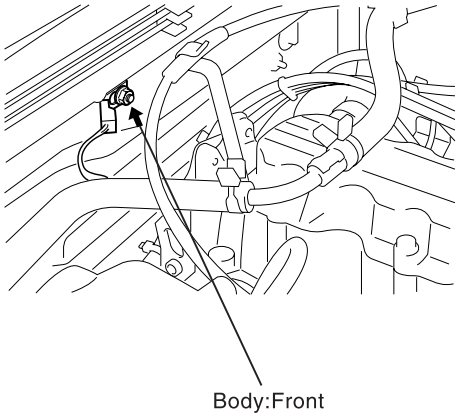

C-36
C-94

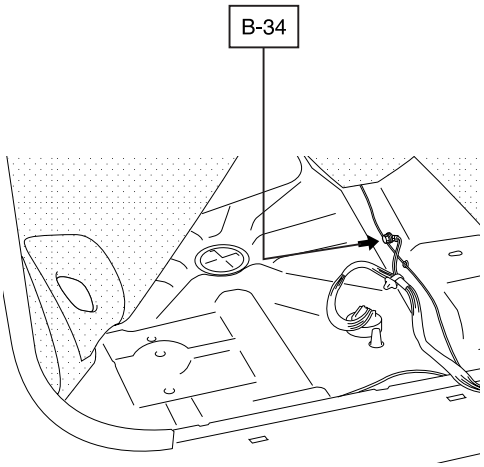

Rear of right side for
Cylinder head

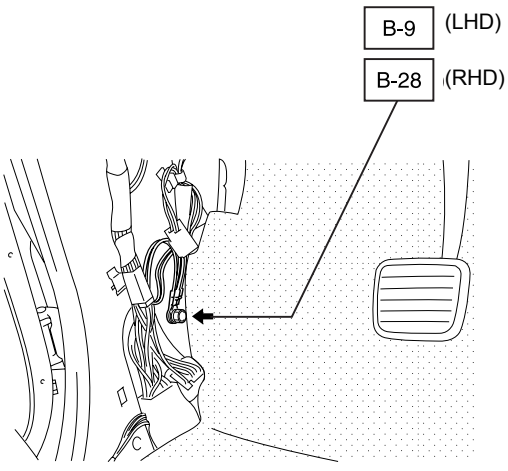

C-2
C-95

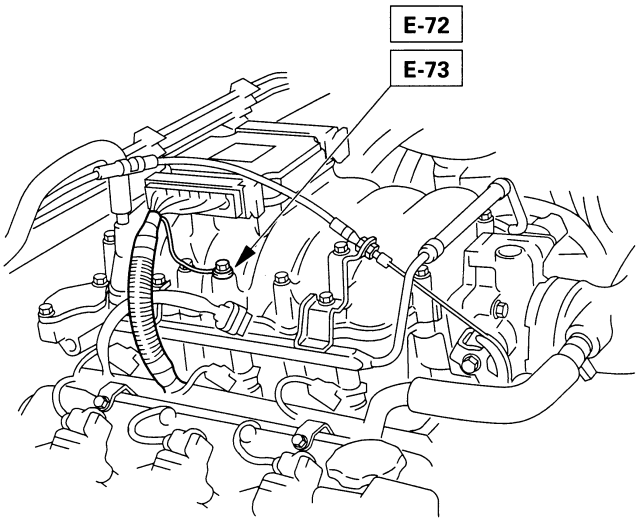

P-7

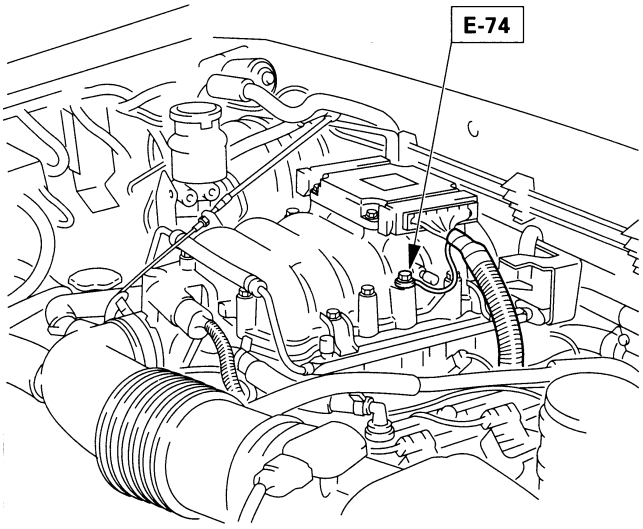

B-9 (RHD)
B-28 (LHD)


Body:Front


B-34

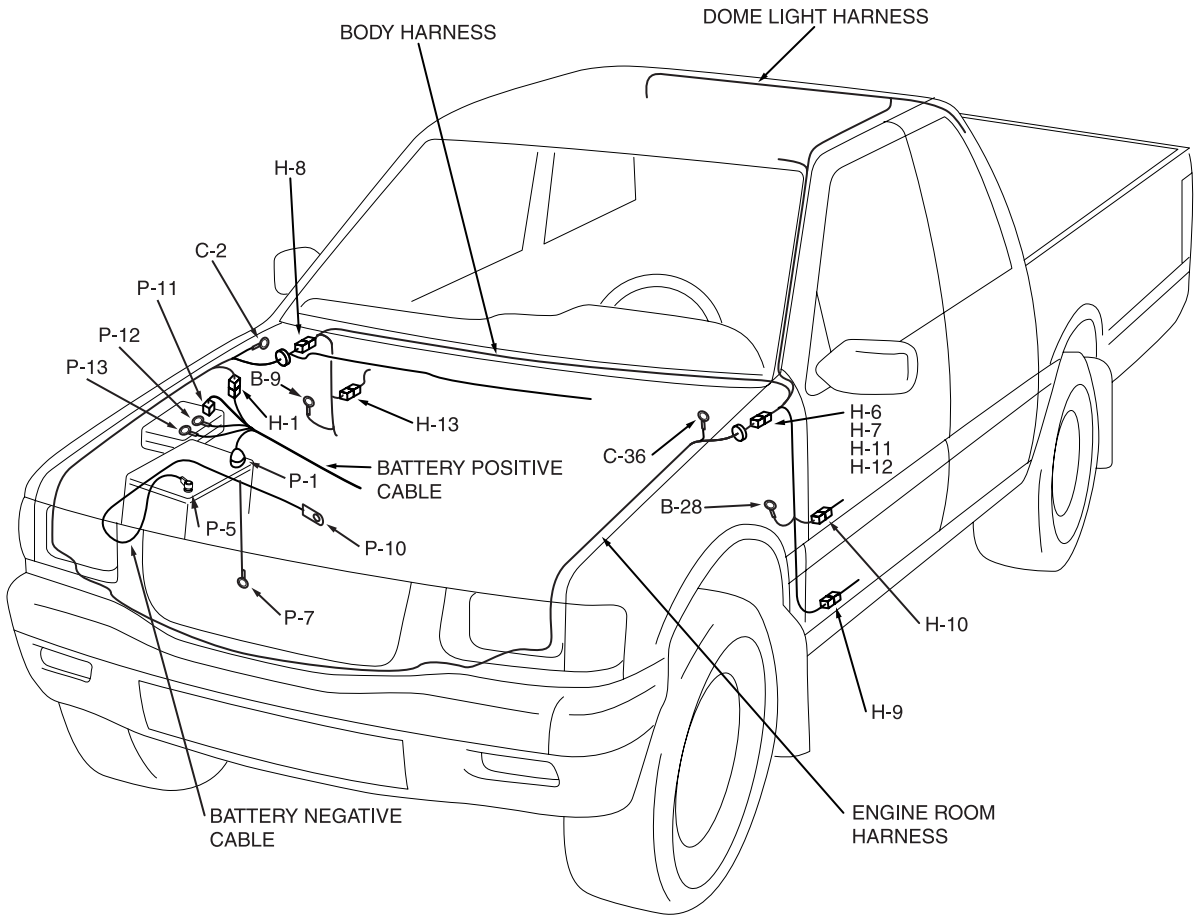

B-9 (LHD)
B-28 (RHD)


E-72
E-73

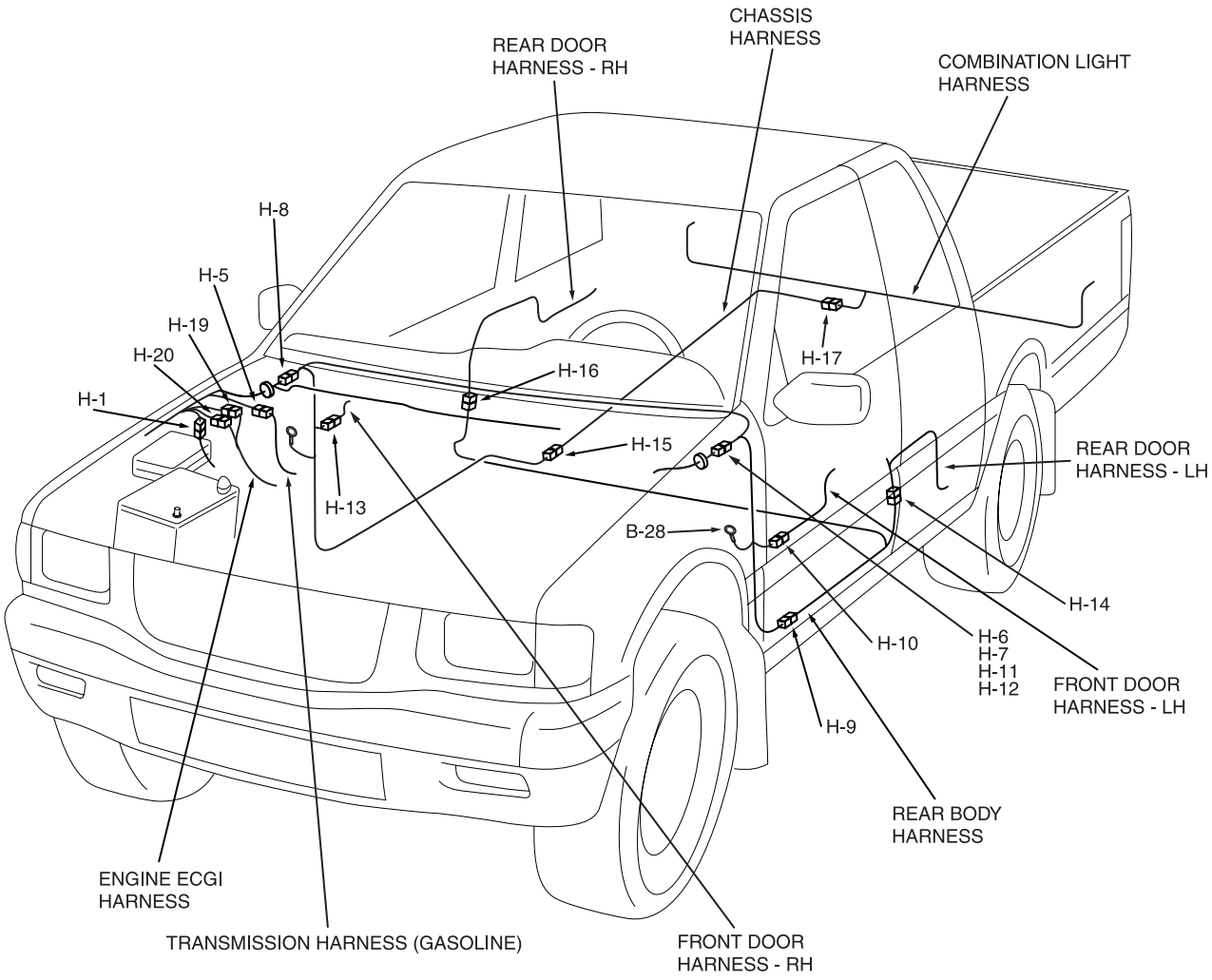

E-74

MAIN CABLE HARNESS ROUTING

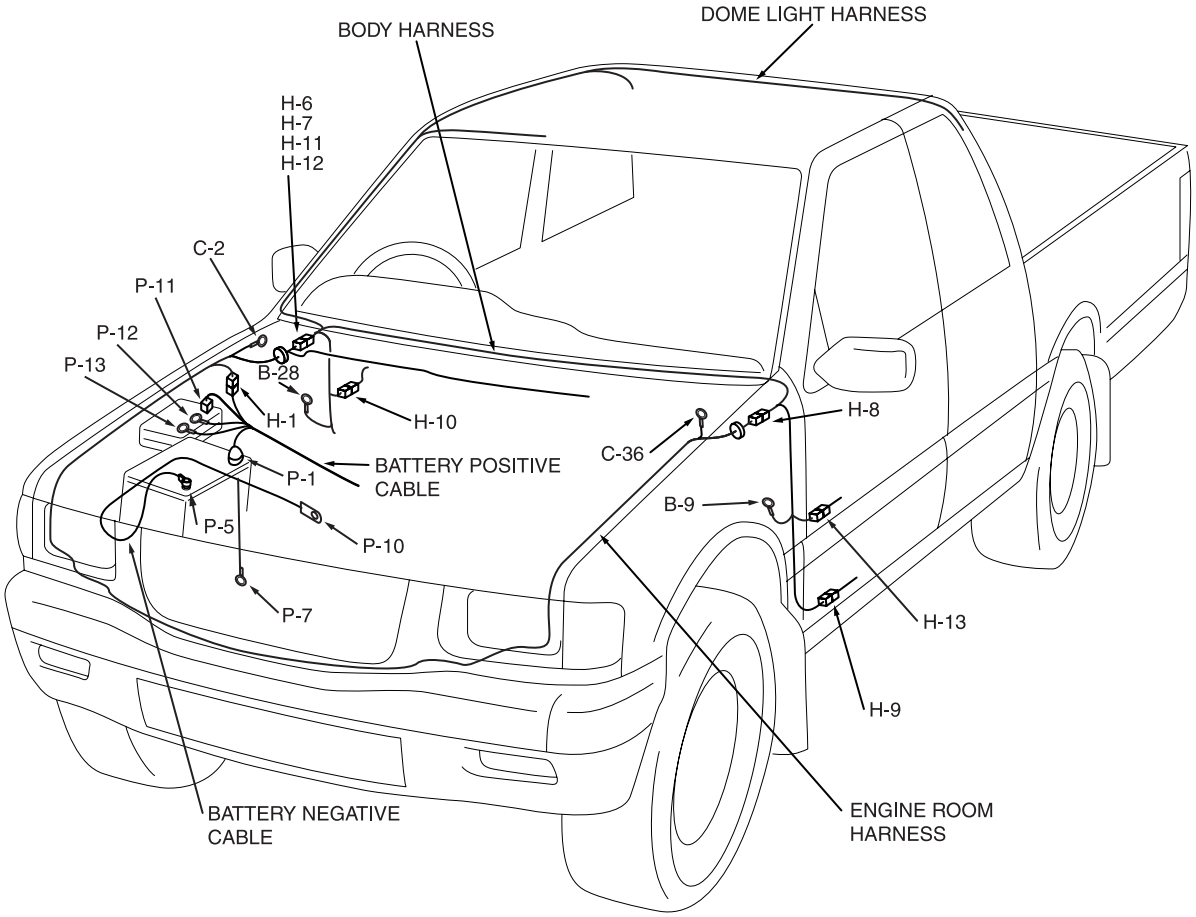
(HEC ENGINE-LHD)



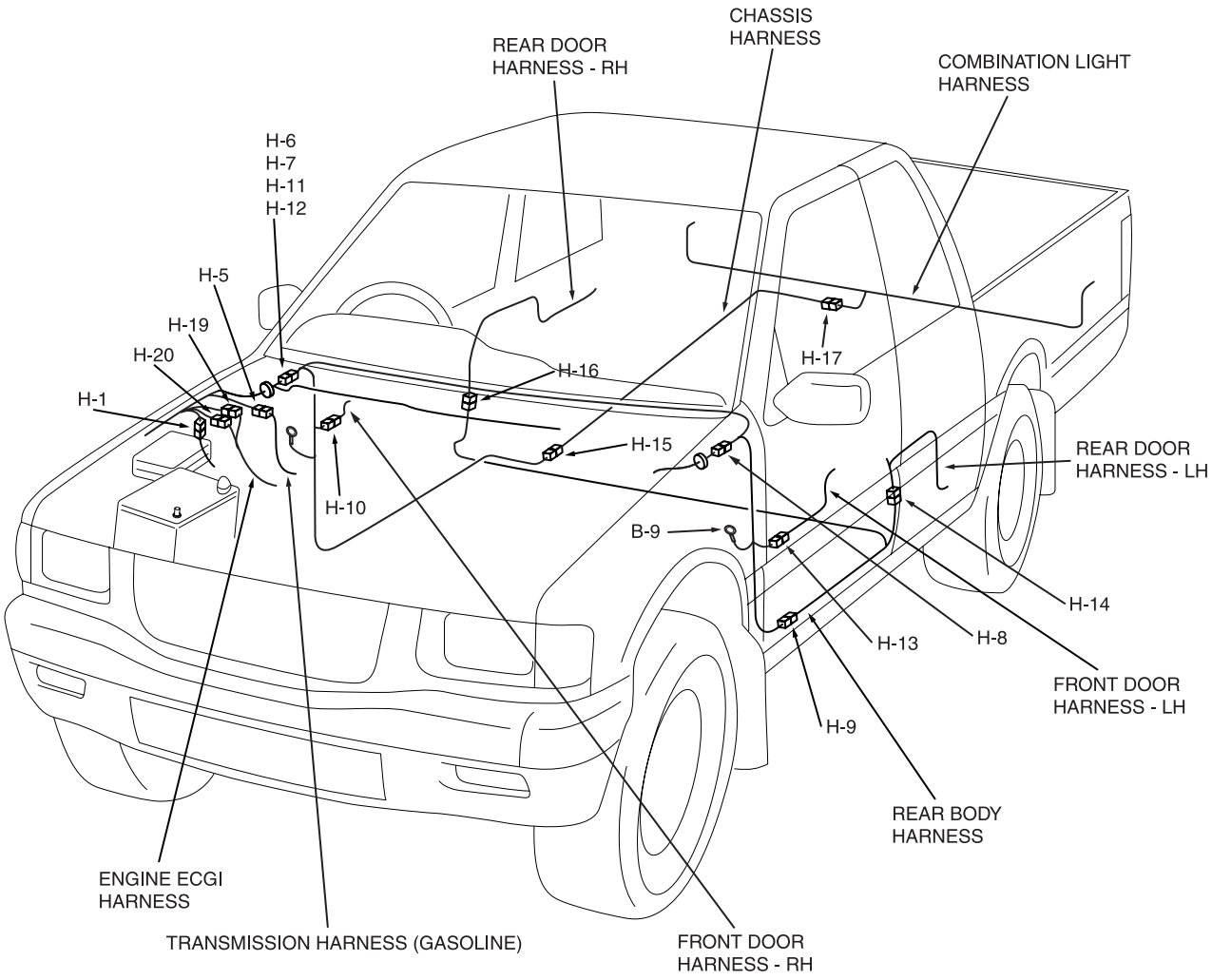
(HEC ENGINE-LHD)



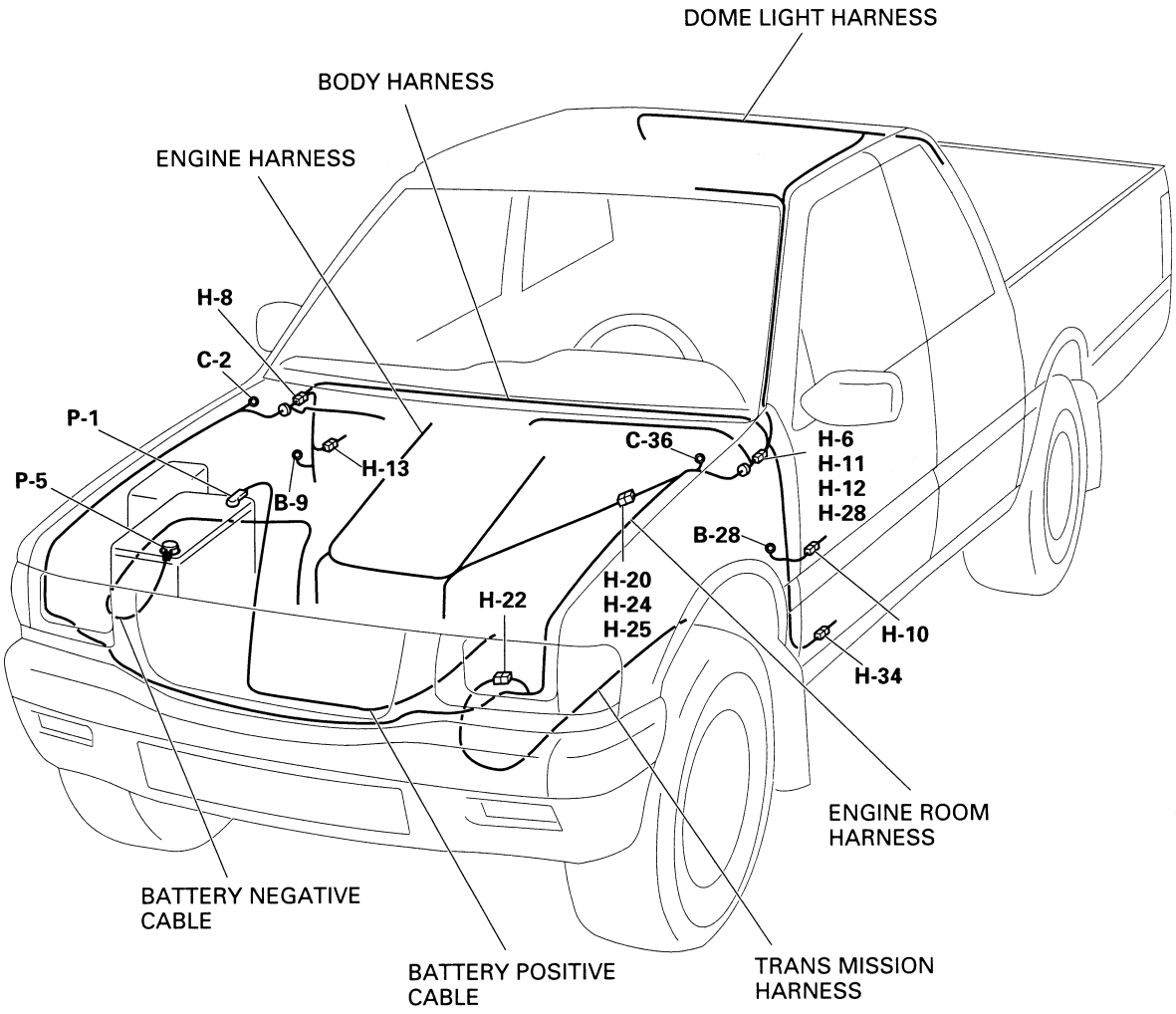
(HEC ENGINE-RHD)



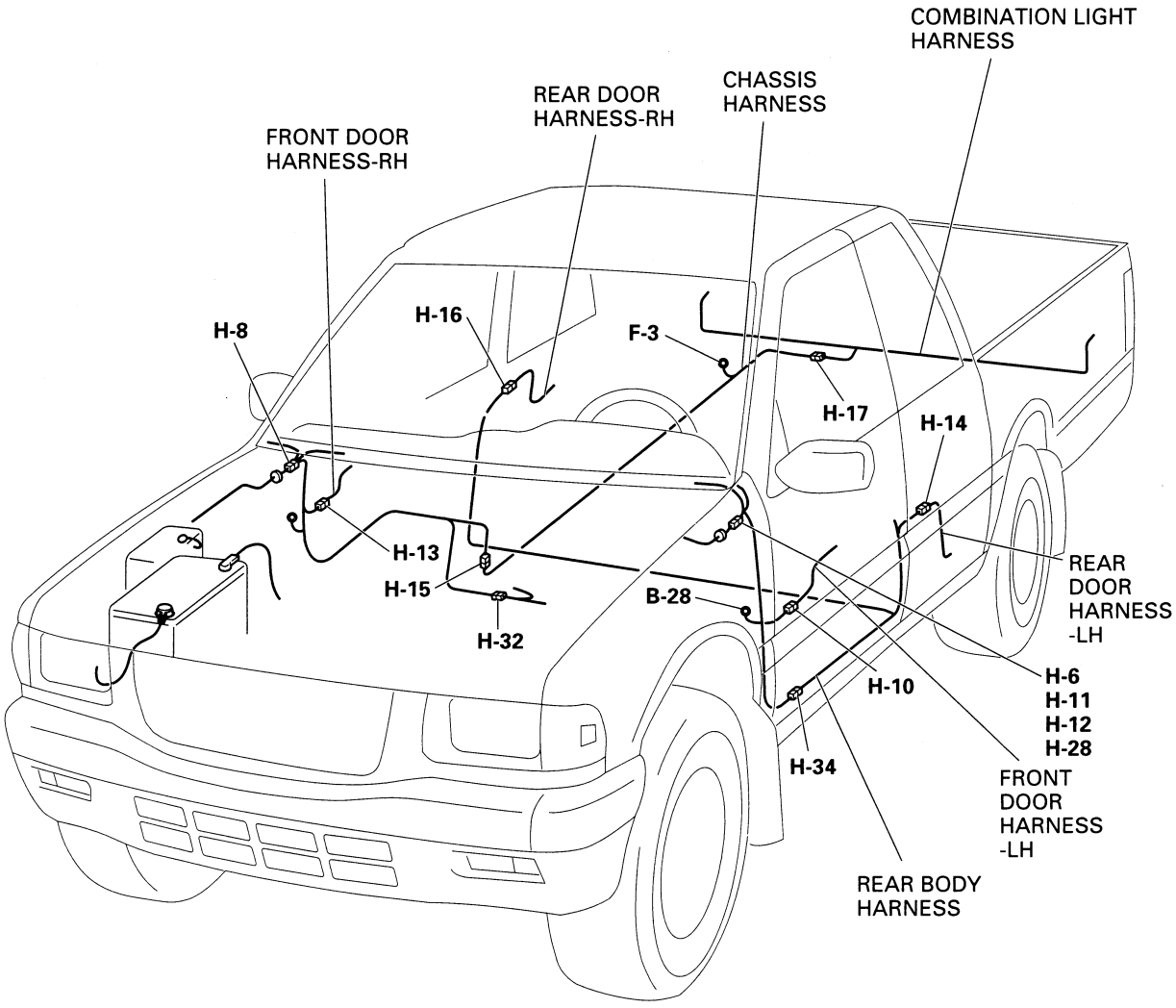
(HEC ENGINE-RHD)



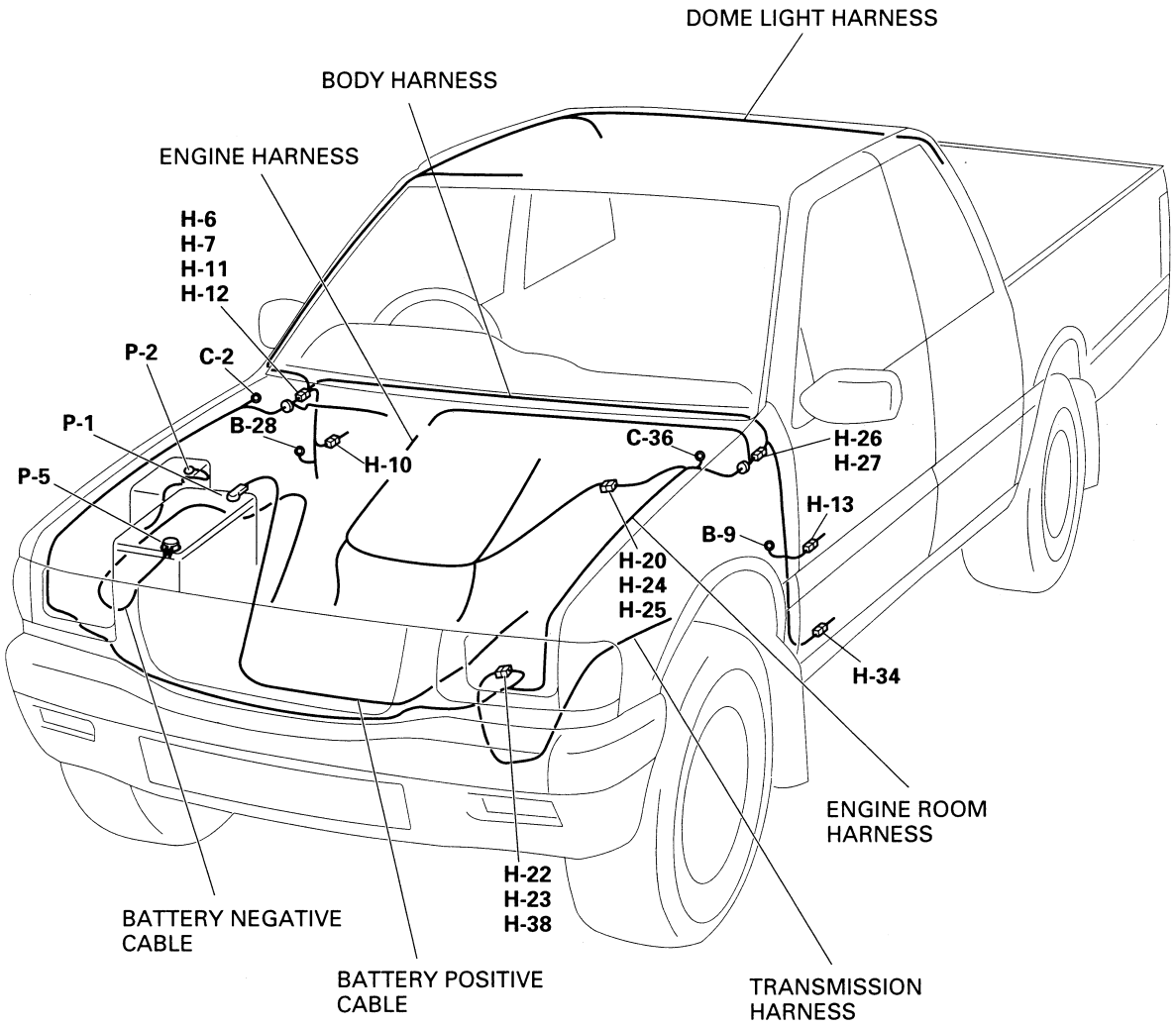
(LHD-6VD1)


DOME LIGHT HARNESS
BODY HARNESS
ENGINE HARNESS
H-8
C-2
P-1
P-5
B-9
H-13
C-36
H-6
H-11
H-12
H-28
B-28
H-20
H-24
H-25
H-22
H-10
H-34
ENGINE ROOM HARNESS
BATTERY NEGATIVE CABLE
BATTERY POSITIVE CABLE
TRANS MISSION HARNESS

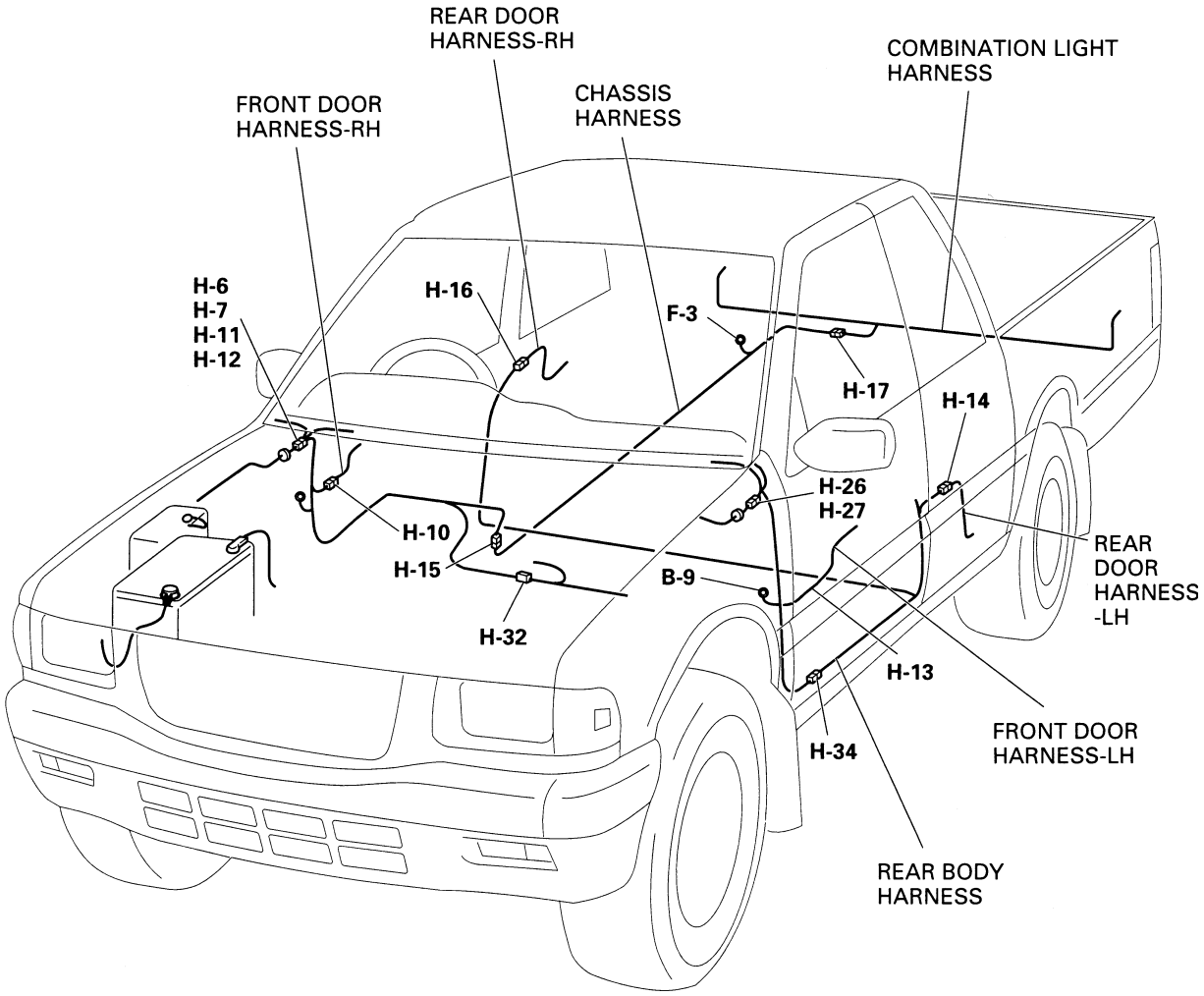
(LHD-6VD1)


COMBINATION LIGHT HARNESS
CHASSIS HARNESS
REAR DOOR HARNESS-RH
FRONT DOOR HARNESS-RH
H-8
H-16
F-3
H-17
H-14
H-13
H-15
H-32
B-28
REAR DOOR HARNESS -LH
H-6
H-11
H-12
H-28
H-10
H-34
FRONT DOOR HARNESS -LH
REAR BODY HARNESS

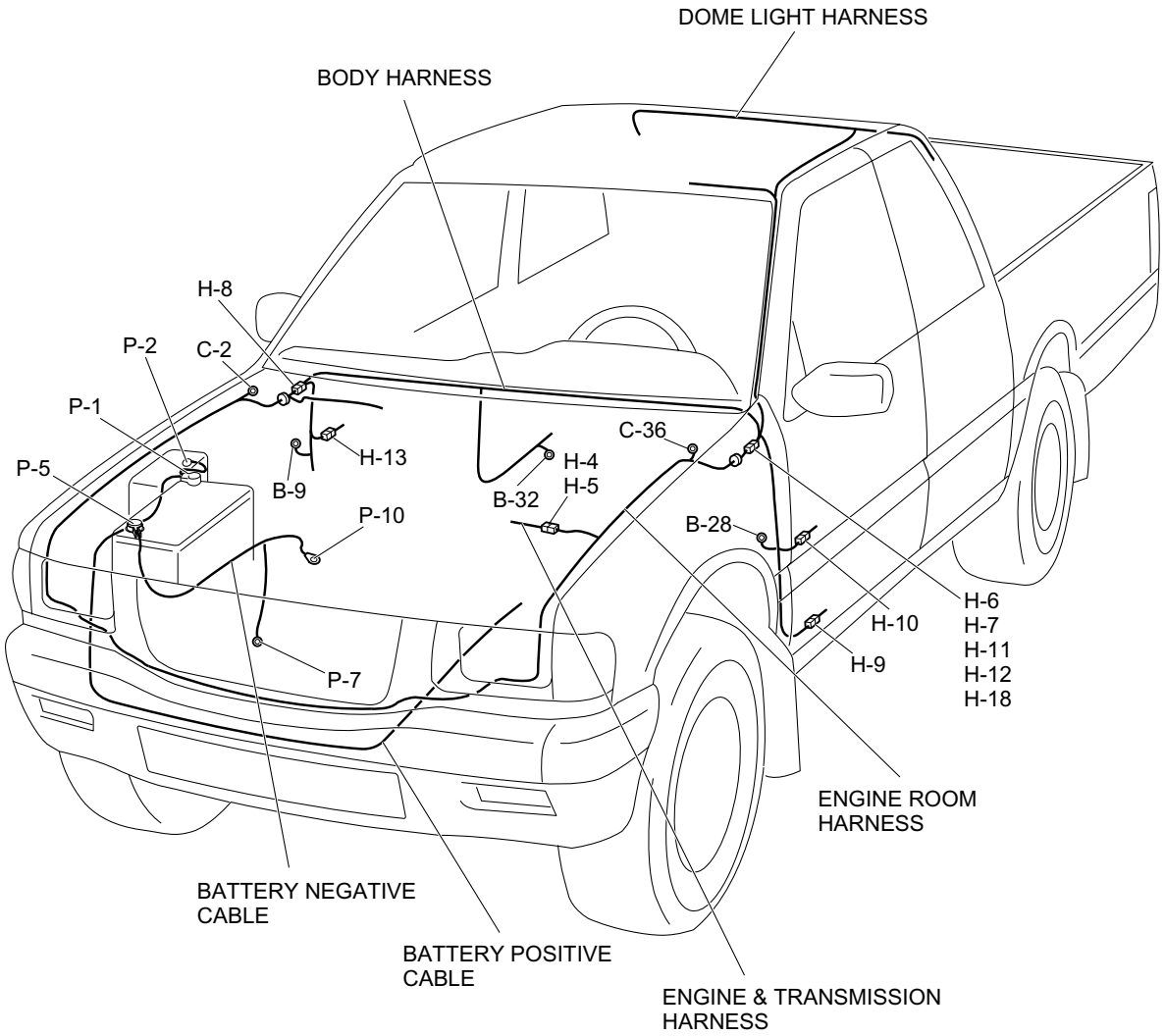
(RHD-6VD1)


DOME LIGHT HARNESS
BODY HARNESS
ENGINE HARNESS
H-6
H-7
H-11
H-12
P-2
C-2
P-1
B-28
H-10
P-5
C-36
H-26
H-27
H-13
B-9
H-20
H-24
H-25
H-34
ENGINE ROOM HARNESS
H-22
H-23
H-38
BATTERY NEGATIVE CABLE
BATTERY POSITIVE CABLE
TRANSMISSION HARNESS

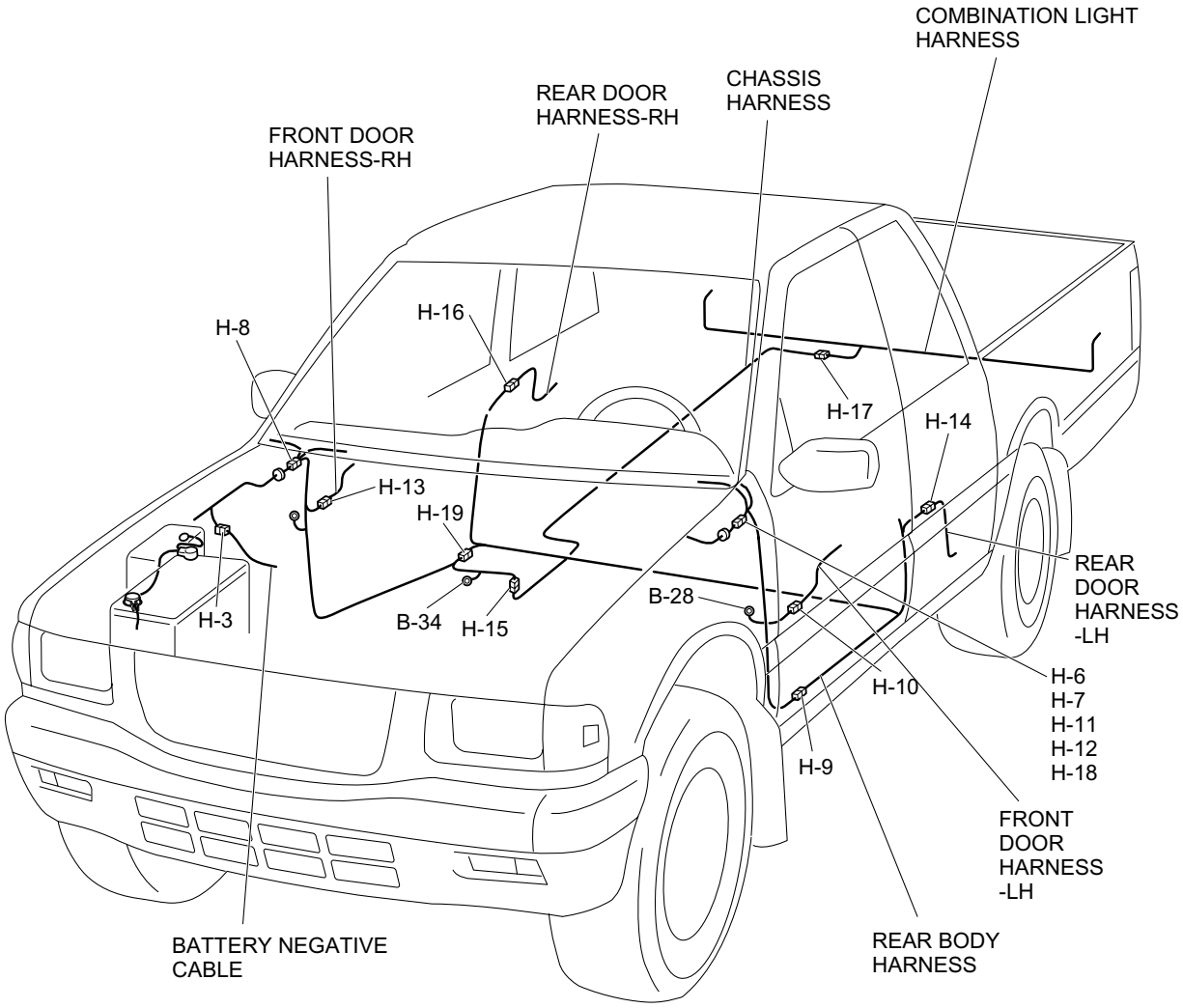
(RHD-6VD1)


REAR DOOR
HARNESS-RH
COMBINATION LIGHT
HARNESS
FRONT DOOR
HARNESS-RH
CHASSIS
HARNESS
H-6
H-7
H-11
H-12
H-16
F-3
H-17
H-14
H-26
H-27
H-10
H-15
H-32
B-9
REAR
DOOR
HARNESS
-LH
H-13
FRONT DOOR
HARNESS-LH
H-34
REAR BODY
HARNESS

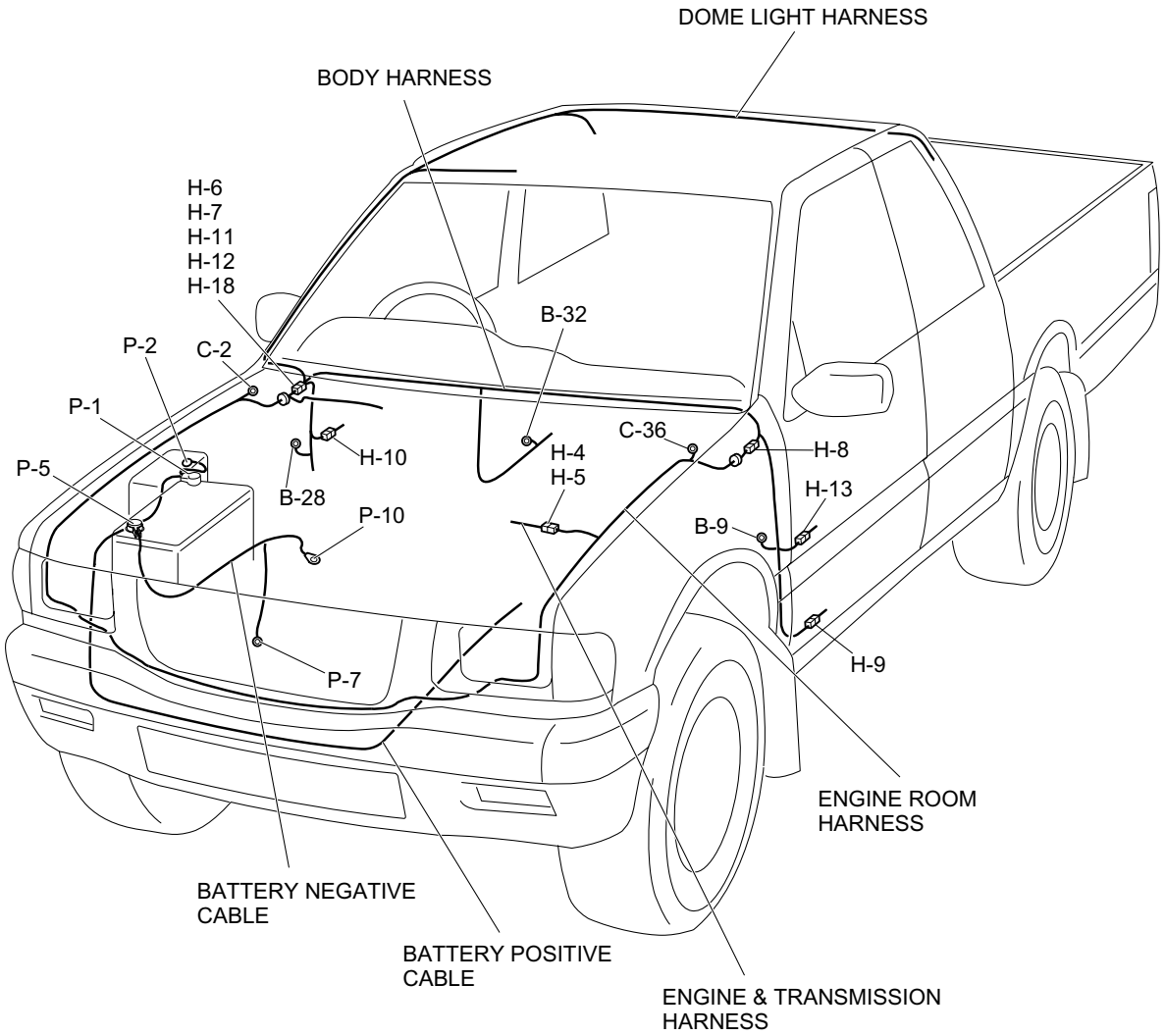
(4J ENGINE-LHD)



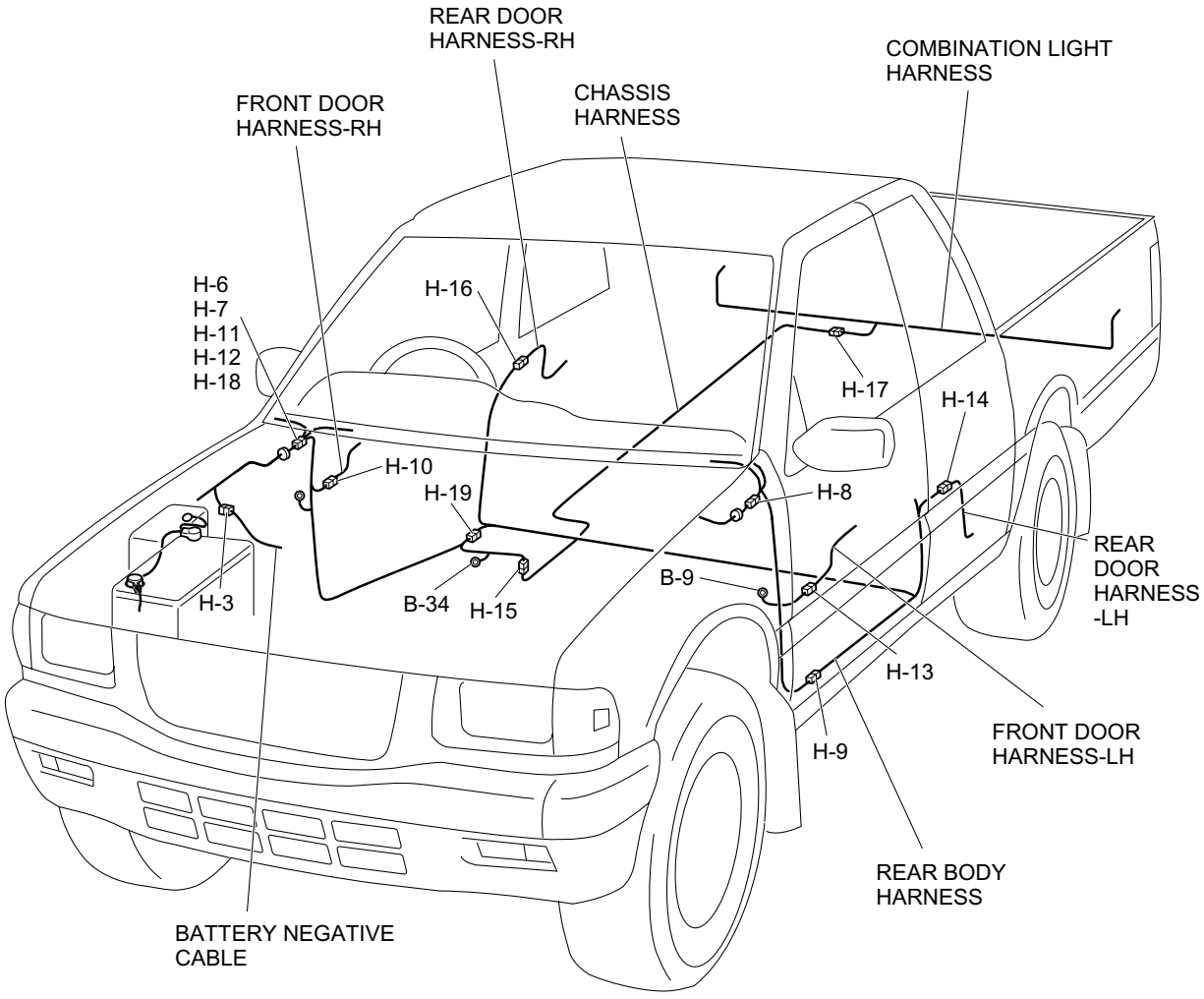
(4J ENGINE-LHD)



(4J ENGINE-RHD)



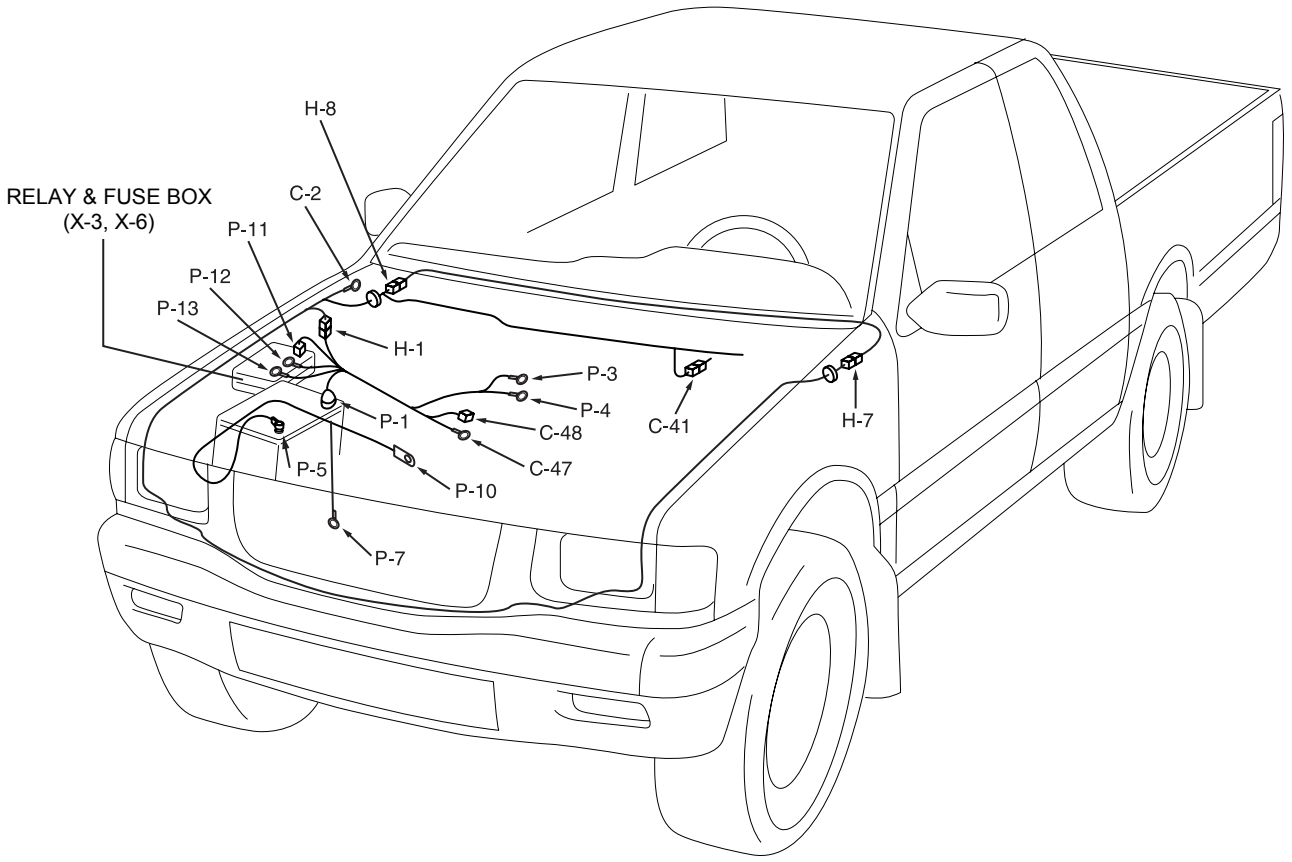
(4J ENGINE-RHD)



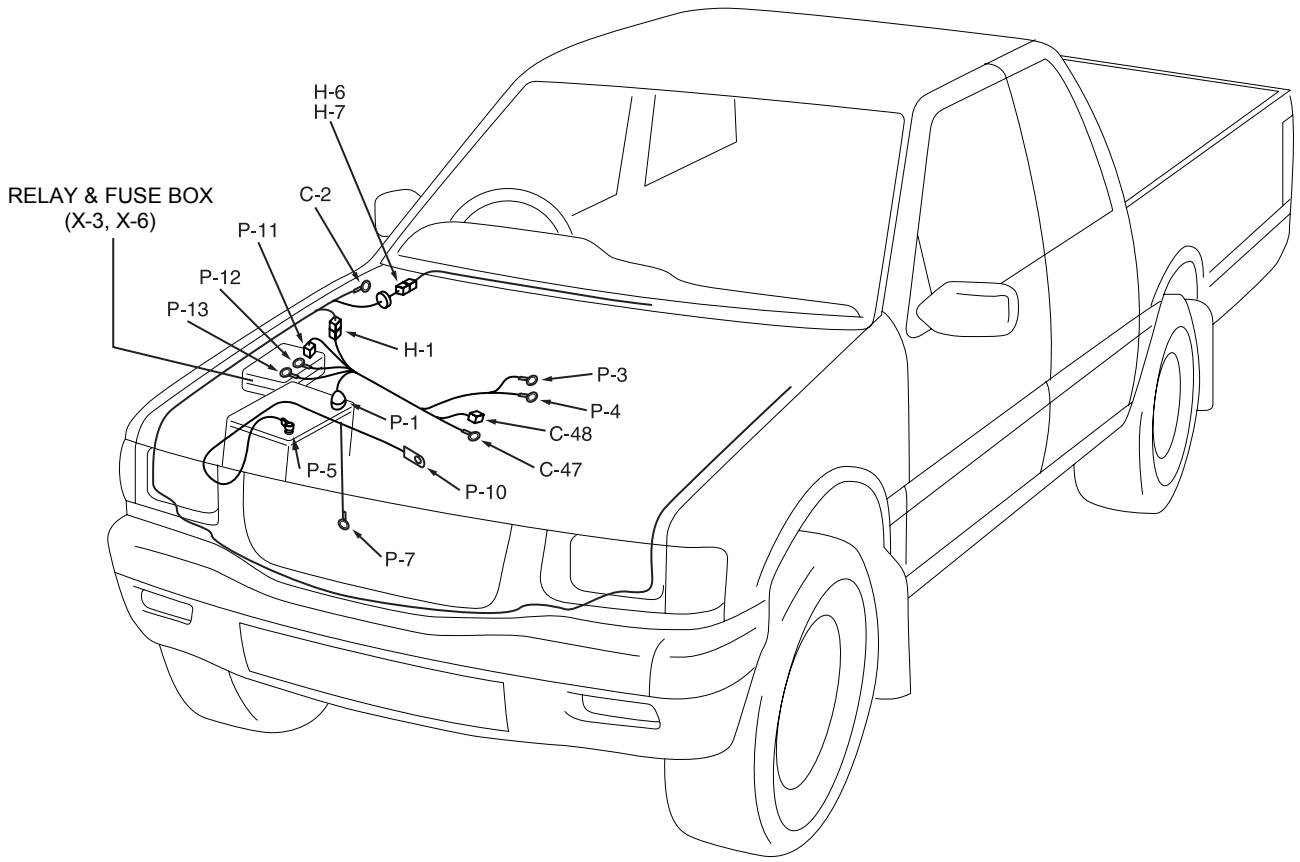
SYSTEM REPAIR

START AND CHARGING

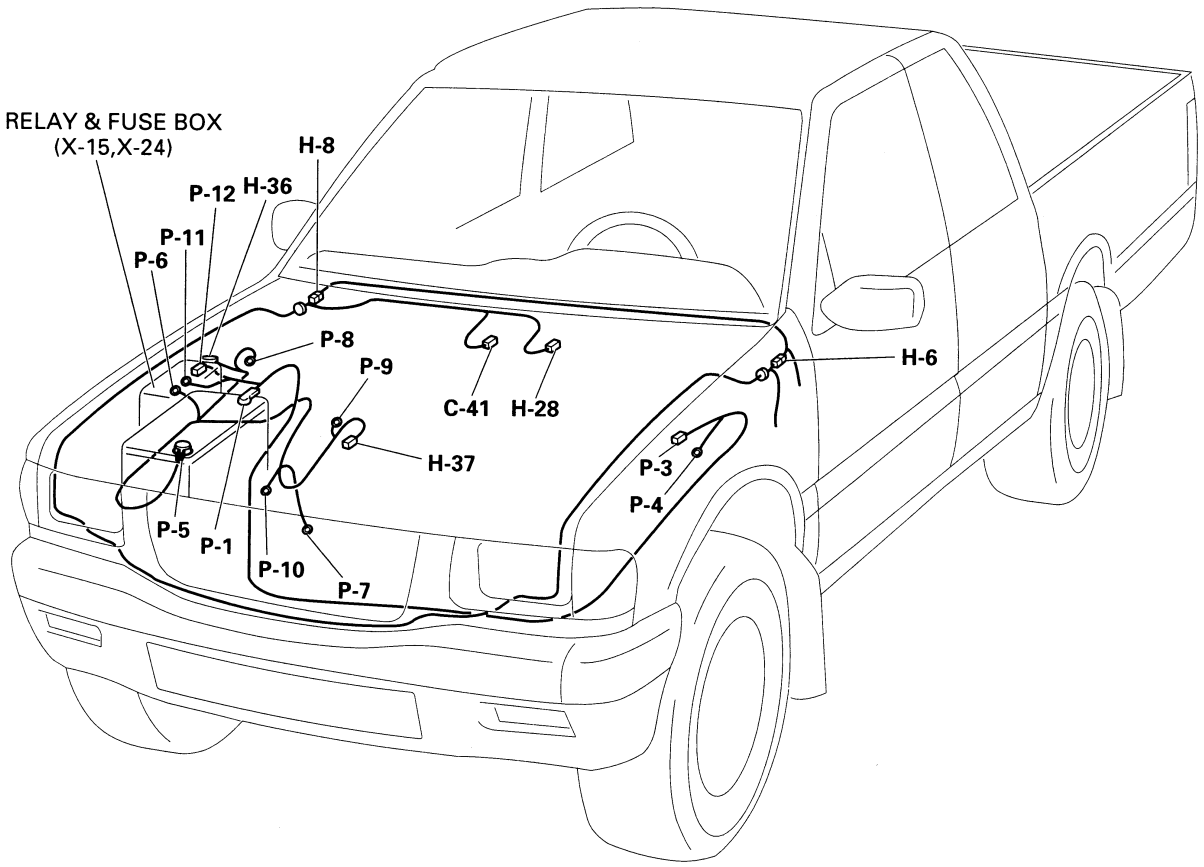
PARTS LOCATION (HEC ENGINE-LHD)



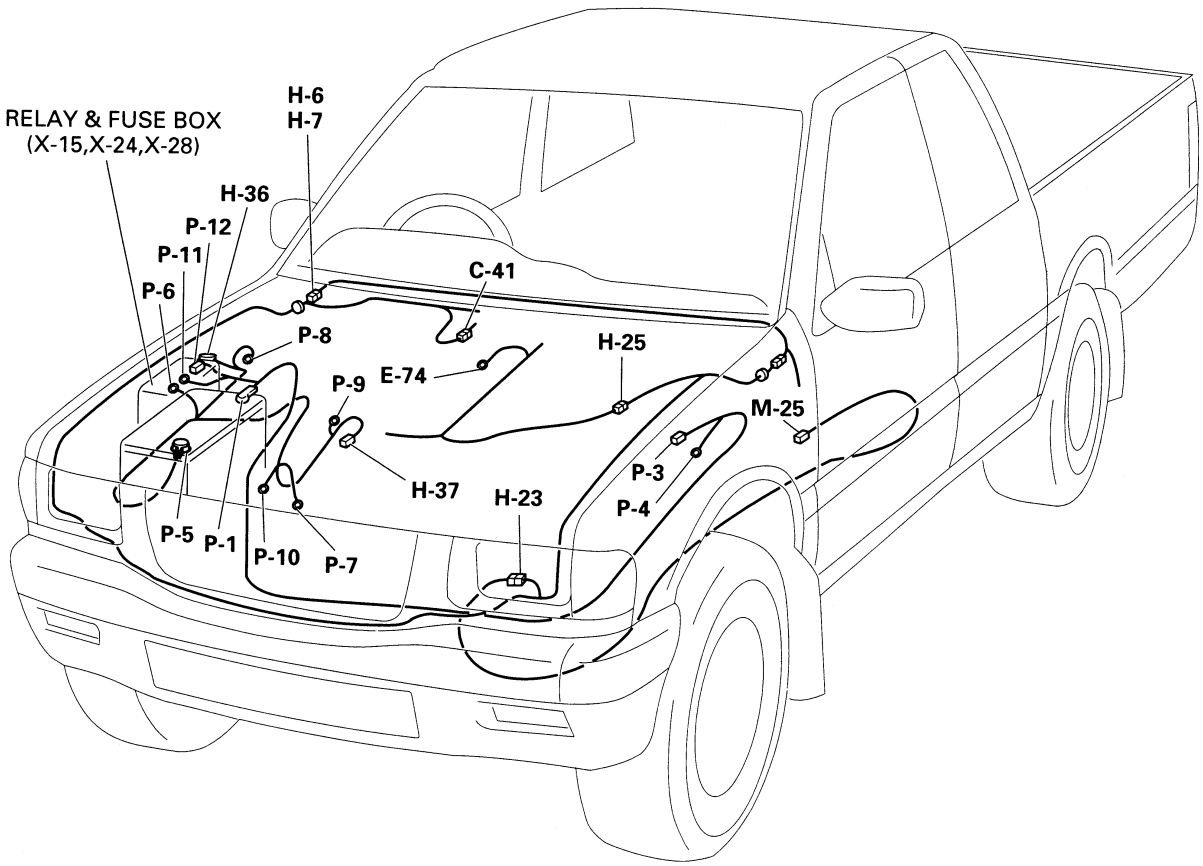
PARTS LOCATION (HEC ENGINE-RHD)



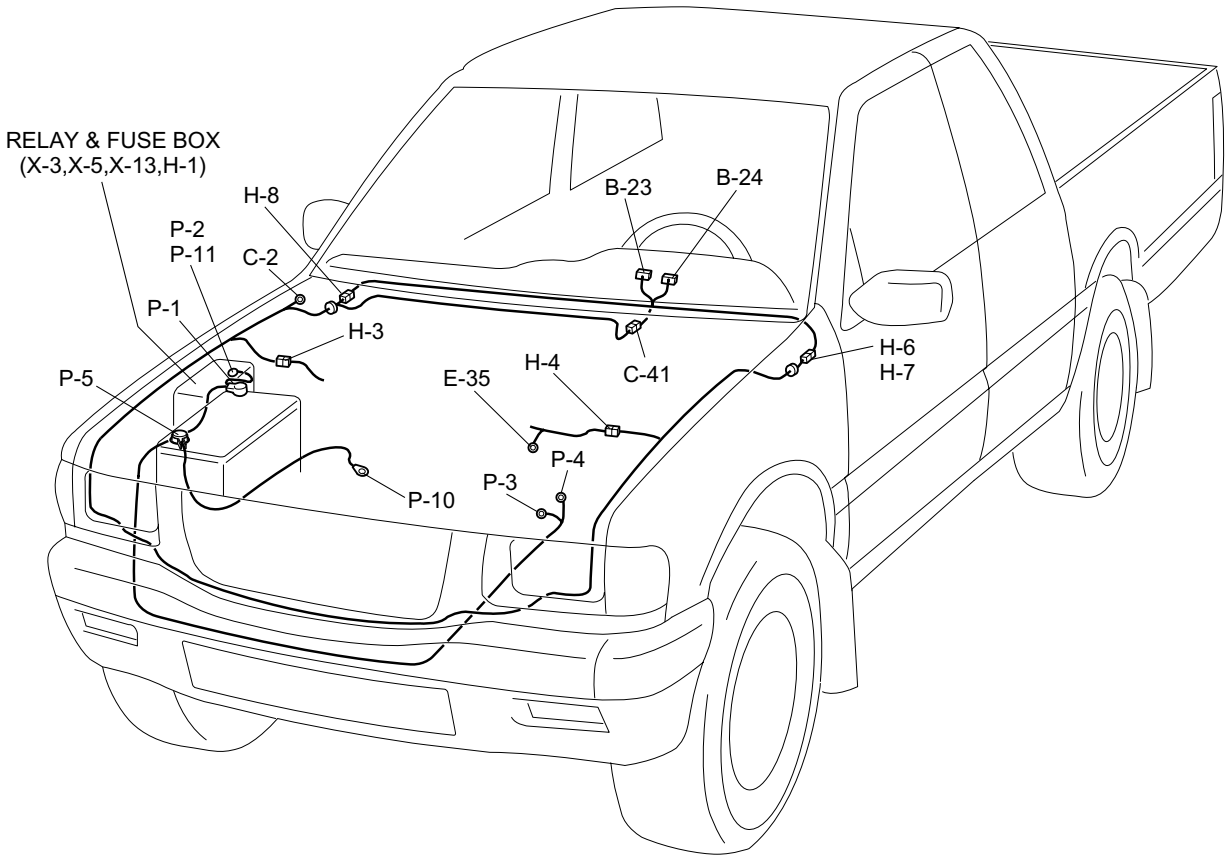
PARTS LOCATION (6VD1 GASOLINE ENGINE-LHD)



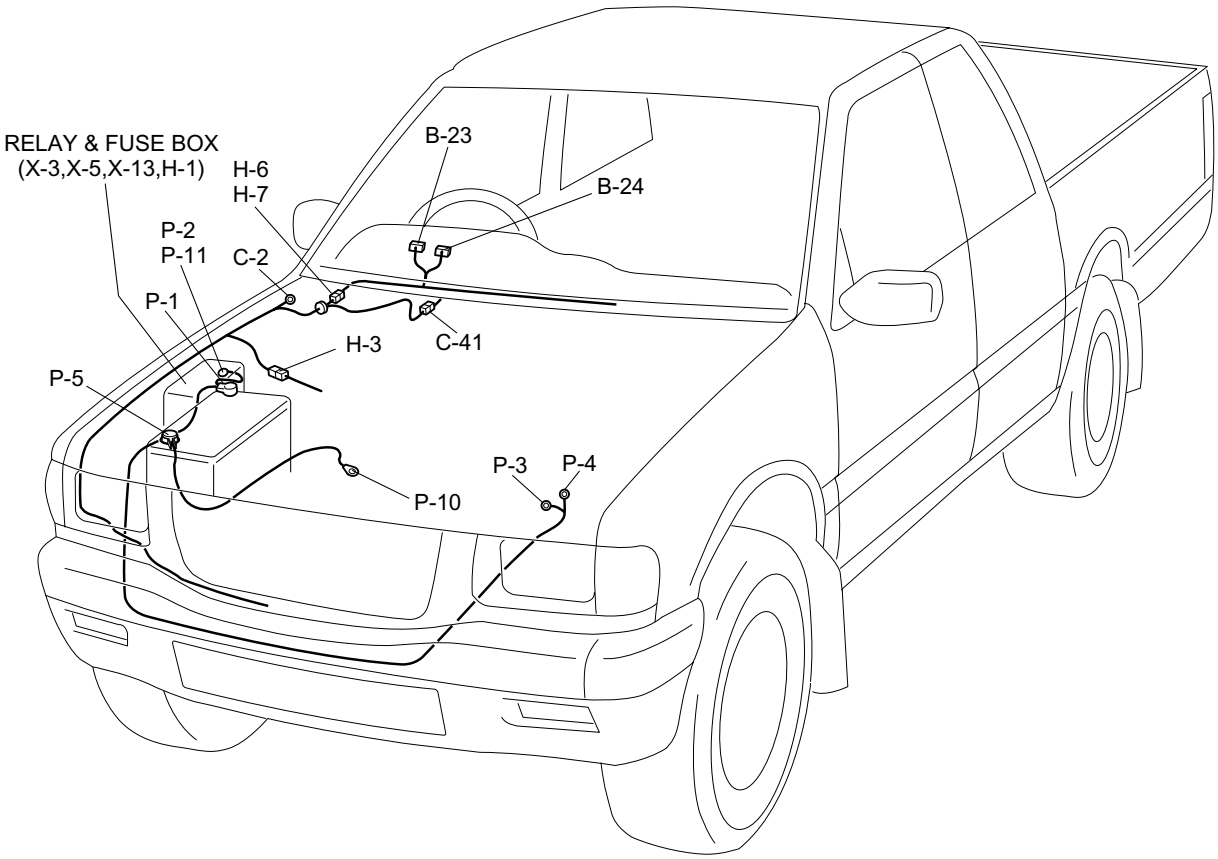
PARTS LOCATION (6VD1 GASOLINE ENGINE-RHD)



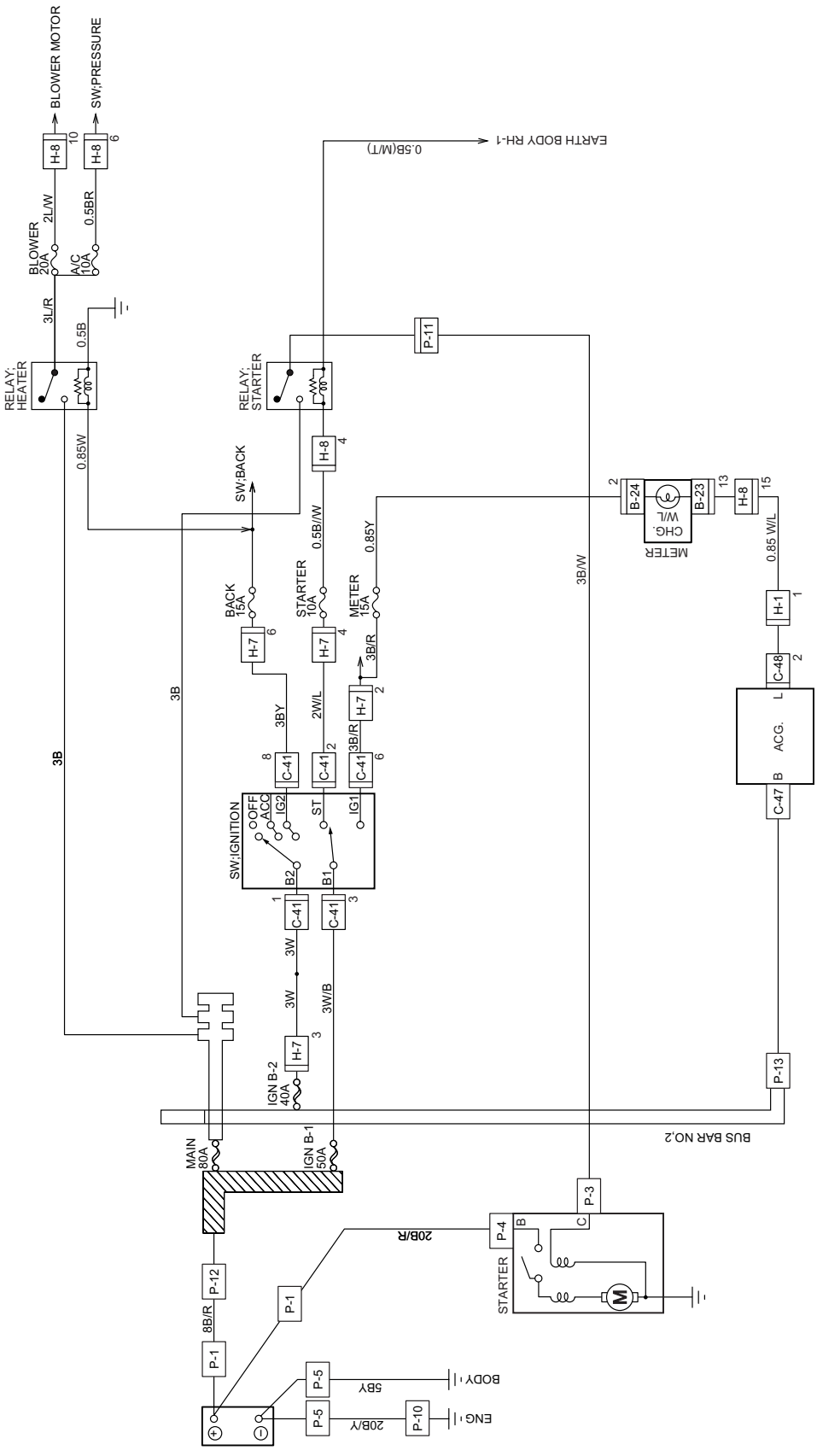
PARTS LOCATION (4J ENGINE-LHD)



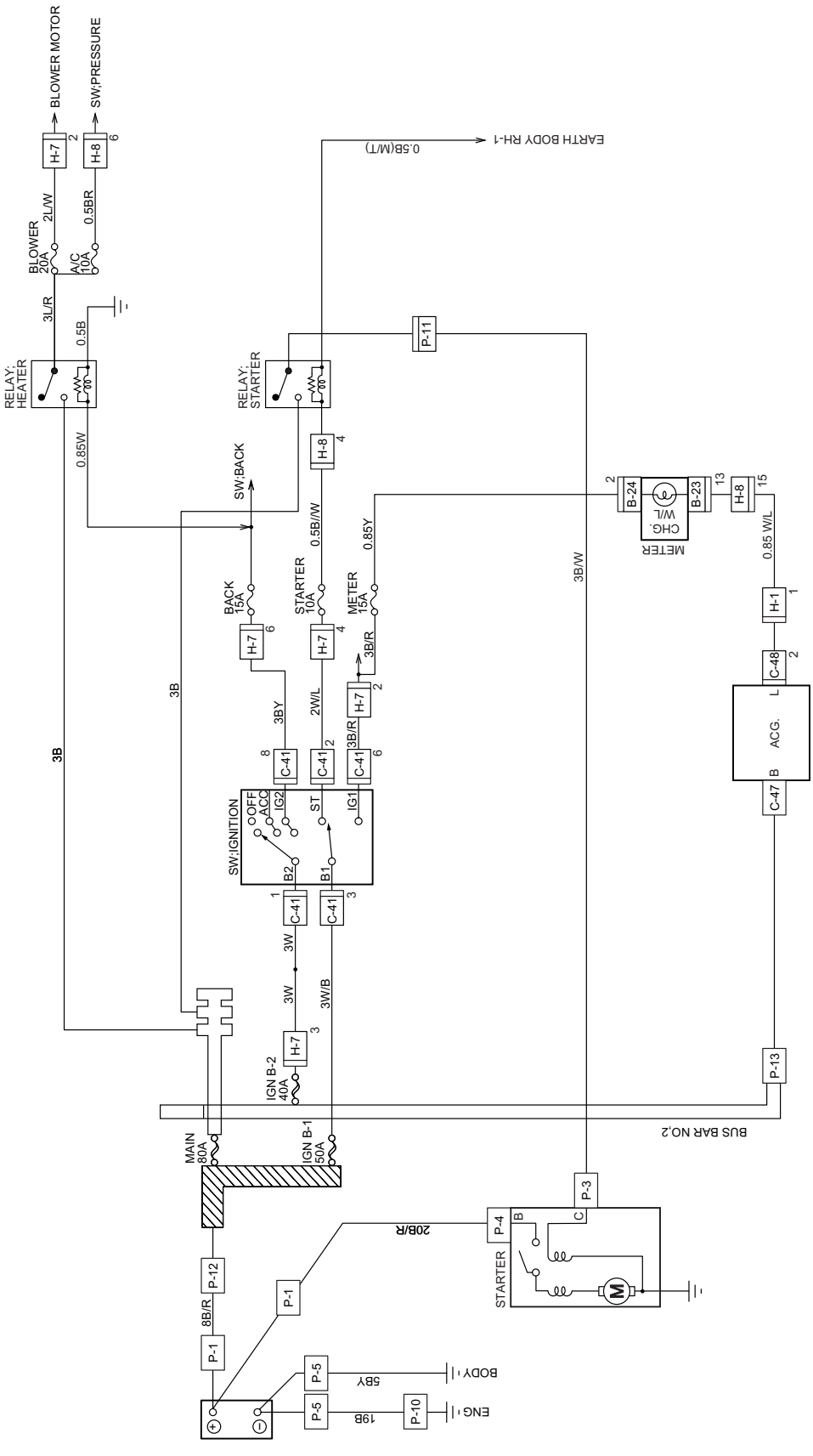
PARTS LOCATION (4J ENGINE-RHD)



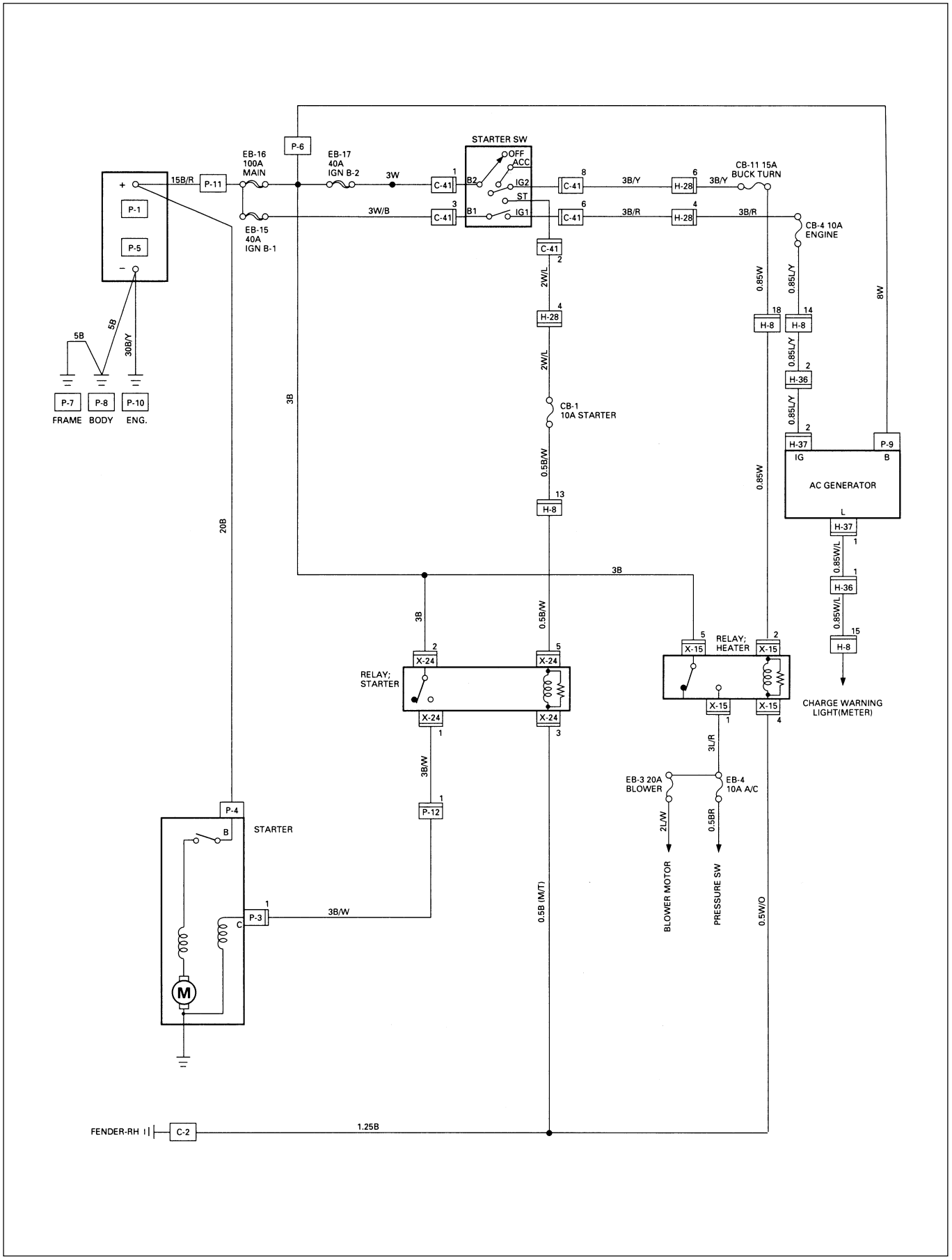
CIRCUIT DIAGRAM (HEC ENGINE-LHD)



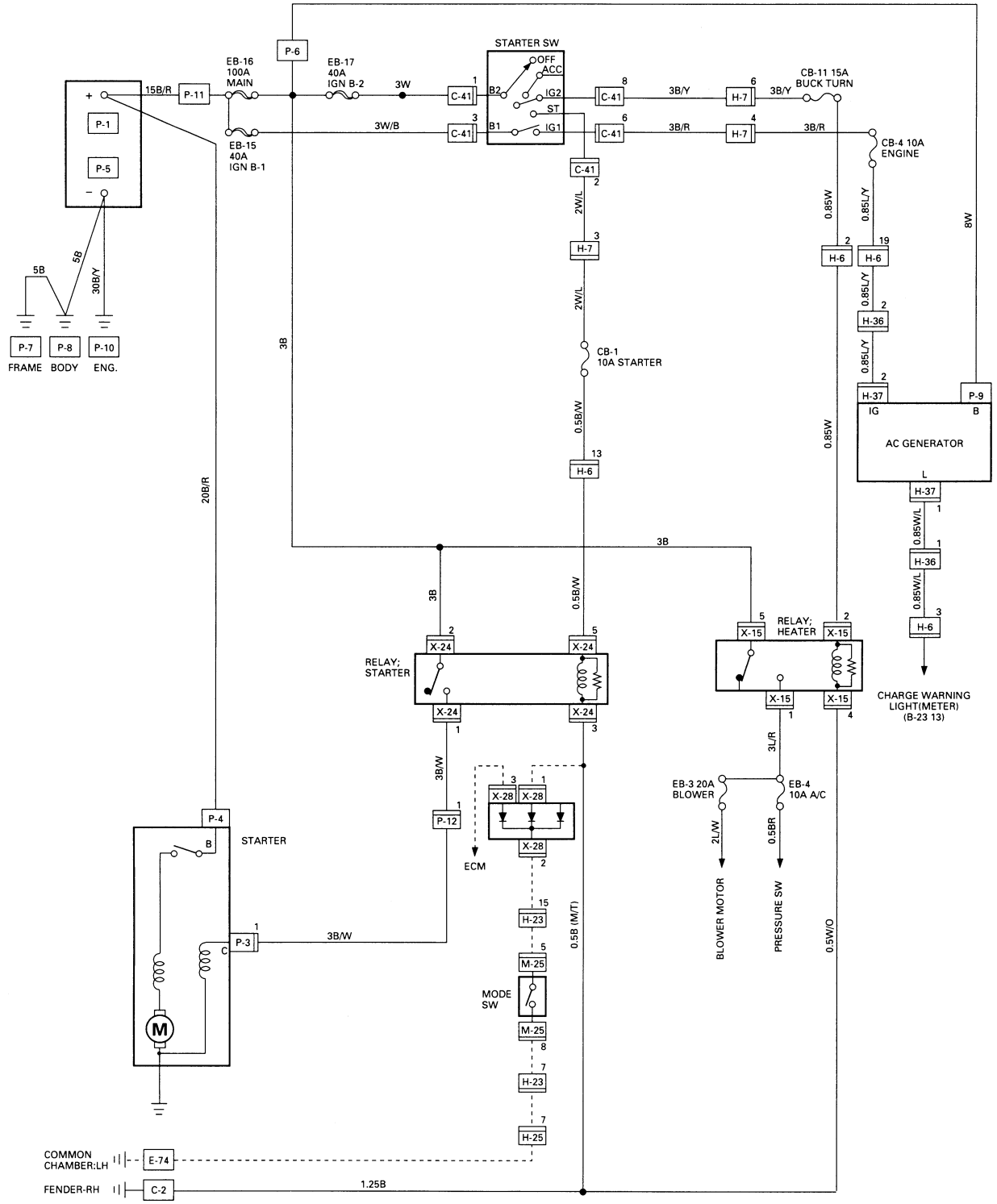
CIRCUIT DIAGRAM (HEC ENGINE-RHD)



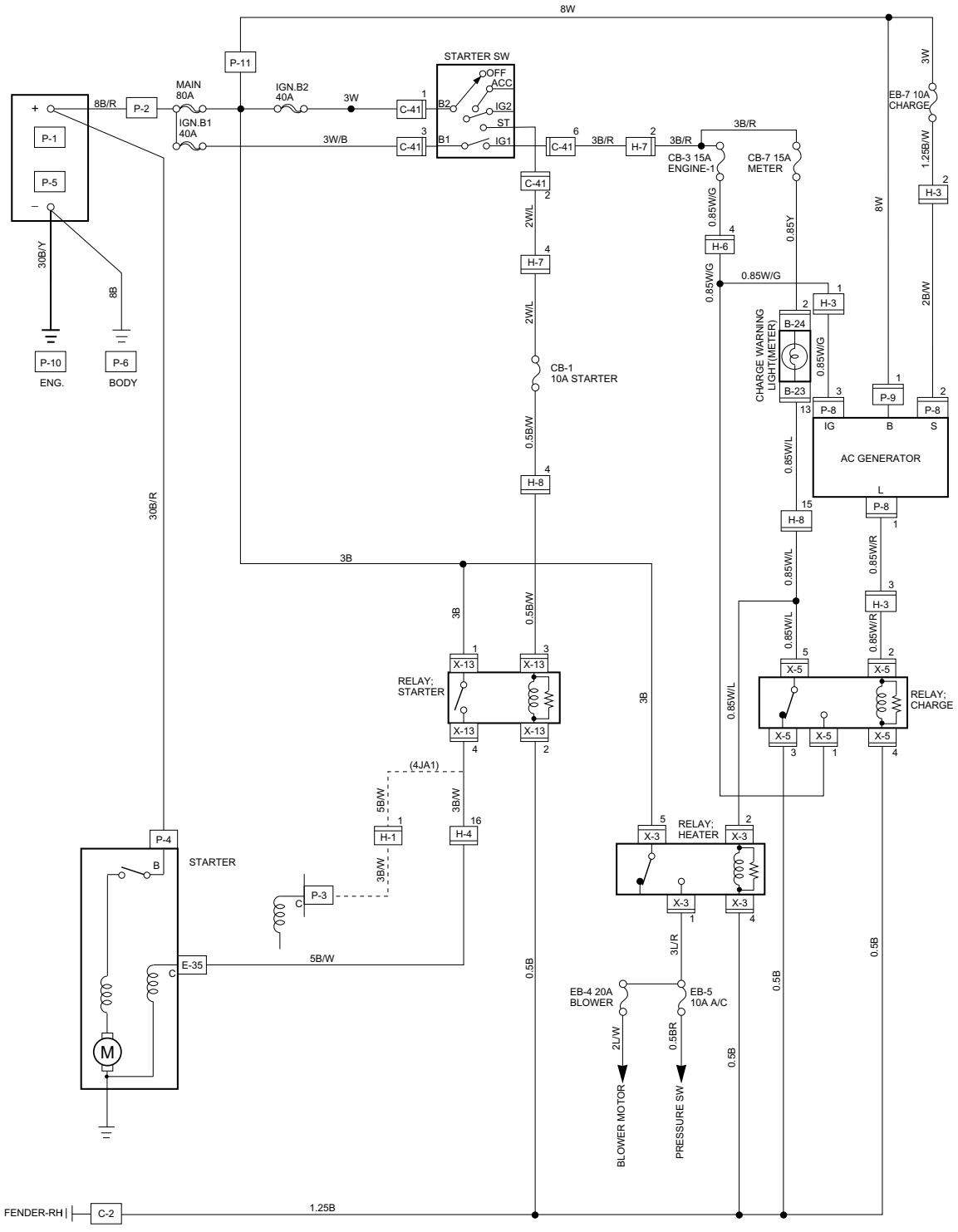
CIRCUIT DIAGRAM (6VD1 GASOLINE ENGINE-LHD)



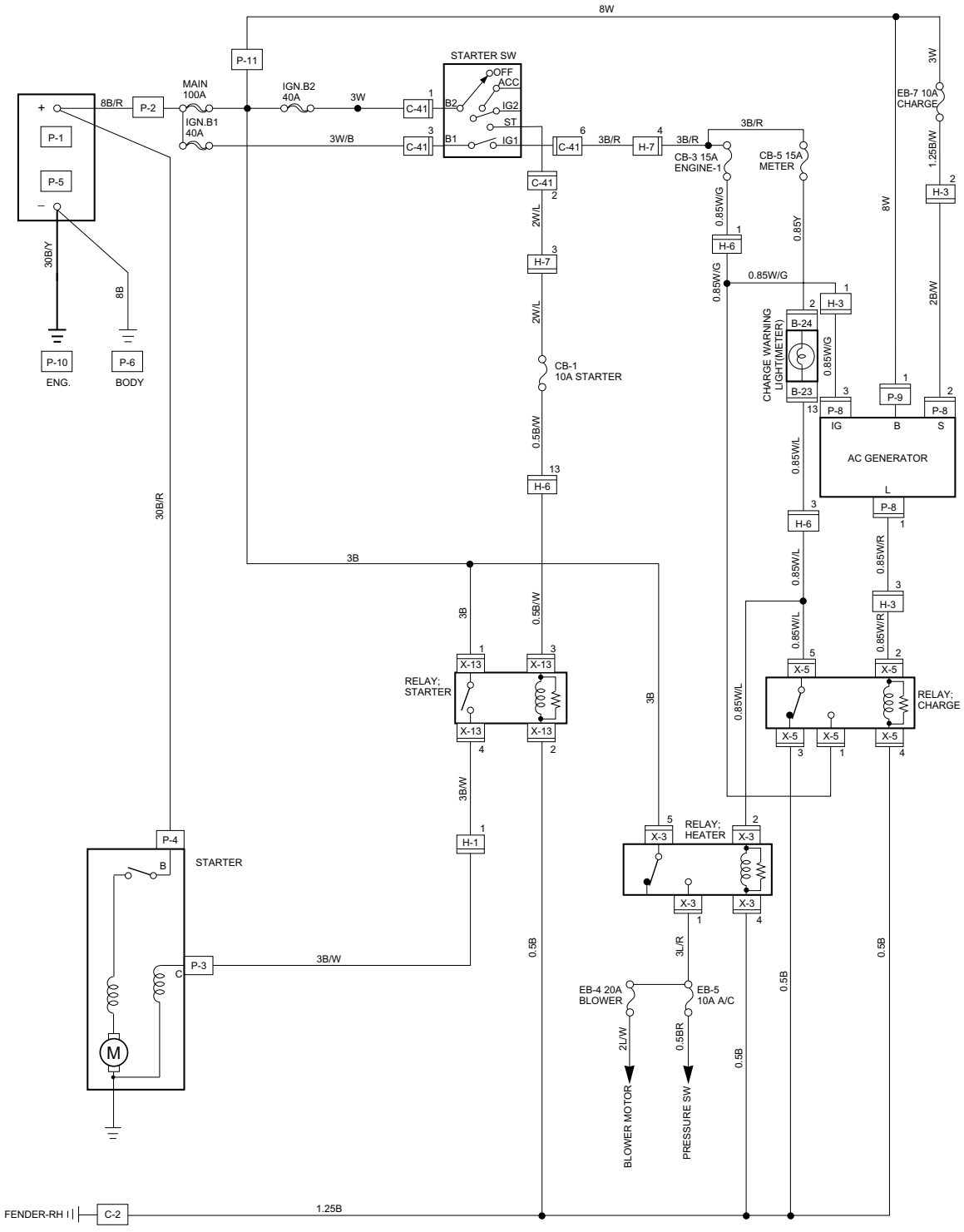
CIRCUIT DIAGRAM (6VD1 GASOLINE ENGINE-RHD)



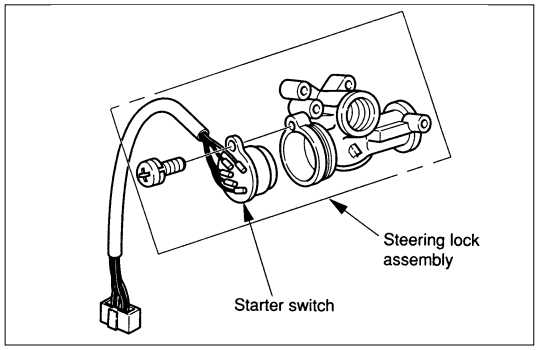
CIRCUIT DIAGRAM (4J ENGINE-LHD)



CIRCUIT DIAGRAM (4J ENGINE-RHD)



REMOVAL AND INSTALLATION



STARTER SWITCH

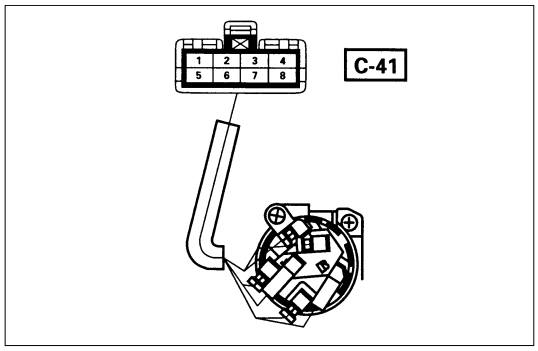
Removal

1. Steering Lock Assembly
   - Refer to Section 3B" STEERING COLUMN" for steering lock assembly removal steps.
2. Starter Switch

Installation

Follow the removal procedure in the reverse order to install the starter switch.

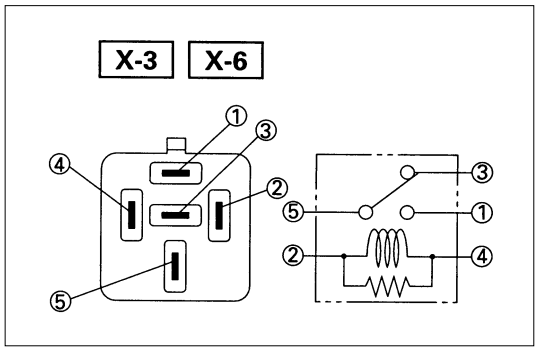
INSPECTION AND REPAIR



STARTER SWITCH

Switch Connections

Starter switch key position \ Terminal No.		1 (B2)	4 (ACC)	8 (IG2)	2 (ST)	3 (B1)	6 (IG1)
LOCK	Removed						
	Inserted						
OFF							
ACC		○	○				
ON		○	○	○		○	○
START		○		○	○	○	○



Starter relay, Heater relay

Check continuity between the relay terminals.

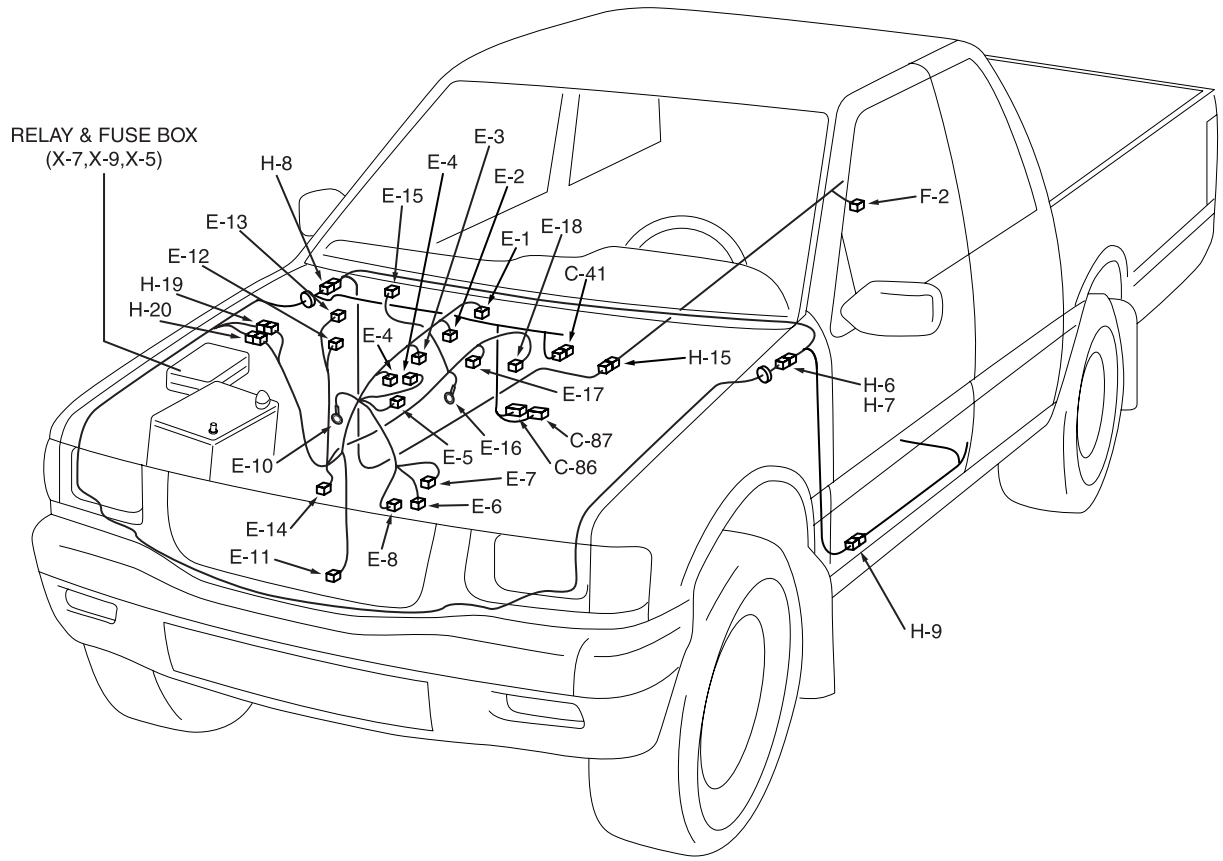
① - ⑤..... No continuity

(When battery voltage is applied between ② and ④)

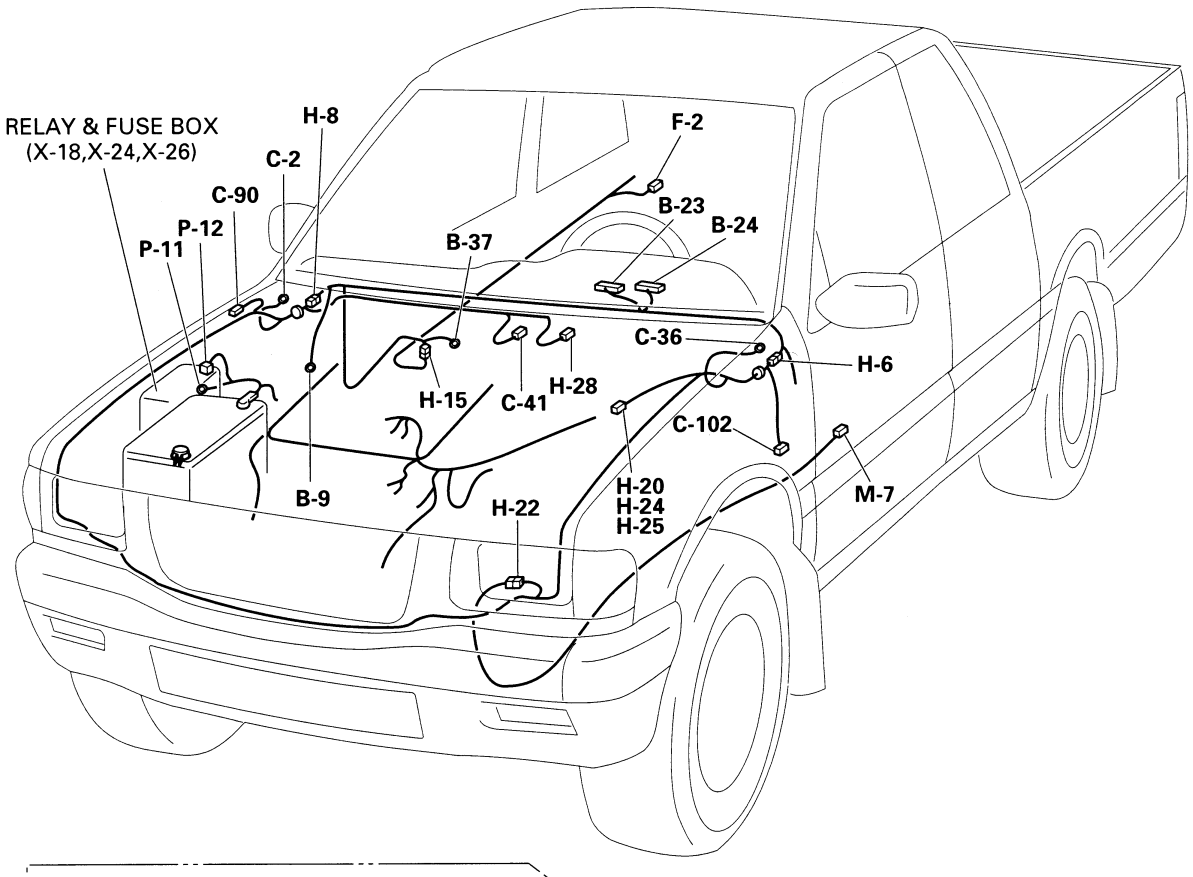
① - ⑤..... Continuity

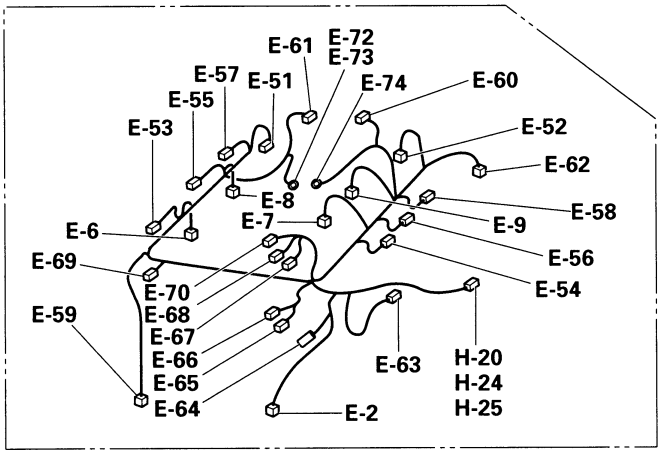
ENGINE CONTROL MODULE (ECM) AND FUEL PUMP

PARTS LOCATION (LHD)



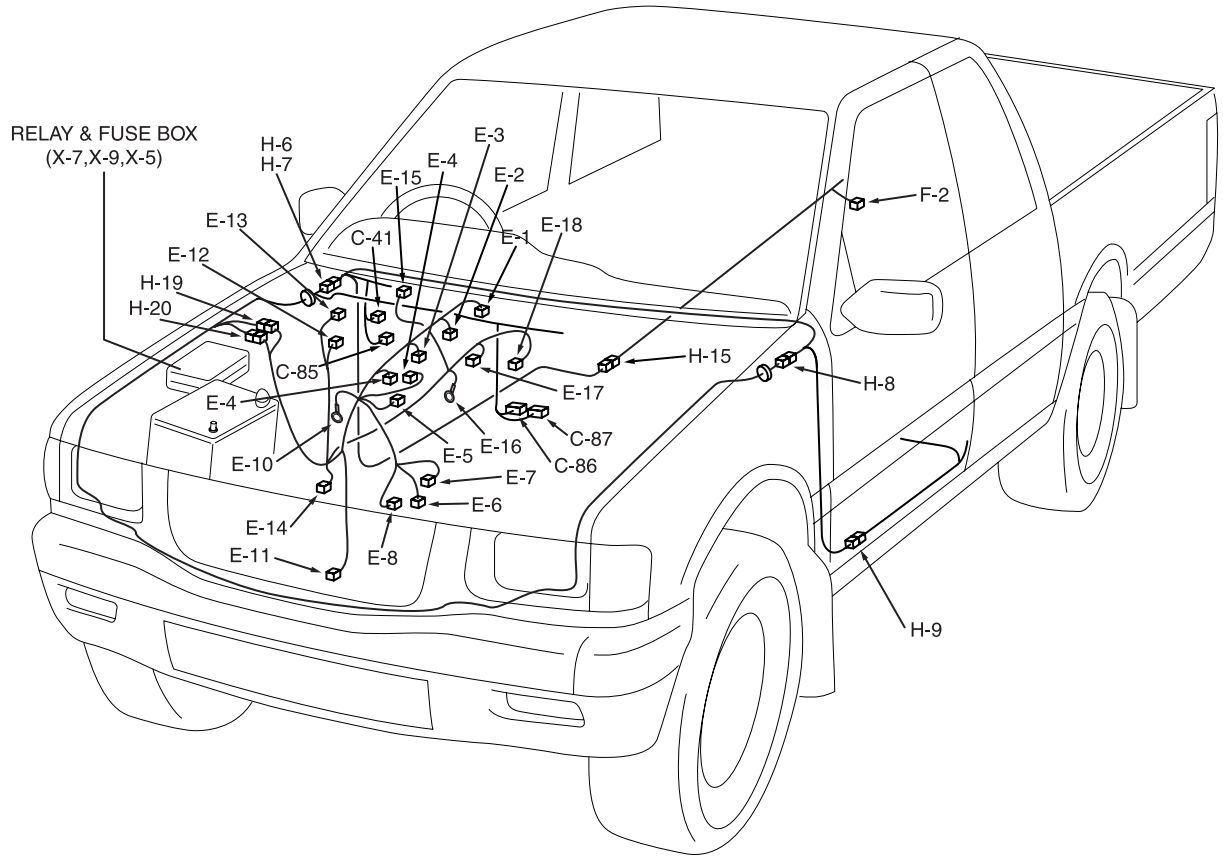
PARTS LOCATION (6VD1-LHD)



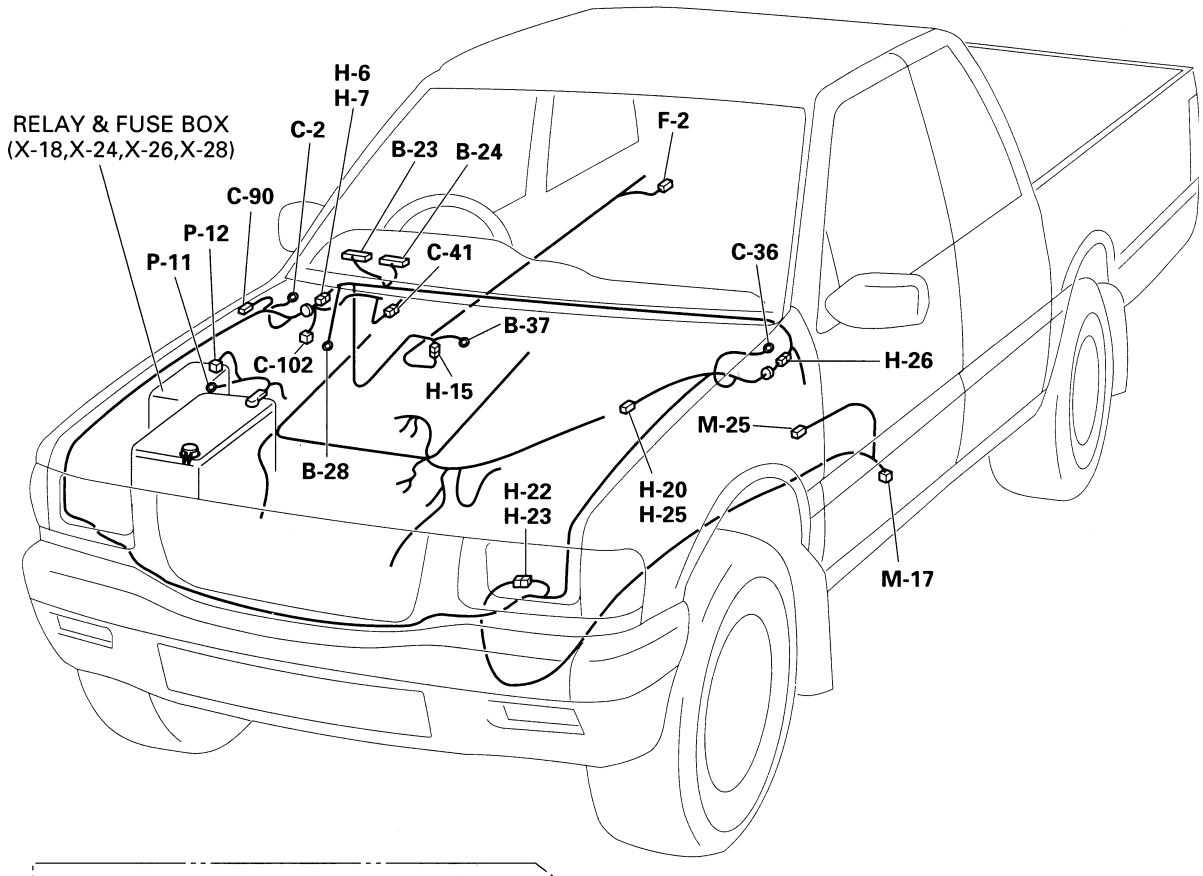


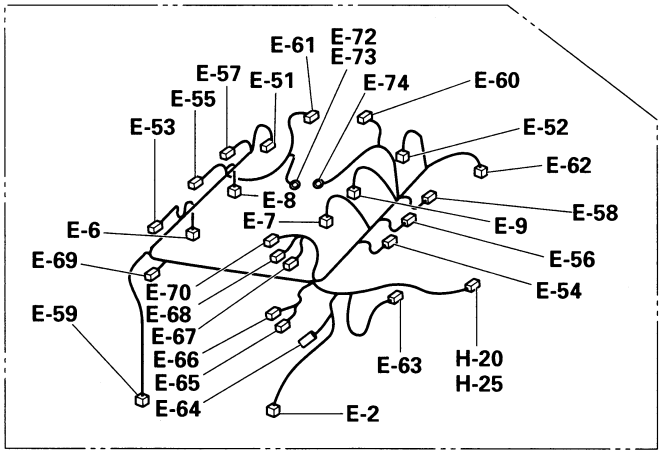
ENGINE HARNESS

PARTS LOCATION (RHD)



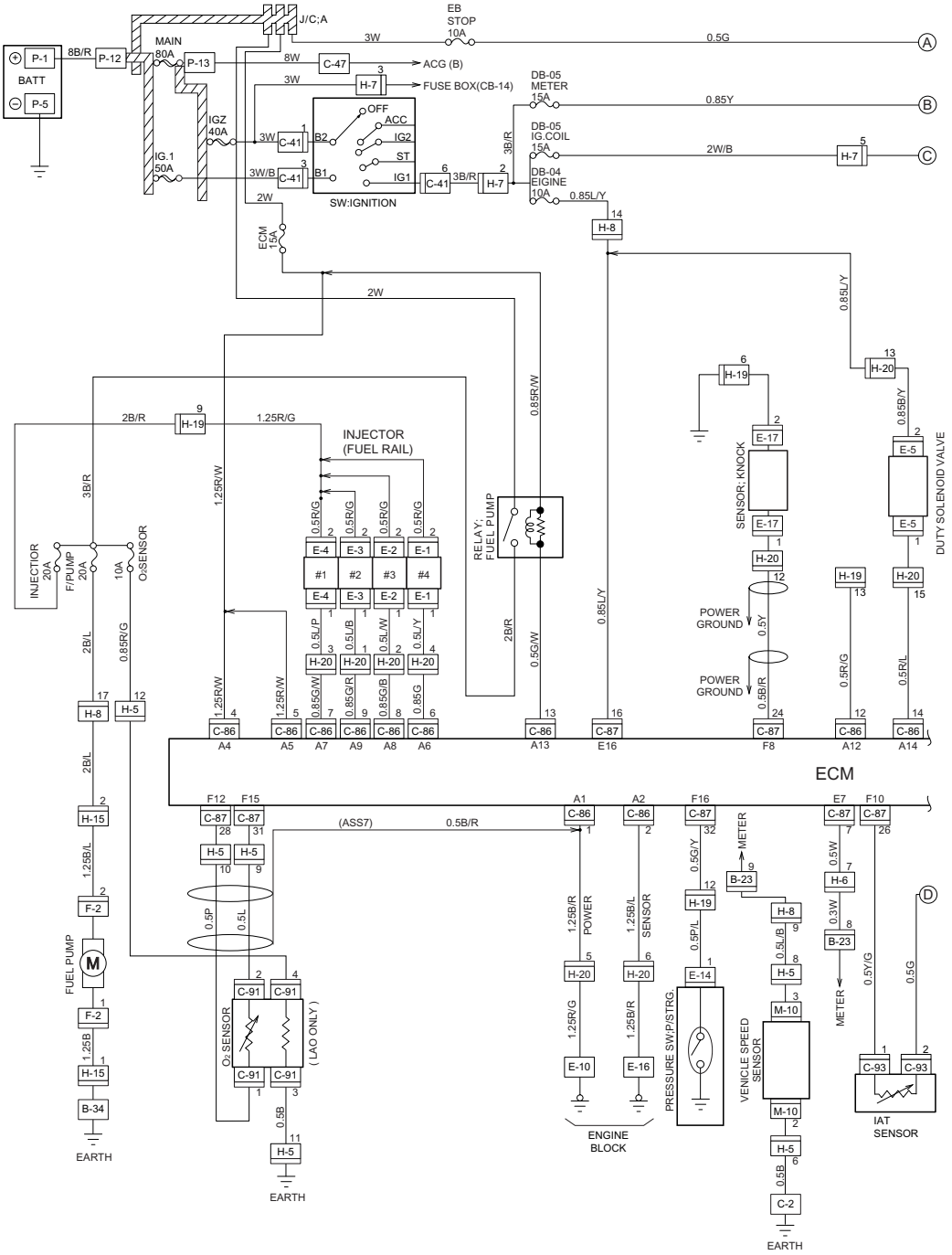
PARTS LOCATION (6VD1-RHD)

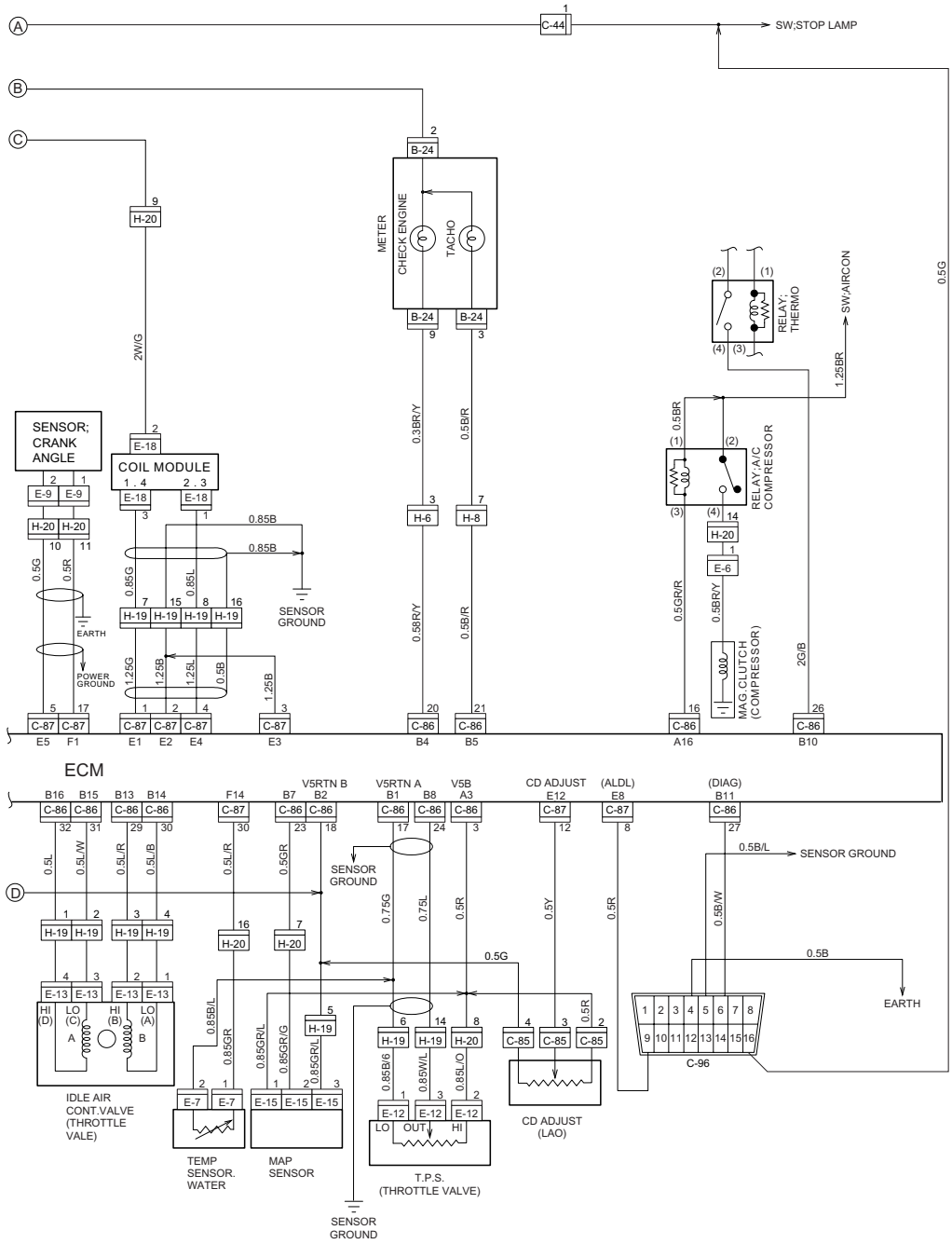




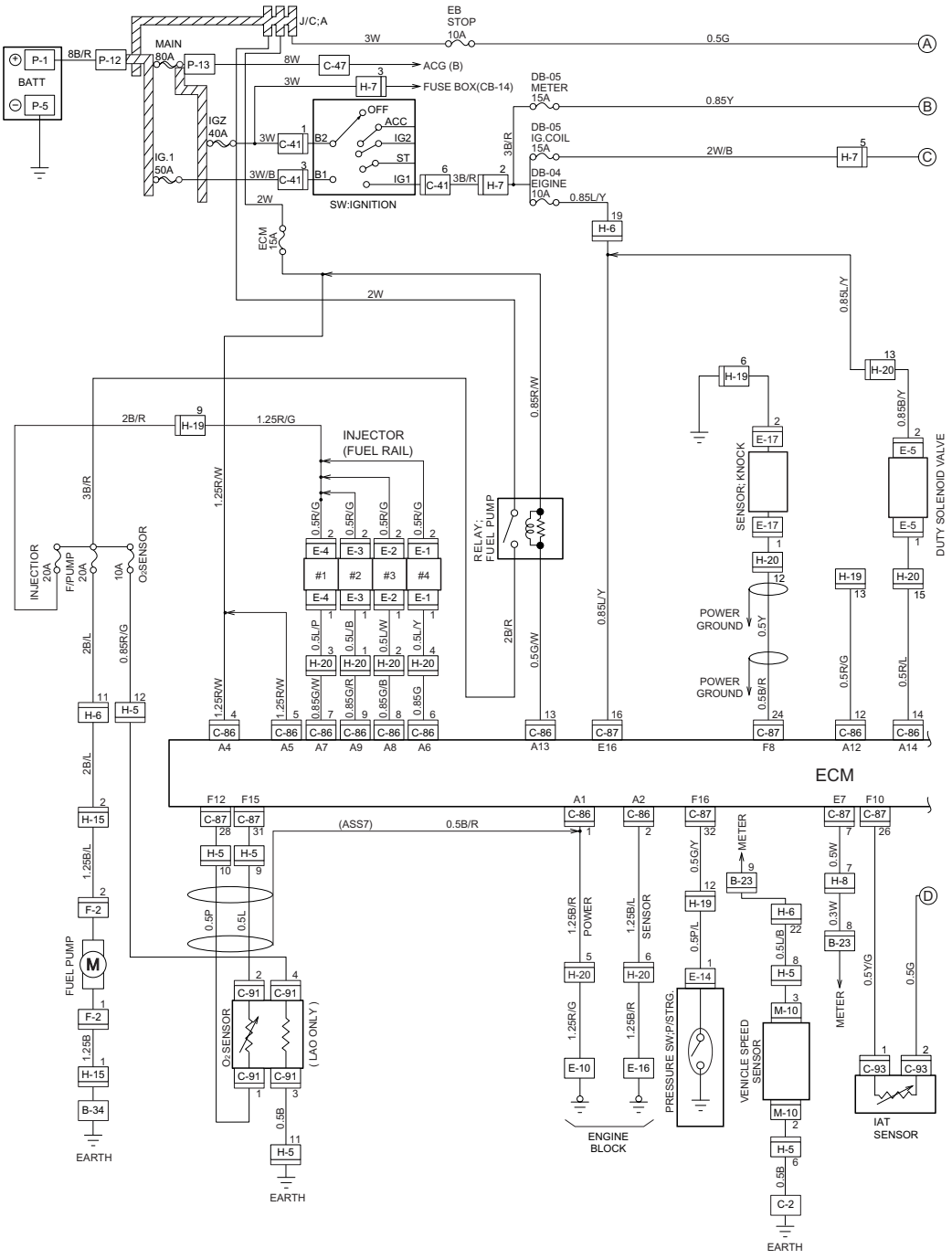
ENGINE HARNESS

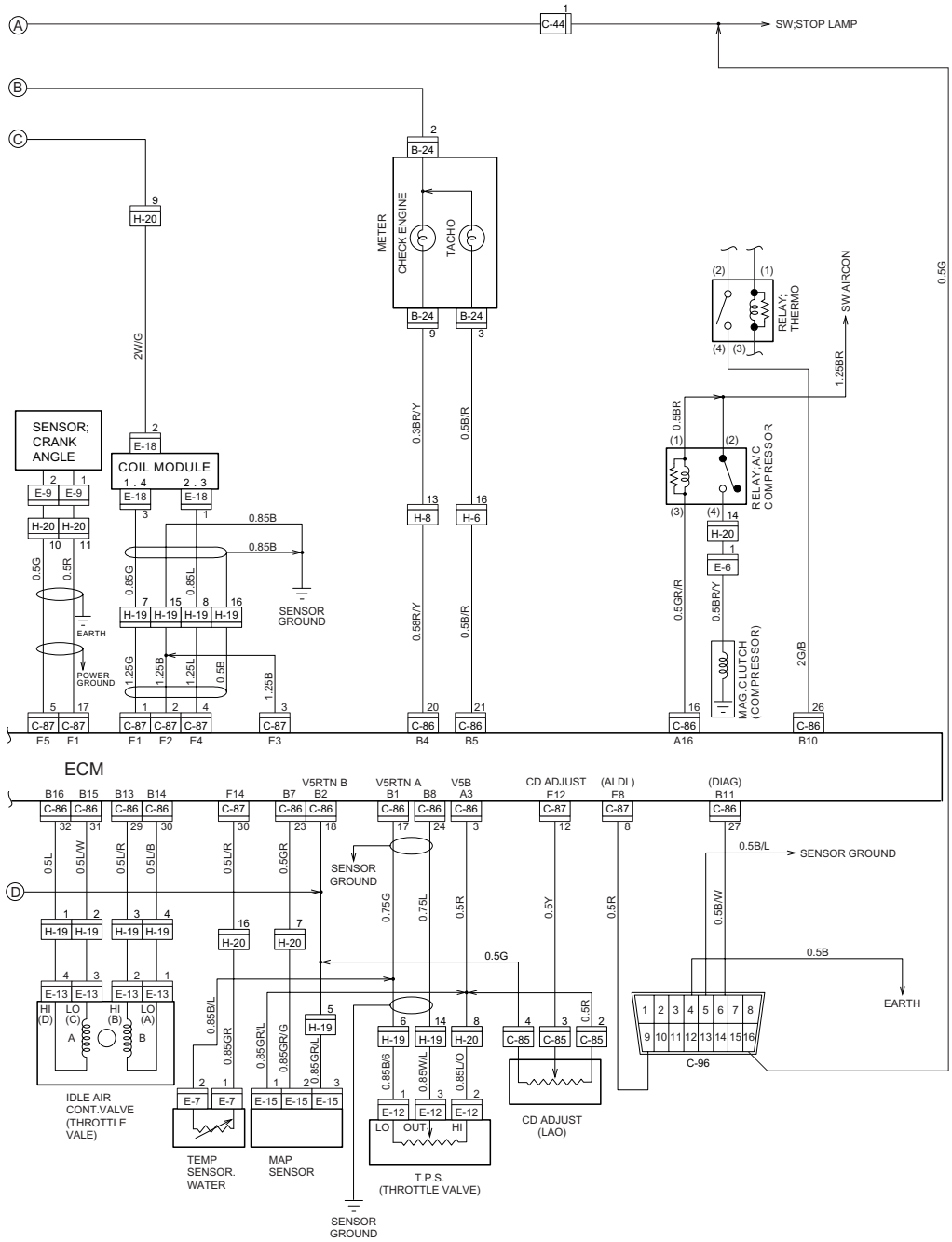
CIRCUIT DIAGRAM (LHD)



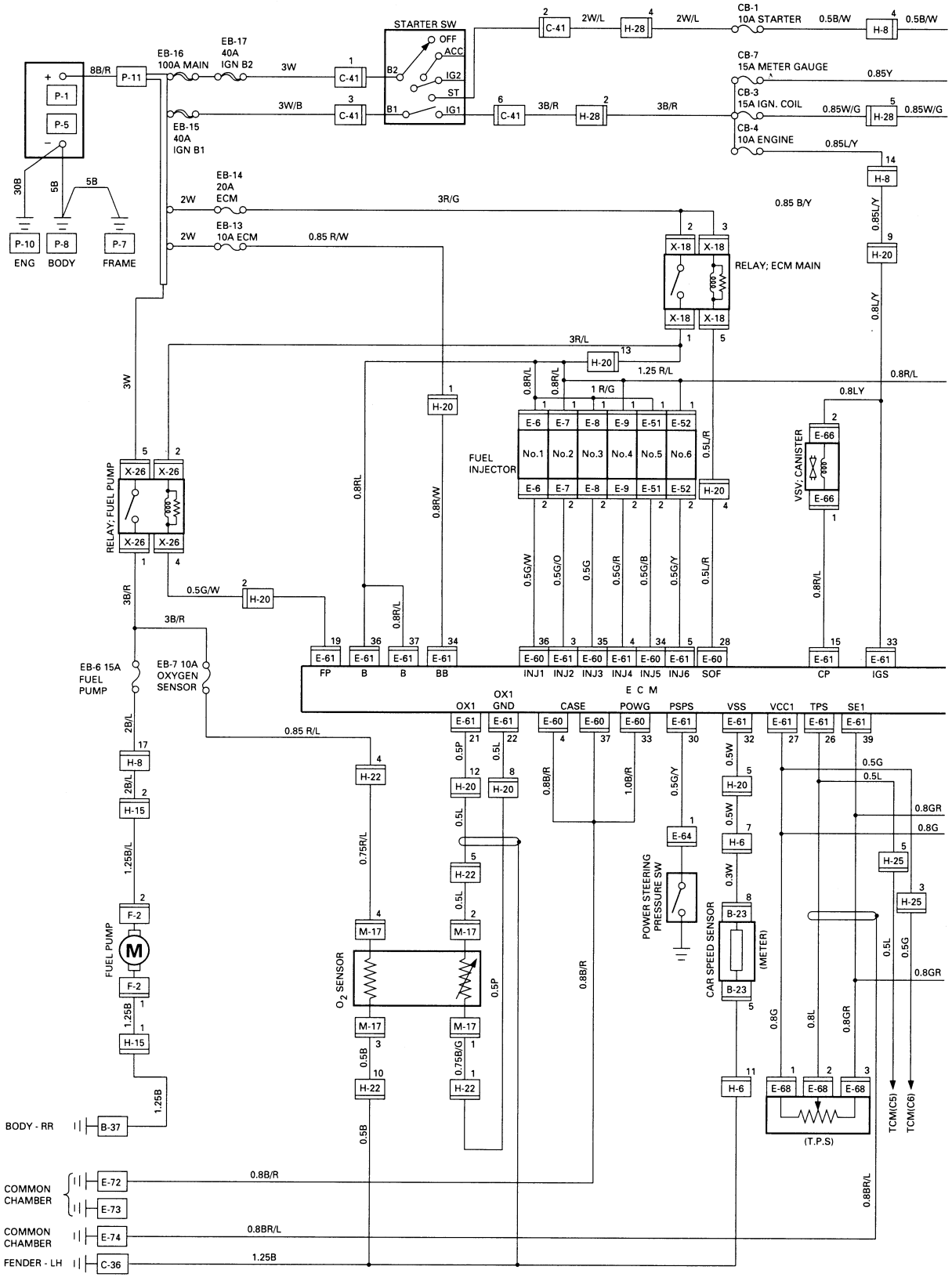

SW;STOP LAMP
C-44
B-24
METER
CHECK ENGINE
TACHO
H-20
2W/G
SENSOR;
CRANK
ANGLE
E-18
COIL MODULE
1 . 4
2 . 3
E-9
H-20
H-19
0.85B
SENSOR
GROUND
EARTH
POWER
GROUND
0.5G
0.5R
0.85G
0.85L
1.25G
1.25B
1.25L
0.5B
0.3BR/Y
0.5B/R
0.58R/Y
H-6
H-8
C-87
C-86
E5
F1
E1
E2
E4
E3
B4
B5
SW;AIRCON
1.25BR
RELAY;
THERMO
RELAY;A/C
COMPRESSOR
0.5BR
0.5GR/R
0.5B/R
H-20
E-6
MAG CLUTCH
(COMPRESSOR)
2G/B
A16
B10
ECM
V5RTN B
V5RTN A
V5B
CD ADJUST
(ALDL)
(DIAG)
B16
B15
B13
B14
F14
B7
B2
B1
B8
A3
E12
E8
B11
0.5L
0.5L/W
0.5L/R
0.5L/B
0.5GR
0.75G
0.75L
0.5R
0.5Y
0.5B/L
0.5B/W
0.5B
E-13
HI
(D)
LO
(C)
HI
(B)
LO
(A)
IDLE AIR
CONT.VALVE
(THROTTLE
VALE)
0.85B/L
0.85GR
0.85GR/L
0.85GR/G
0.85GR/L
E-7
E-15
TEMP
SENSOR.
WATER
MAP
SENSOR
0.85B/G
0.85W/L
0.85L/O
E-12
LO
OUT
HI
T.P.S.
(THROTTLE VALVE)
C-85
CD ADJUST
(LAO)
C-96
SENSOR
GROUND
D

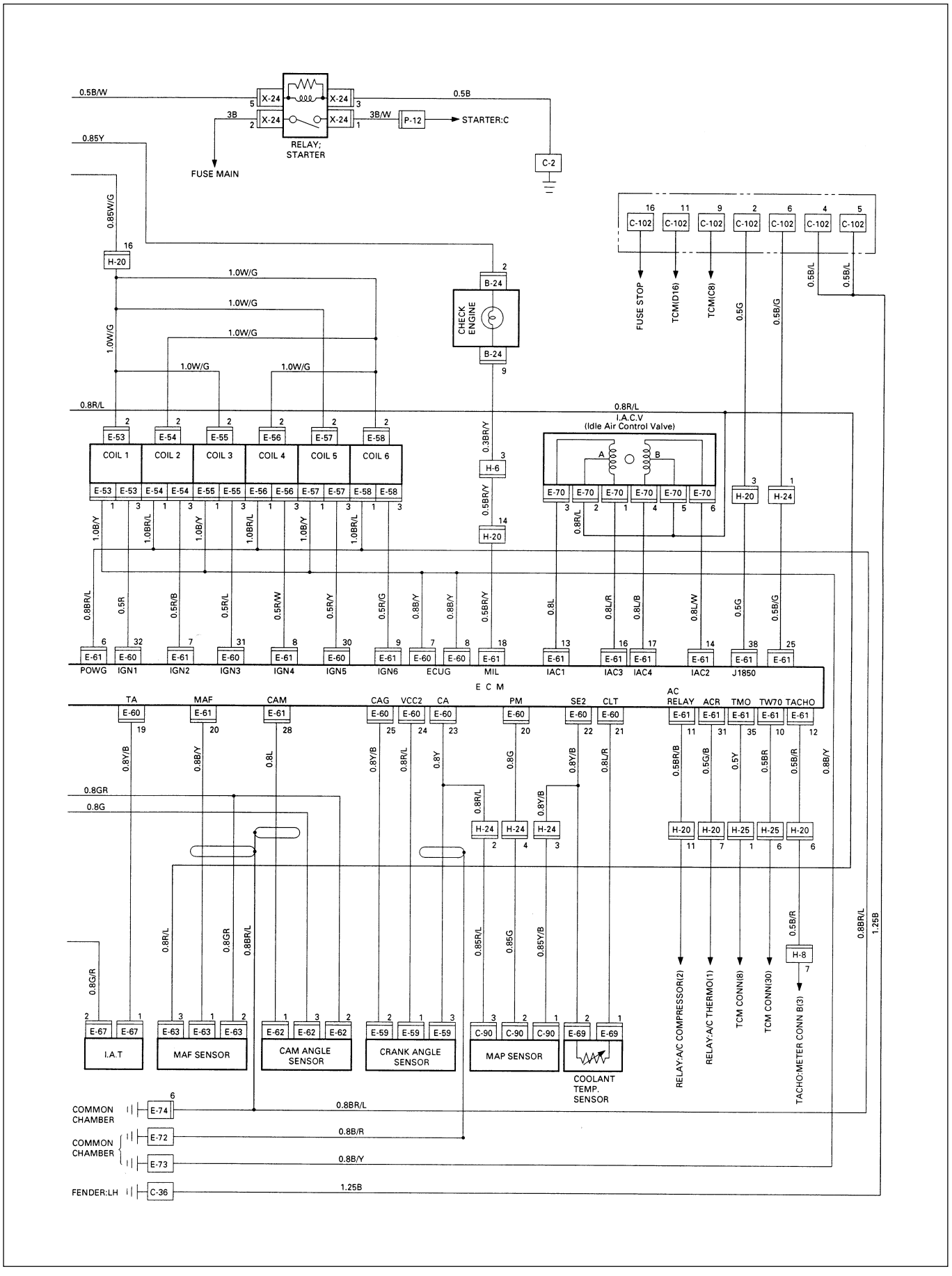
CIRCUIT DIAGRAM (RHD)



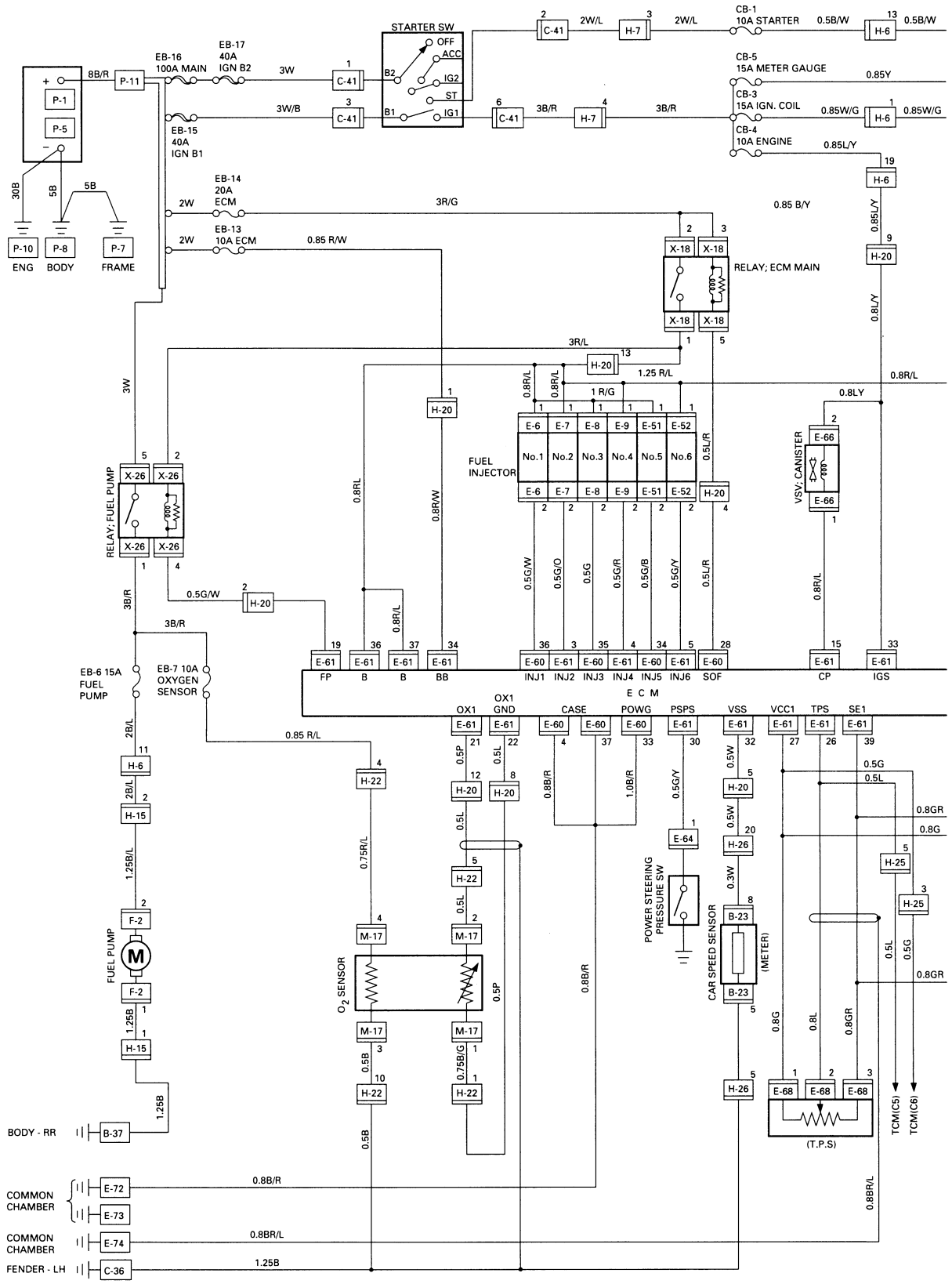

SW;STOP LAMP
C-44
B-24
METER
CHECK ENGINE
TACHO
H-20
2W/G
SENSOR; CRANK ANGLE
COIL MODULE
E-18
E-9
H-20
H-19
H-8
H-6
C-86
C-87
0.85B
SENSOR GROUND
EARTH
POWER GROUND
0.3BR/Y
0.5B/R
0.58R/Y
0.5BR
0.5GR/R
0.5BR/Y
RELAY; THERMO
SW;AIRCON
1.25BR
RELAY; A/C COMPRESSOR
MAG CLUTCH (COMPRESSOR)
2G/B
0.5G
E-6
ECM
V5RTN B
V5RTN A
V5B
CD ADJUST
(ALDL)
(DIAG)
E12
E8
B11
A3
B1
B2
B7
B8
F14
0.5L
0.5L/W
0.5L/R
0.5L/B
0.5GR
0.75G
0.75L
0.5R
0.5Y
0.5B/L
0.5B/W
0.5B
0.5G
C-96
IDLE AIR CONT.VALVE (THROTTLE VALE)
HI (D)
LO (C)
HI (B)
LO (A)
TEMP SENSOR. WATER
MAP SENSOR
T.P.S. (THROTTLE VALVE)
CD ADJUST (LAO)
LO
OUT
HI
0.85B/L
0.85GR
0.85GR/L
0.85GR/G
0.85B/B6
0.85W/L
0.85L/O
E-7
E-15
E-12
C-85

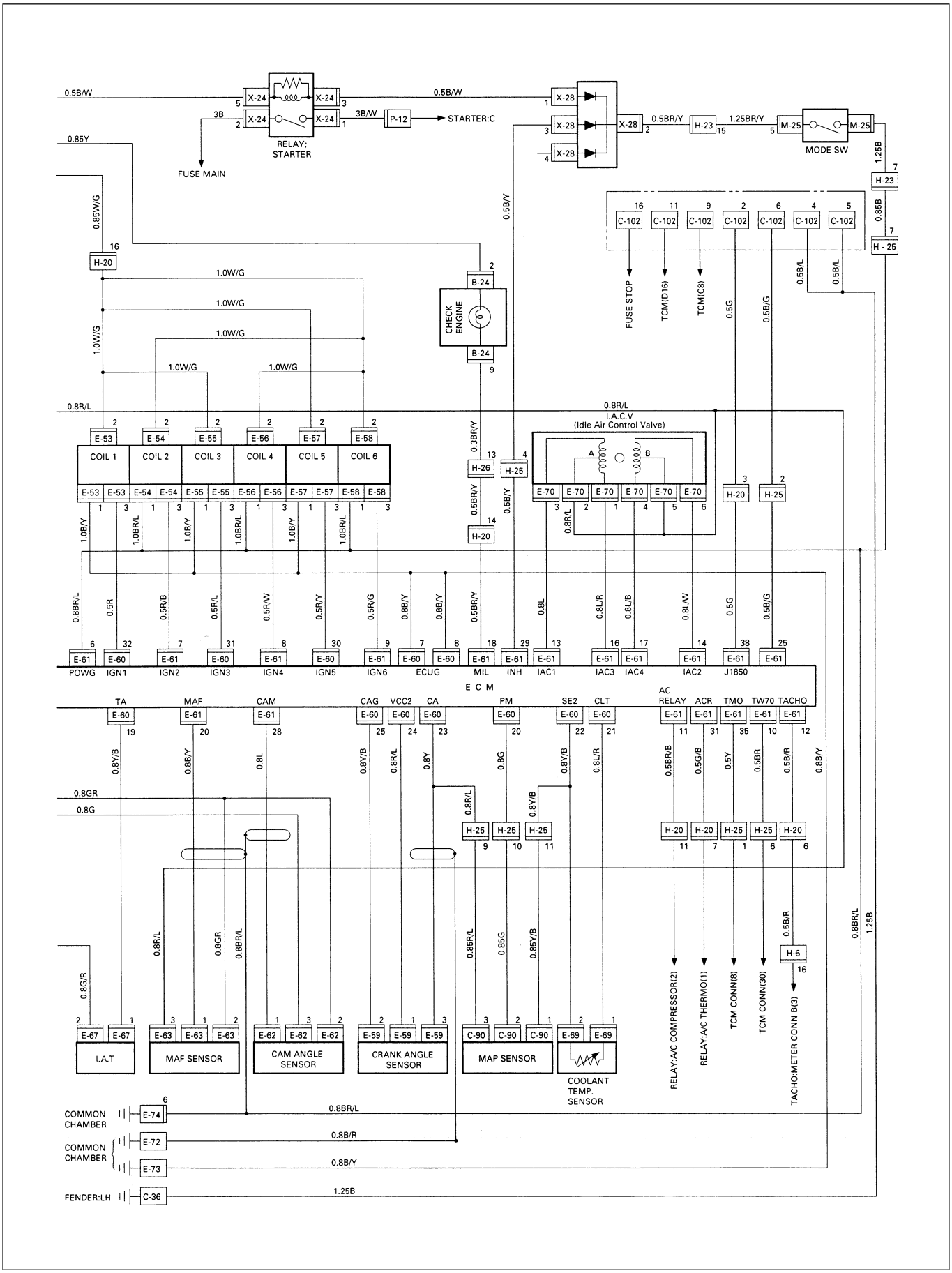
CIRCUIT DIAGRAM (6VD1 GASOLINE ENGINE-LHD)




RELAY; STARTER
FUSE MAIN
STARTER:C
CHECK ENGINE
I.A.C.V (Idle Air Control Valve)
FUSE STOP
TCM(D16)
TCM(C8)
COIL 1
COIL 2
COIL 3
COIL 4
COIL 5
COIL 6
POWG
IGN1
IGN2
IGN3
IGN4
IGN5
IGN6
ECUG
MIL
IAC1
IAC3
IAC4
IAC2
J1850
E C M
TA
MAF
CAM
CAG
VCC2
CA
PM
SE2
CLT
AC RELAY
ACR
TMO
TW70
TACHO
I.A.T
MAF SENSOR
CAM ANGLE SENSOR
CRANK ANGLE SENSOR
MAP SENSOR
COOLANT TEMP. SENSOR
RELAY:A/C COMPRESSOR(2)
RELAY:A/C THERMO(1)
TCM CONN(8)
TCM CONN(30)
TACHO:METER CONN B(3)
COMMON CHAMBER
COMMON CHAMBER
FENDER:LH

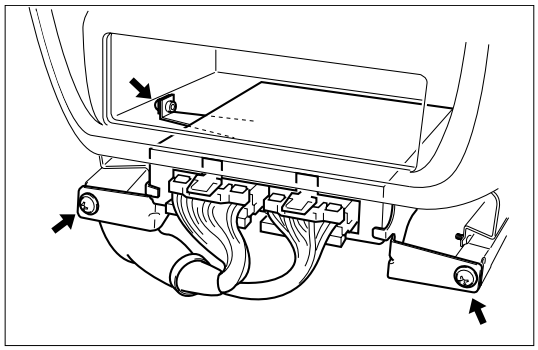
CIRCUIT DIAGRAM (6VD1 GASOLINE ENGINE-RHD)




0.5B/W
X-24
RELAY; STARTER
3B
FUSE MAIN
3B/W
P-12
STARTER:C
X-28
0.5BR/Y
H-23
1.25BR/Y
M-25
MODE SW
0.85Y
1.25B
0.85W/G
H-20
1.0W/G
B-24
CHECK ENGINE
0.5B/Y
C-102
FUSE STOP
TCM(D16)
TCM(C8)
0.5G
0.5B/G
0.85B
0.5B/L
H-25
0.8R/L
I.A.C.V
(Idle Air Control Valve)
E-53
E-54
E-55
E-56
E-57
E-58
COIL 1
COIL 2
COIL 3
COIL 4
COIL 5
COIL 6
E-70
0.3BR/Y
H-26
0.5BR/Y
1.0B/Y
1.0BR/L
0.8BR/L
0.5R
0.5R/B
0.5R/L
0.5R/W
0.5R/Y
0.5R/G
0.8B/Y
0.8L
0.8L/R
0.8L/B
0.8L/W
E-61
POWG
IGN1
IGN2
IGN3
IGN4
IGN5
IGN6
ECUG
MIL
INH
IAC1
IAC3
IAC4
IAC2
J1850
E C M
TA
MAF
CAM
CAG
VCC2
CA
PM
SE2
CLT
AC RELAY
ACR
TMO
TW70
TACHO
0.8Y/B
0.8B/Y
0.8GR
0.8G
0.8G/R
0.8R/L
0.8BR/L
0.85R/L
0.85G
0.85Y/B
0.5BR/B
0.5G/B
0.5Y
0.5B/R
0.8B/Y
I.A.T
MAF SENSOR
CAM ANGLE SENSOR
CRANK ANGLE SENSOR
MAP SENSOR
COOLANT TEMP. SENSOR
RELAY:A/C COMPRESSOR(2)
RELAY:A/C THERMO(1)
TCM CONN(8)
TCM CONN(30)
TACHO:METER CONN B(3)
H-6
COMMON CHAMBER
E-74
E-72
E-73
0.8BR/L
0.8B/R
0.8B/Y
FENDER:LH
C-36
1.25B

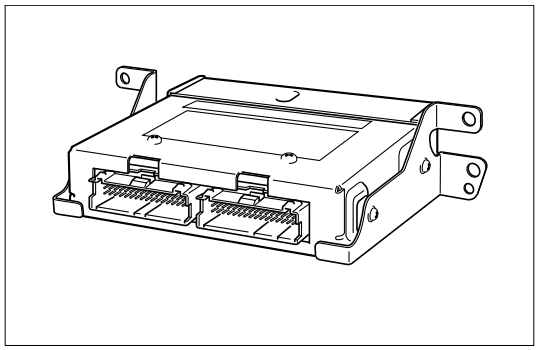
REMOVAL AND INSTALLATION

ECM (ENGINE CONTROL MODULE)



Removal

1. Remove the ECM.
   Refer to the "ENGINE" Section of this Manual.
2. Loosen the three screws.



3. Pull out the ECM.
4. Disconnect both red and tan connectors.

Installation

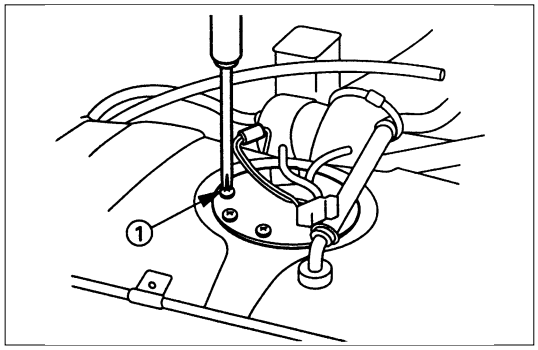
Follow the removal procedure in the reverse order to install the ECM.

Pay close attention to the important points mentioned in the following paragraphs.

Connector

Be absolutely sure that ECM is securely connected.
This will prevent a poor contact and open circuit.

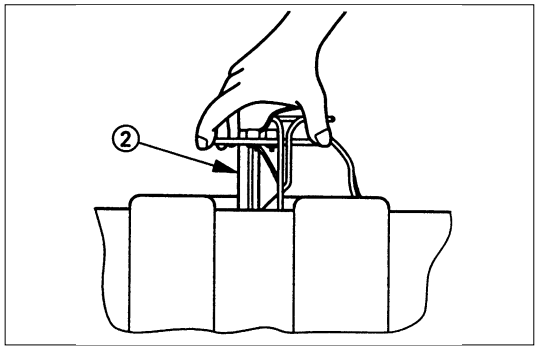
REMOVAL AND INSTALLATION



FUEL PUMP

Removal

1. Remove the fuel tank.
   Refer to the "ENGINE" Section of this Manual.
2. Loosen the screws ①.



3. Raise the fuel pump assembly ② from the fuel tank.

Installation

Follow the removal procedure in the reverse order to install the fuel pump.

Pay close attention to the important points mentioned in the following paragraphs.

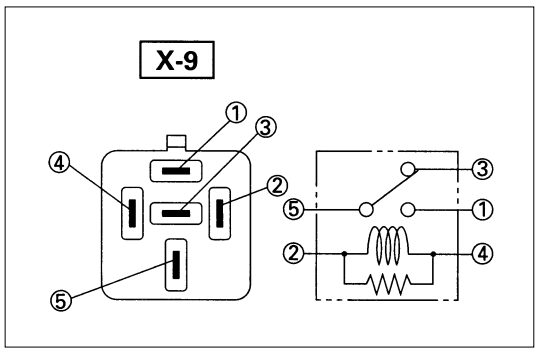
Rubber Seal

Be absolutely sure that the fuel pump rubber seals correctly seated.

Connector

Be absolutely sure that the fuel pump connector is securely connected.
This will prevent a poor contact and an open circuit.

INSPECTION AND REPAIR



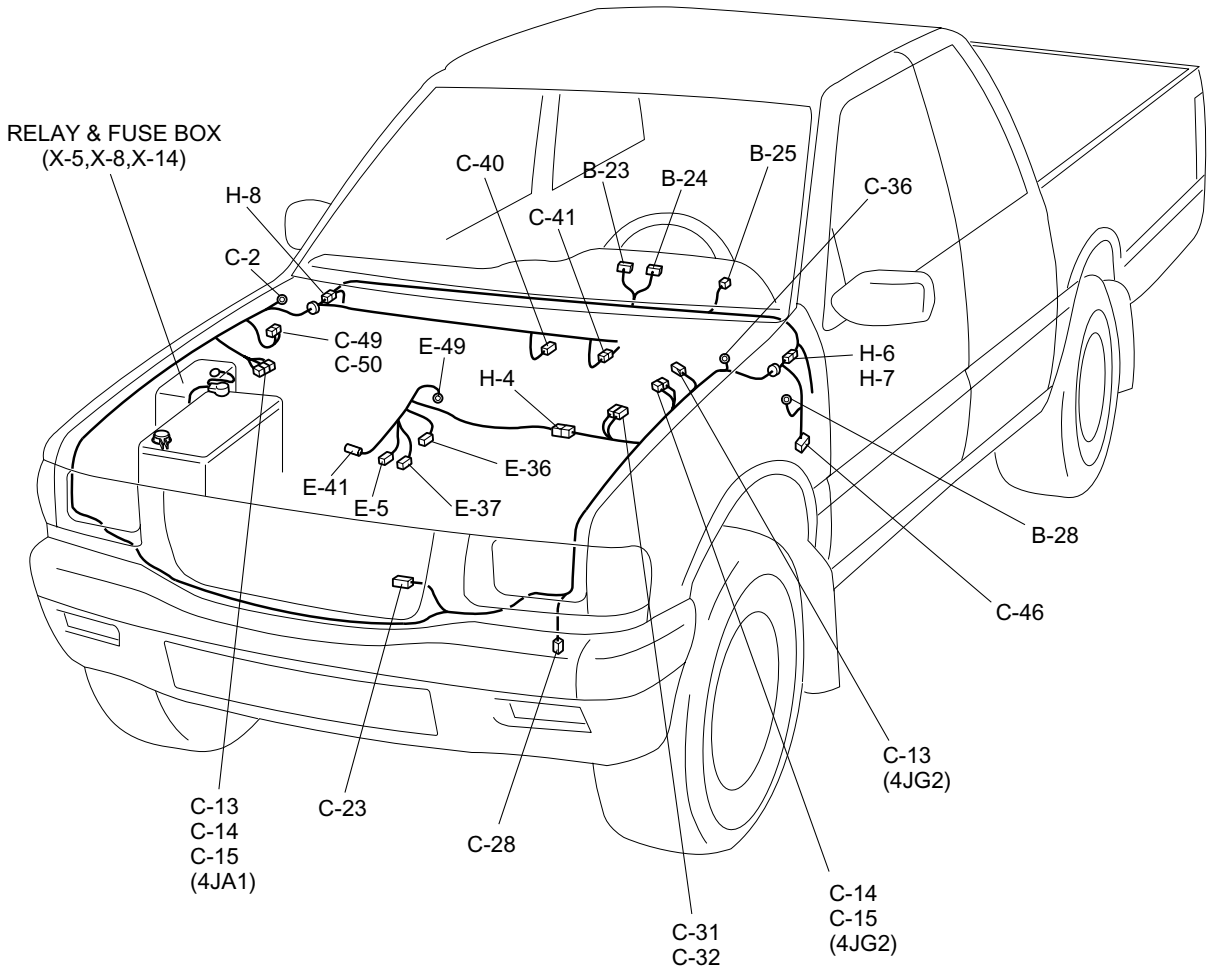
Fuel pump relay

Check continuity between the relay terminals.

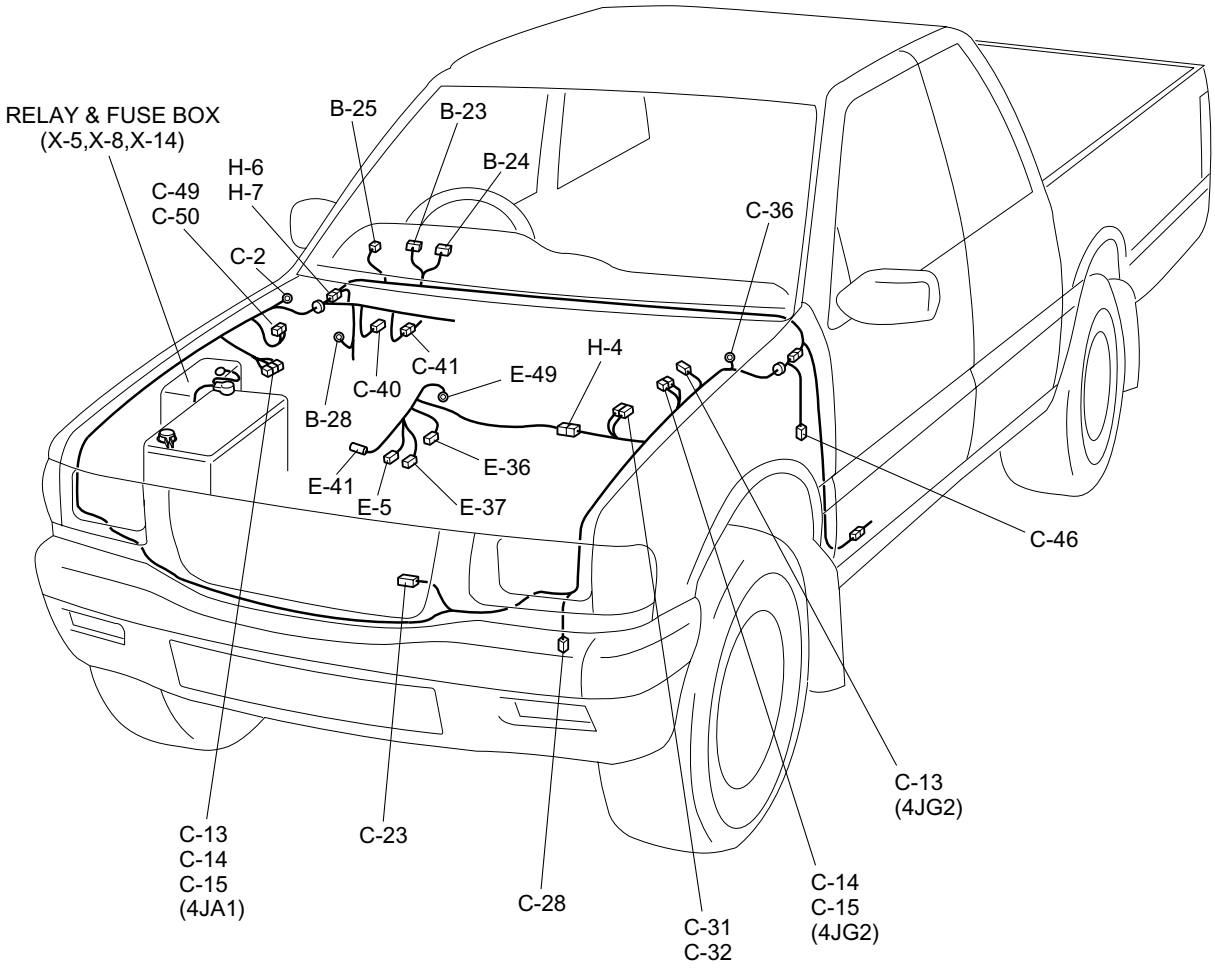
① - ⑤	No continuity
(When battery voltage is applied between ② and ④)	
① - ⑤	Continuity

QOS/EGR/QWS

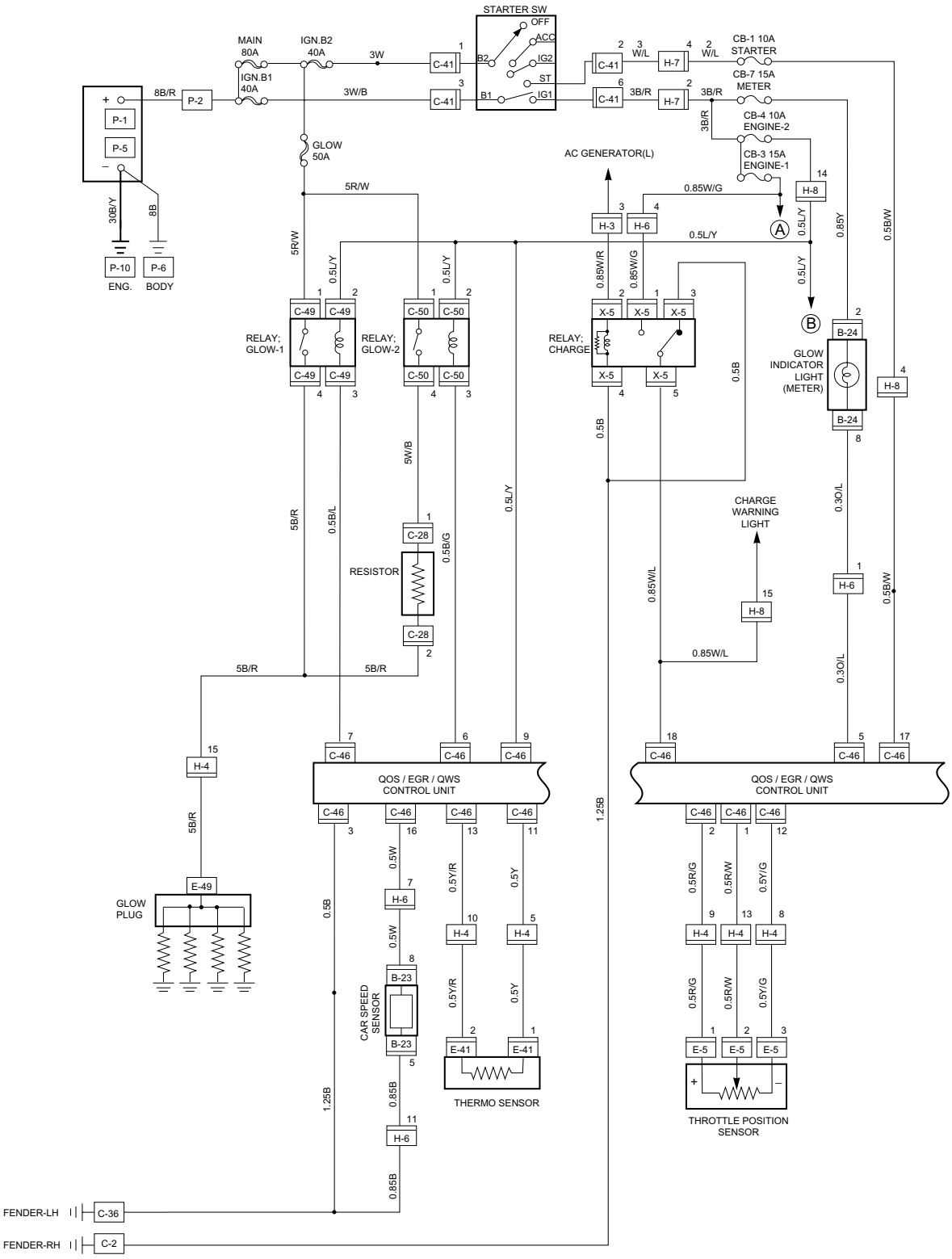
PARTS LOCATION (LHD)

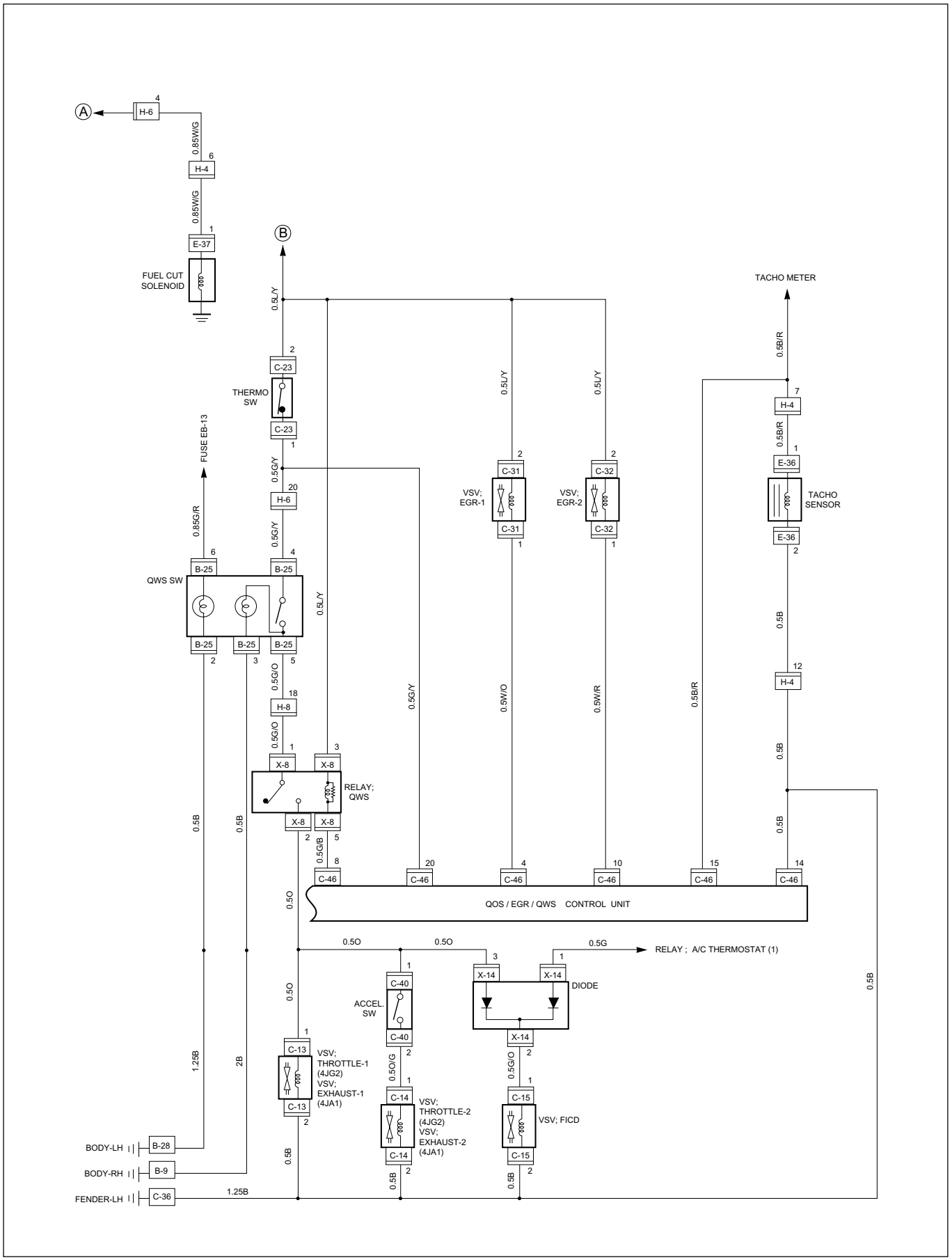


PARTS LOCATION (RHD)

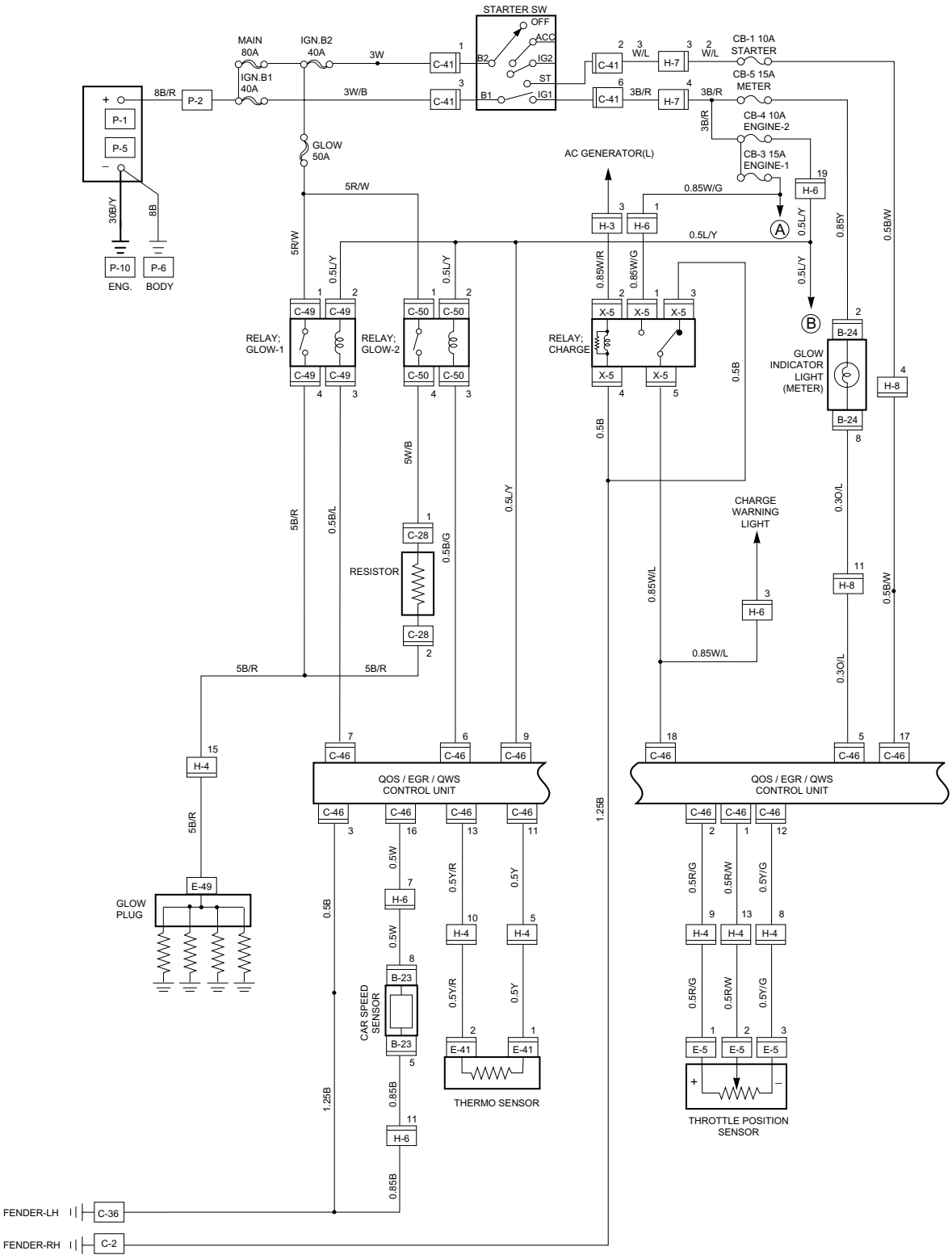


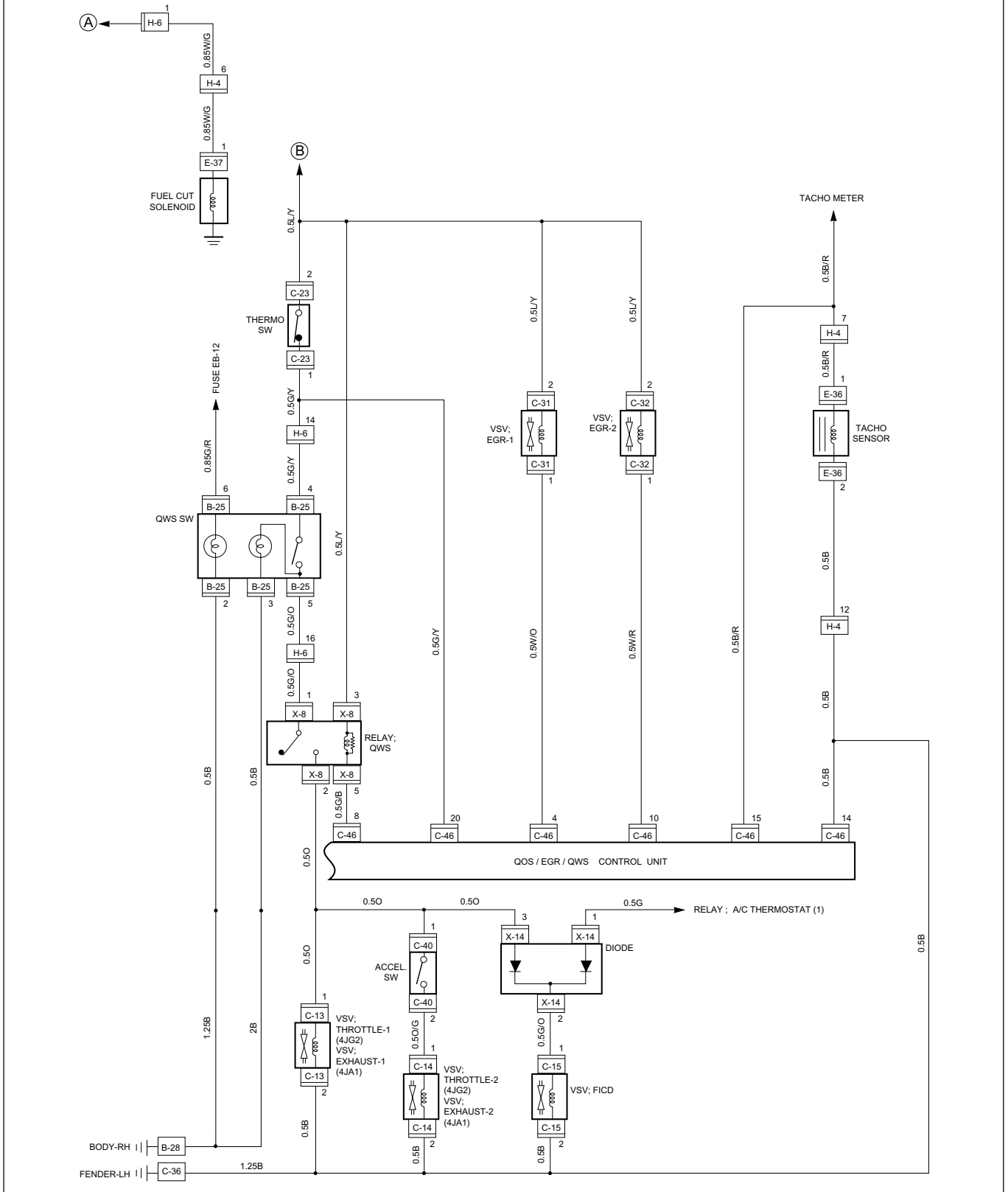
CIRCUIT DIAGRAM (LHD)




A
H-6
4
0.85W/G
H-4
6
0.85W/G
E-37
1
FUEL CUT SOLENOID
B
0.5L/Y
C-23
2
THERMO SW
C-23
1
FUSE EB-13
0.85G/R
0.5G/Y
H-6
20
0.5G/Y
B-25
6
B-25
4
QWS SW
B-25
B-25
B-25
2
3
5
0.5G/O
H-8
18
0.5G/O
X-8
1
X-8
3
RELAY; QWS
X-8
X-8
2
5
0.5G/B
C-46
8
0.5B
0.5B
0.5O
0.5G/Y
C-46
20
C-31
2
VSV; EGR-1
C-31
1
0.5L/Y
0.5W/O
C-46
4
C-32
2
VSV; EGR-2
C-32
1
0.5L/Y
0.5W/R
C-46
10
TACHO METER
0.5B/R
H-4
7
0.5B/R
E-36
1
TACHO SENSOR
E-36
2
0.5B
H-4
12
0.5B
0.5B/R
C-46
15
0.5B
C-46
14
QOS / EGR / QWS CONTROL UNIT
0.5O
0.5O
0.5G
RELAY ; A/C THERMOSTAT (1)
0.5B
C-40
1
ACCEL. SW
C-40
2
X-14
3
X-14
1
DIODE
X-14
2
0.5O
C-13
1
VSV; THROTTLE-1 (4JG2)
VSV; EXHAUST-1 (4JA1)
C-13
2
0.5O/G
C-14
1
VSV; THROTTLE-2 (4JG2)
VSV; EXHAUST-2 (4JA1)
C-14
2
0.5O/G
C-15
1
VSV; FICD
C-15
2
1.25B
2B
0.5B
0.5B
0.5B
BODY-LH
B-28
BODY-RH
B-9
FENDER-LH
C-36
1.25B

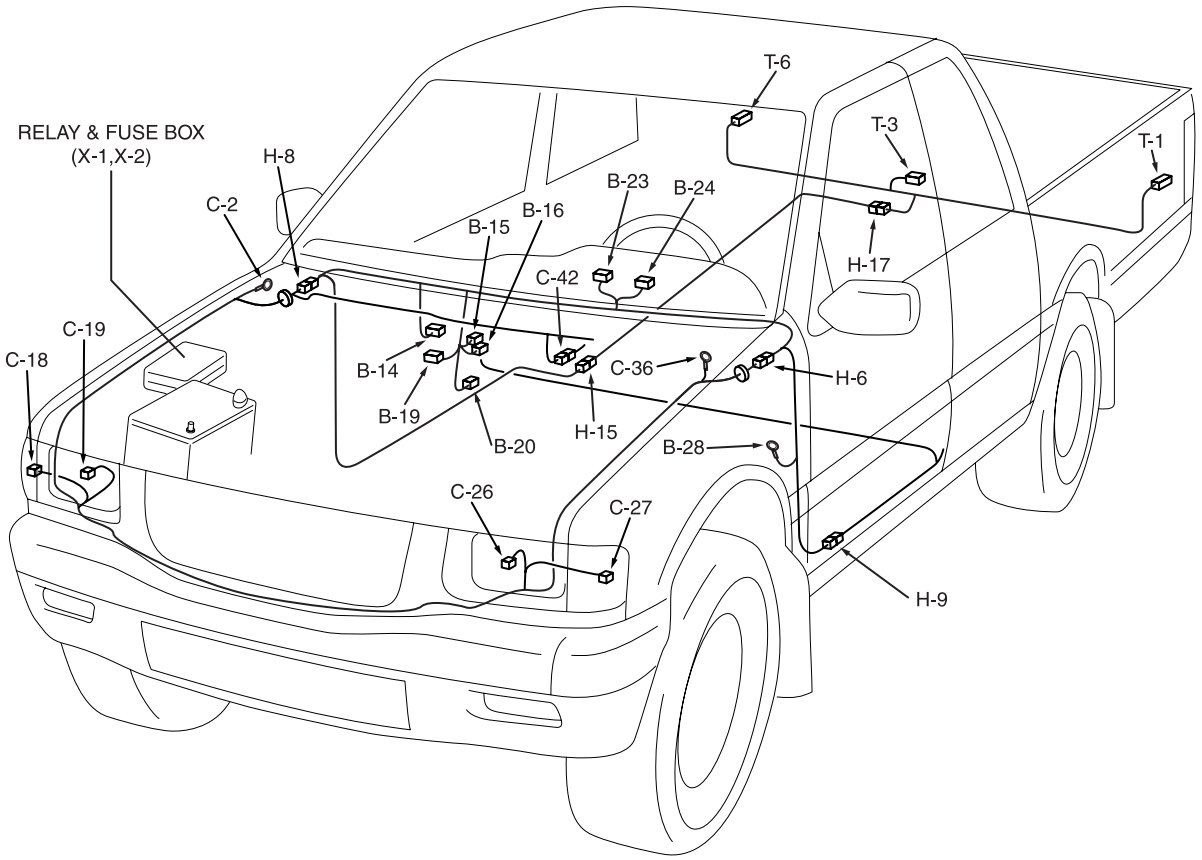
CIRCUIT DIAGRAM (RHD)



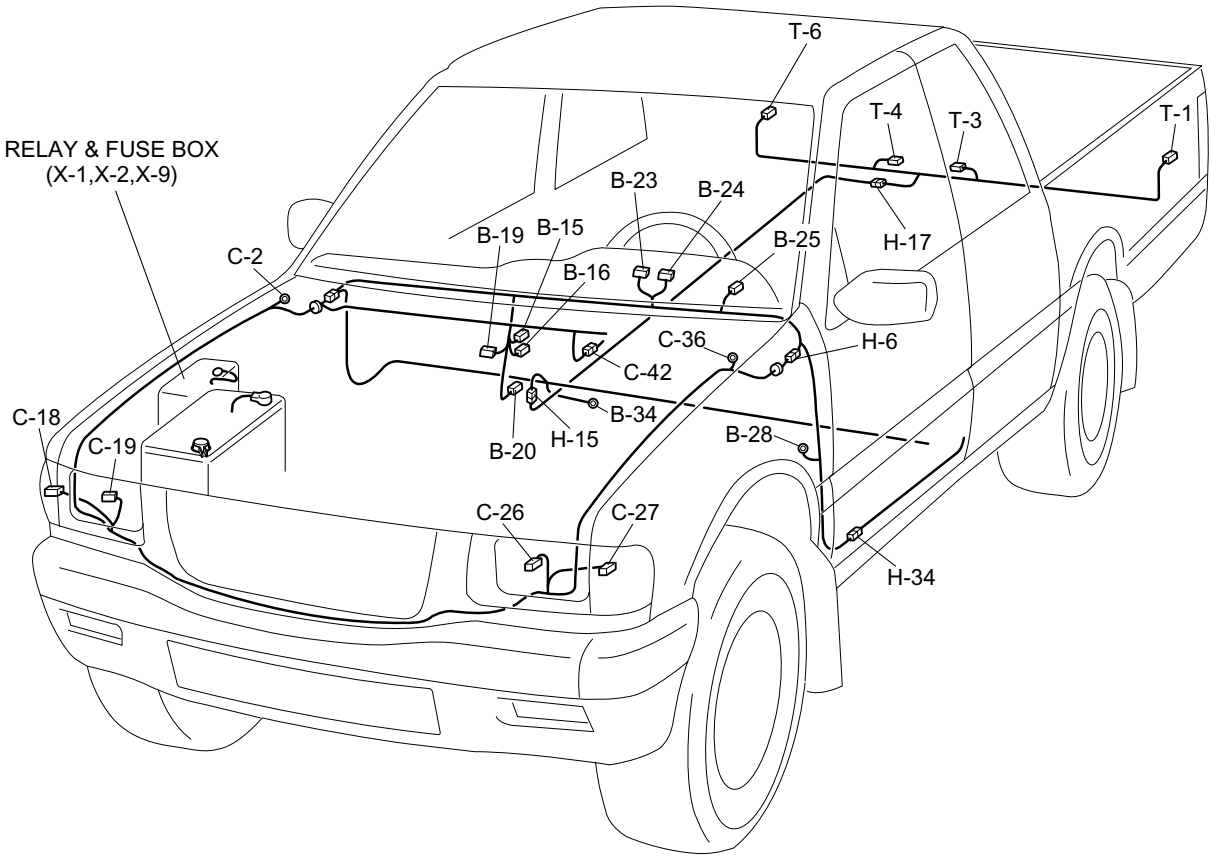

A
H-6
0.85W/G
H-4
E-37
FUEL CUT SOLENOID
B
0.5L/Y
C-23
THERMO SW
FUSE EB-12
0.5G/Y
H-6
0.85G/R
B-25
QWS SW
0.5L/Y
0.5G/O
X-8
RELAY; QWS
0.5G/B
C-46
0.5O
QOS / EGR / QWS CONTROL UNIT
0.5G/Y
0.5L/Y
C-31
VSV; EGR-1
0.5W/O
0.5L/Y
C-32
VSV; EGR-2
0.5W/R
TACHO METER
0.5B/R
H-4
E-36
TACHO SENSOR
0.5B
0.5O
0.5G
RELAY ; A/C THERMOSTAT (1)
X-14
DIODE
ACCEL. SW
C-40
C-13
VSV; THROTTLE-1 (4JG2)
VSV; EXHAUST-1 (4JA1)
1.25B
2B
0.5O/G
C-14
VSV; THROTTLE-2 (4JG2)
VSV; EXHAUST-2 (4JA1)
0.5G/O
C-15
VSV; FICD
BODY-RH
B-28
FENDER-LH
C-36
1.25B

LIGHTING

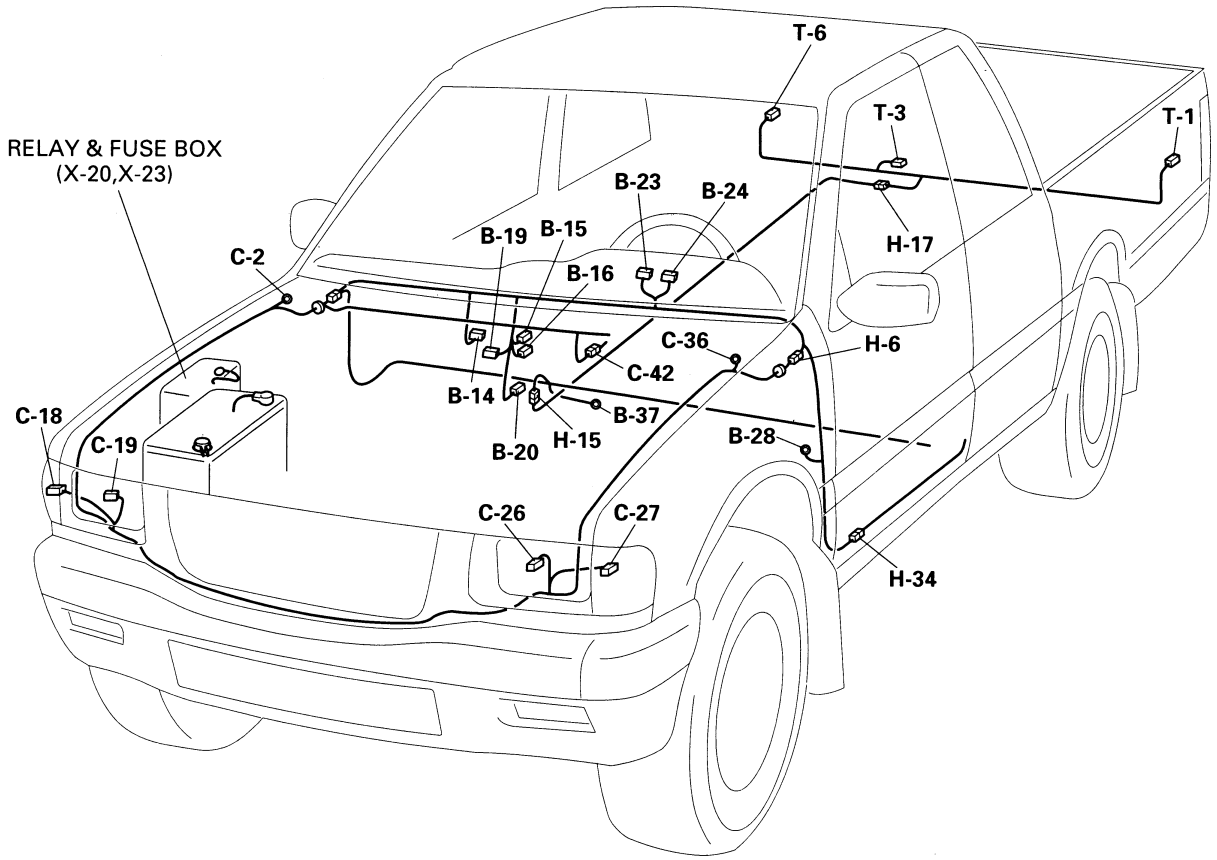
PARTS LOCATION (LHD EXCEPT EC)



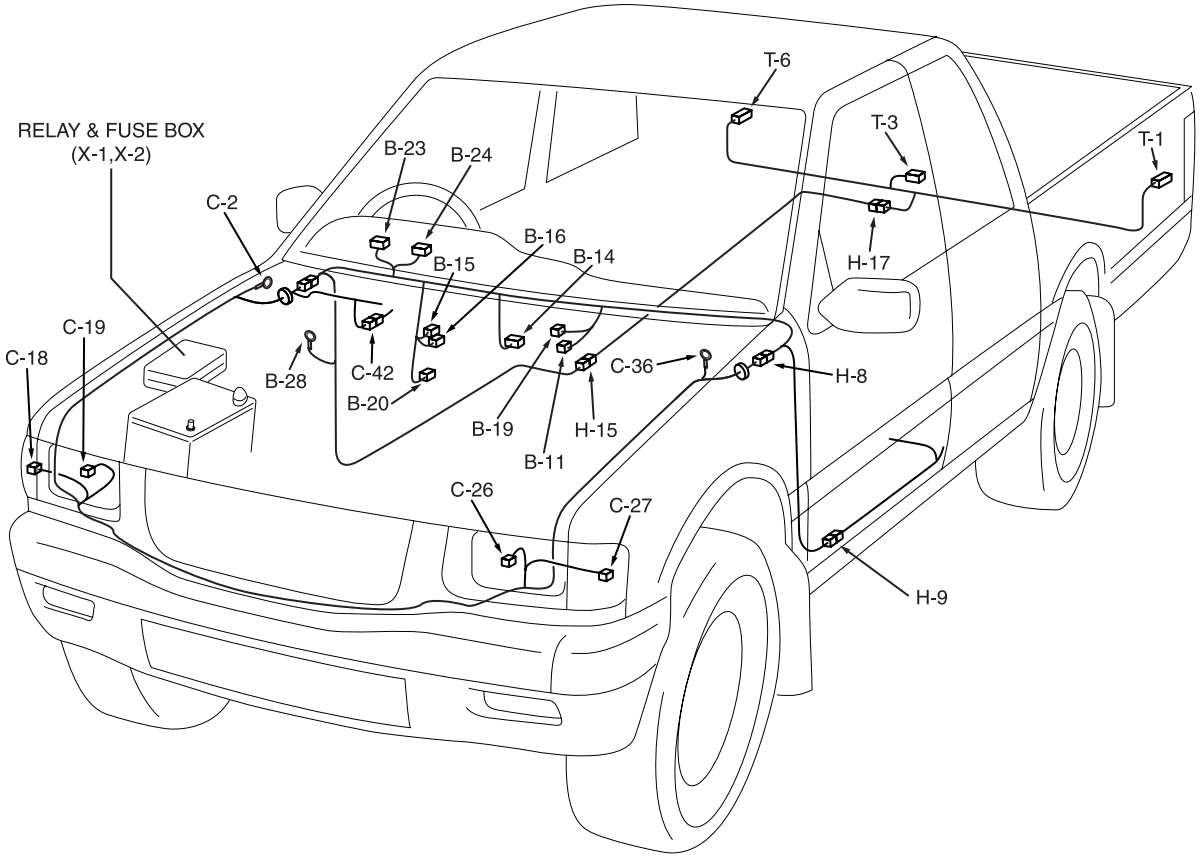
PARTS LOCATION (EC-LHD)



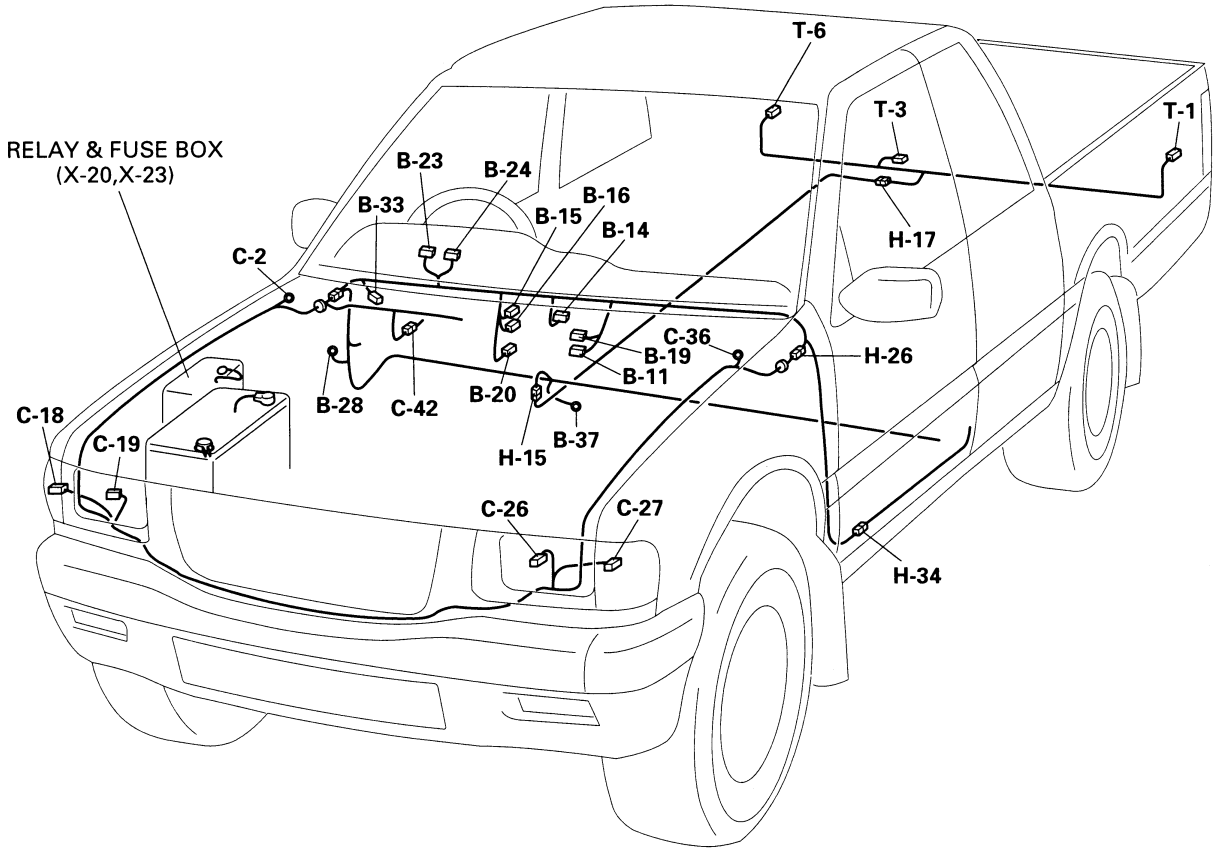
PARTS LOCATION (6VD1-LHD)



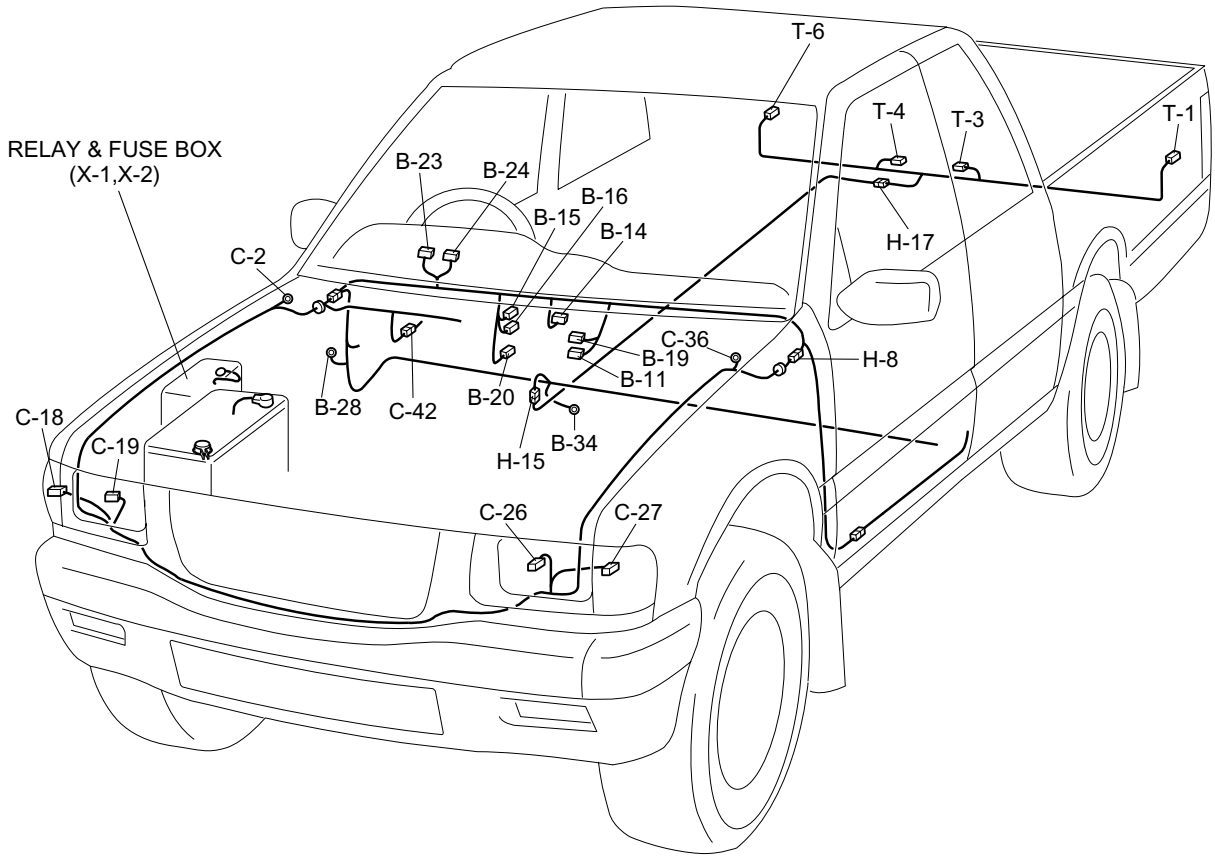
PARTS LOCATION (RHD EXCEPT UK)



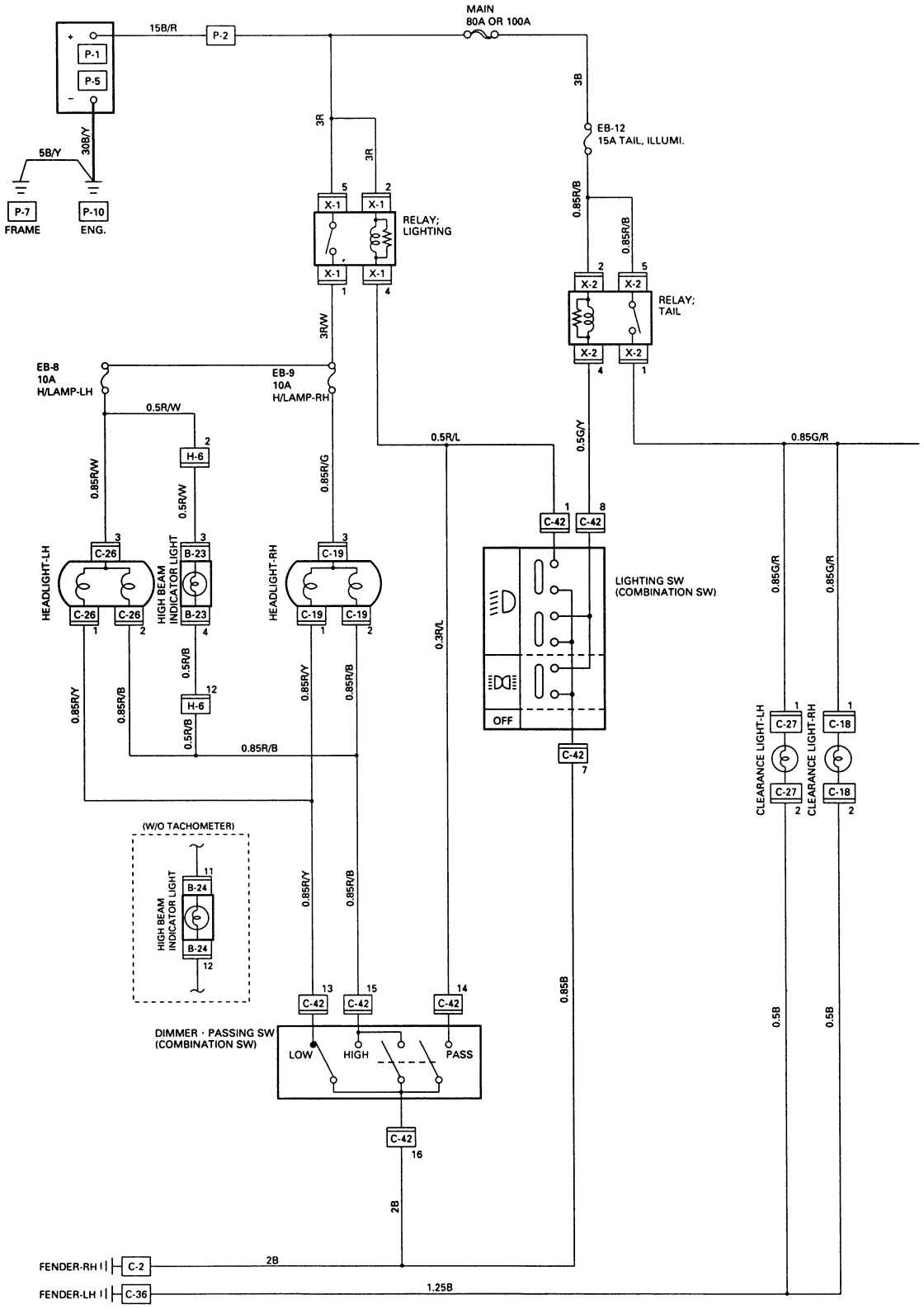
PARTS LOCATION (6VD1-RHD)

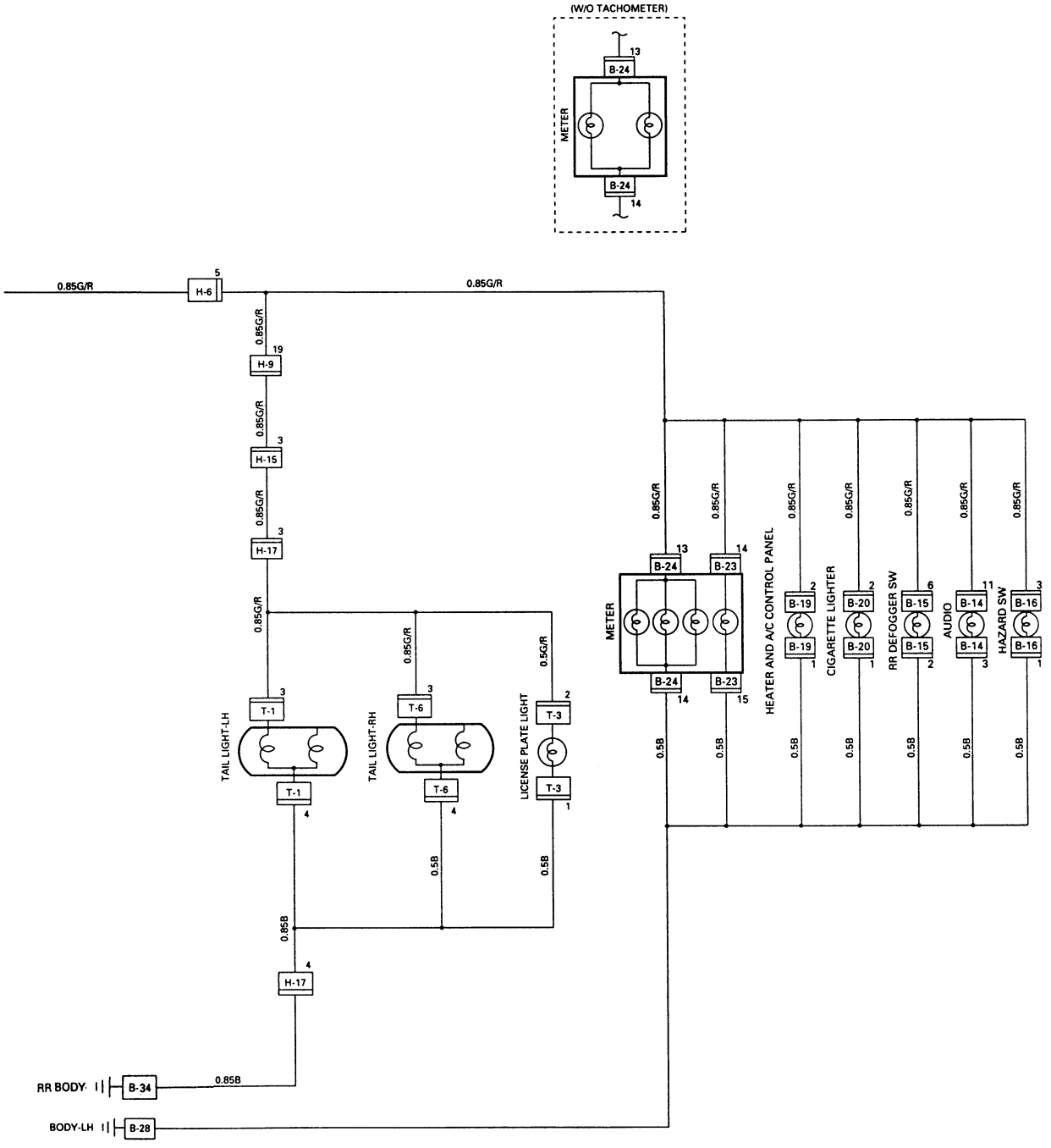


PARTS LOCATION (UK)

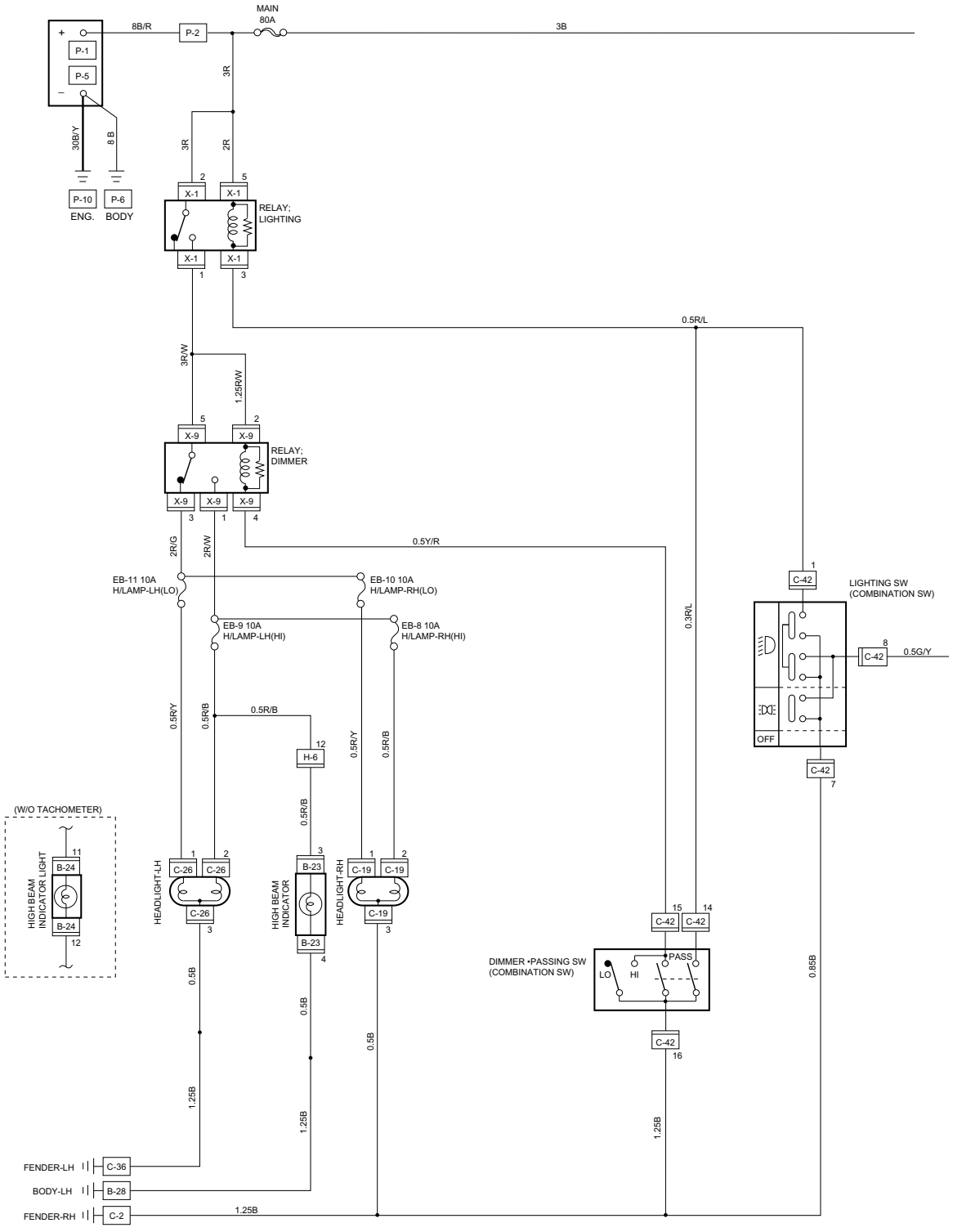


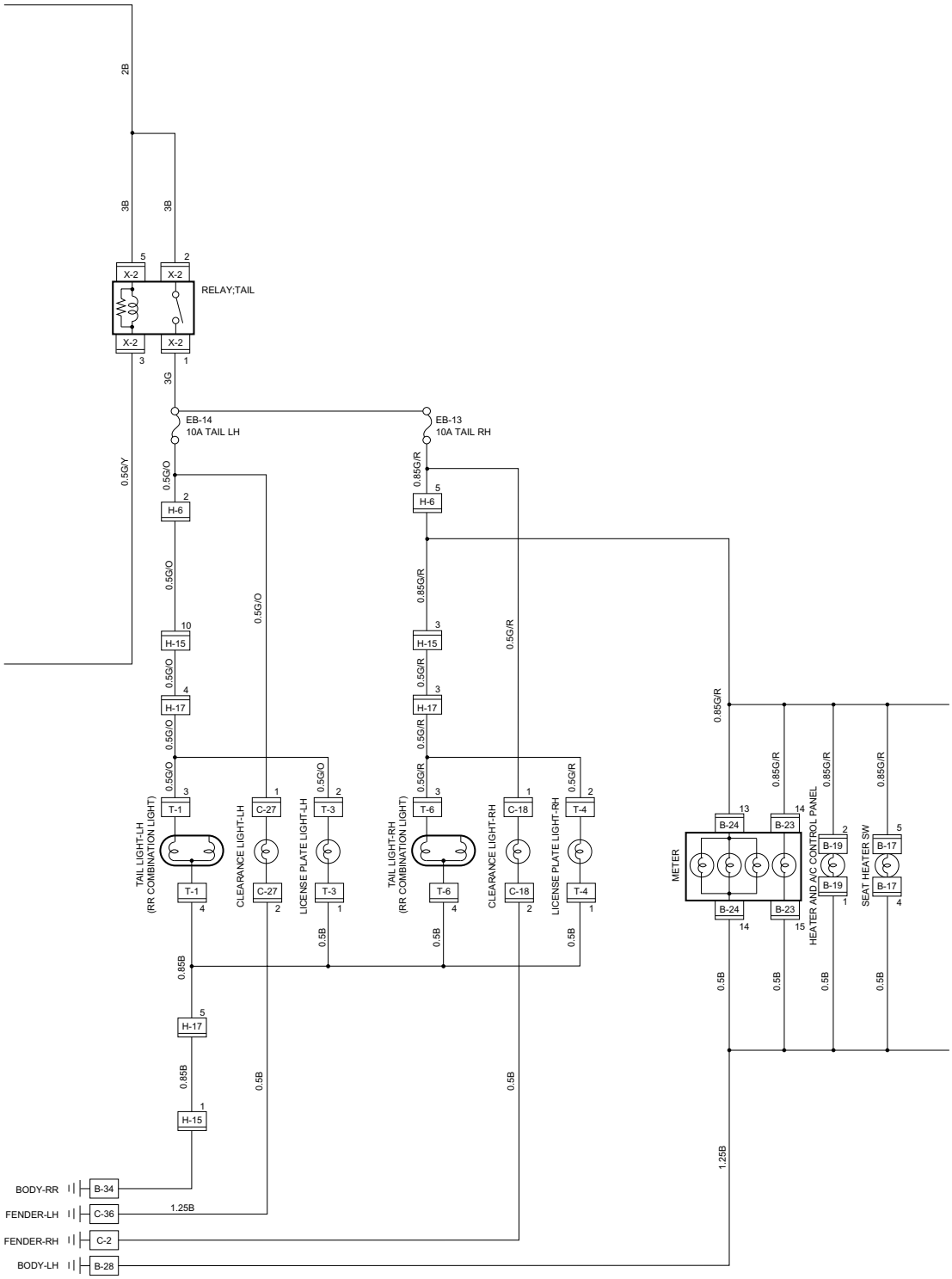
CIRCUIT DIAGRAM (LHD EXCEPT EC)

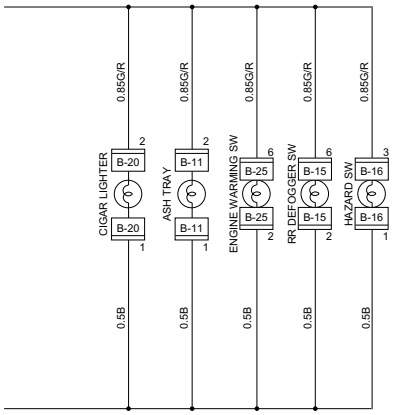



(W/O TACHOMETER)
METER
B-24
13
14
0.85G/R
H-6
5
H-9
19
H-15
3
H-17
3
4
T-1
T-6
T-3
TAIL LIGHT-LH
TAIL LIGHT-RH
LICENSE PLATE LIGHT
0.5G/R
0.5B
0.85B
RR BODY
B-34
BODY-LH
B-28
B-23
15
HEATER AND A/C CONTROL PANEL
B-19
CIGARETTE LIGHTER
B-20
RR DEFOGGER SW
B-15
AUDIO
B-14
HAZARD SW
B-16

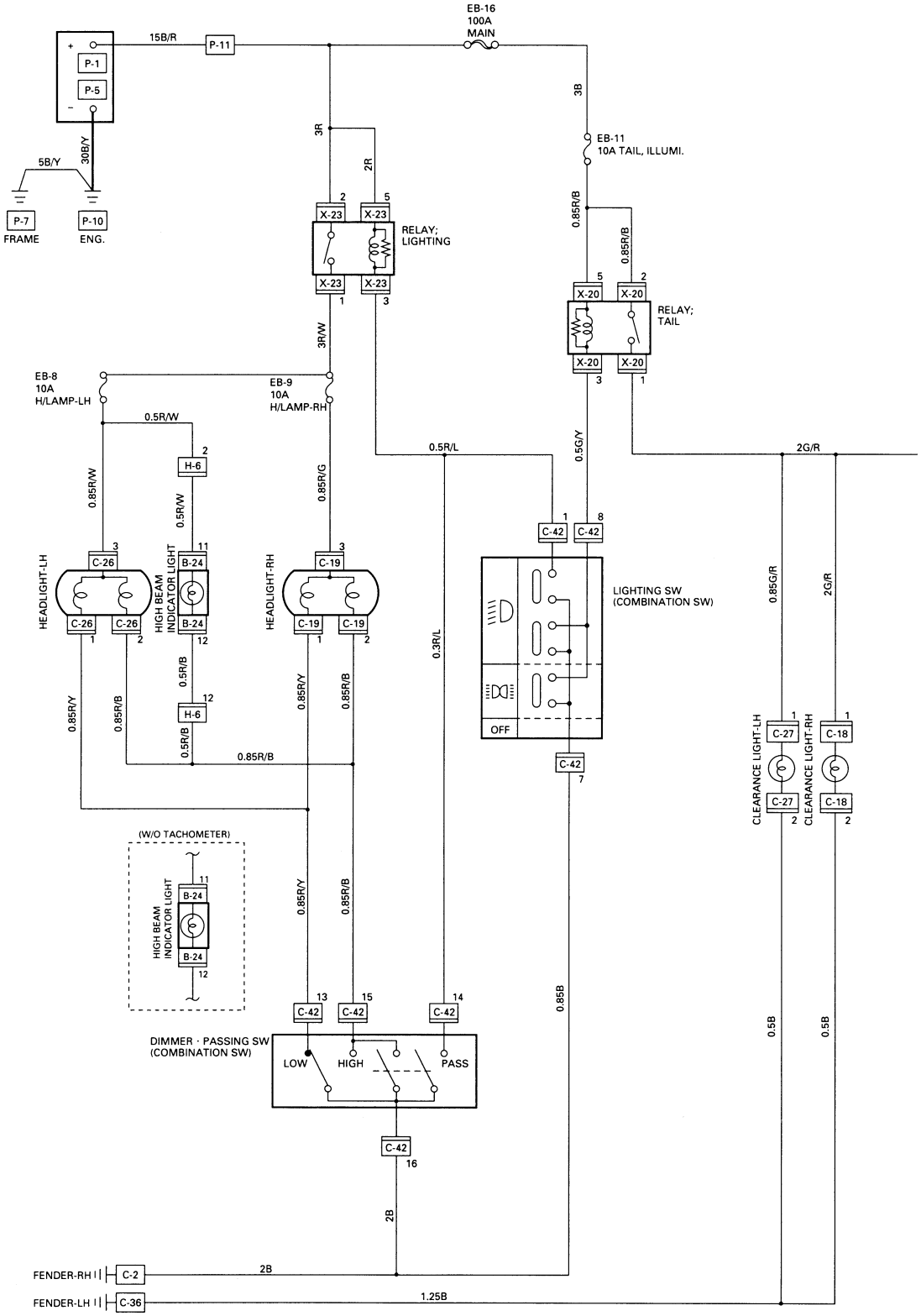
CIRCUIT DIAGRAM (EC-LHD)

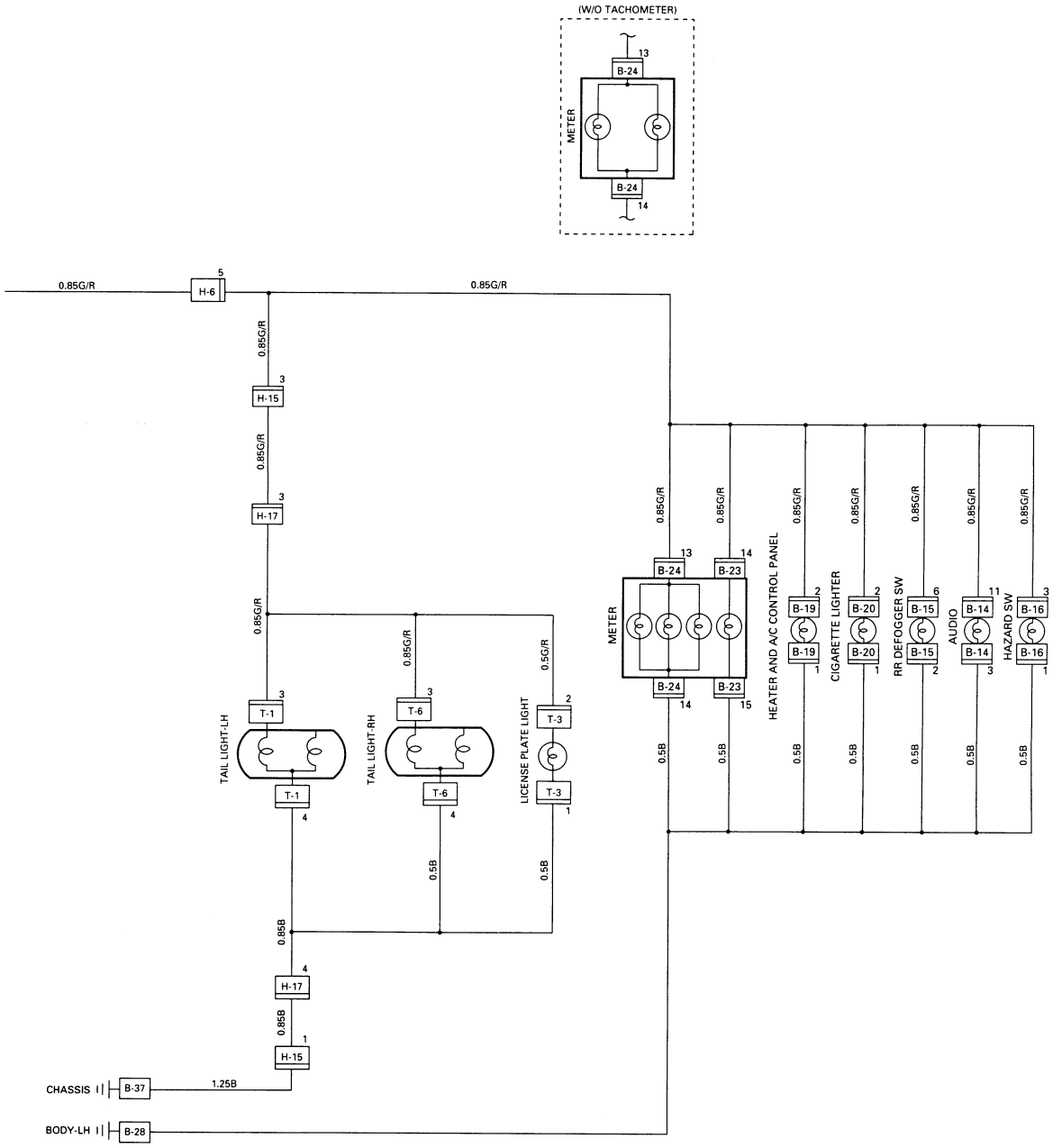



2B
3B
3B
X-2
X-2
RELAY;TAIL
X-2
X-2
3G
EB-14
10A TAIL LH
EB-13
10A TAIL RH
0.5G/Y
0.5G/O
0.85G/R
H-6
H-15
H-17
0.5G/O
0.5G/R
0.85G/R
0.5G/R
TAIL LIGHT-LH
(RR COMBINATION LIGHT)
CLEARANCE LIGHT-LH
LICENSE PLATE LIGHT-LH
TAIL LIGHT-RH
(RR COMBINATION LIGHT)
CLEARANCE LIGHT-RH
LICENSE PLATE LIGHT-RH
T-1
C-27
T-3
T-6
C-18
T-4
0.5B
0.85B
METER
B-24
B-23
B-19
B-17
HEATER AND A/C CONTROL PANEL
SEAT HEATER SW
1.25B
BODY-RR
FENDER-LH
FENDER-RH
BODY-LH
B-34
C-36
C-2
B-28

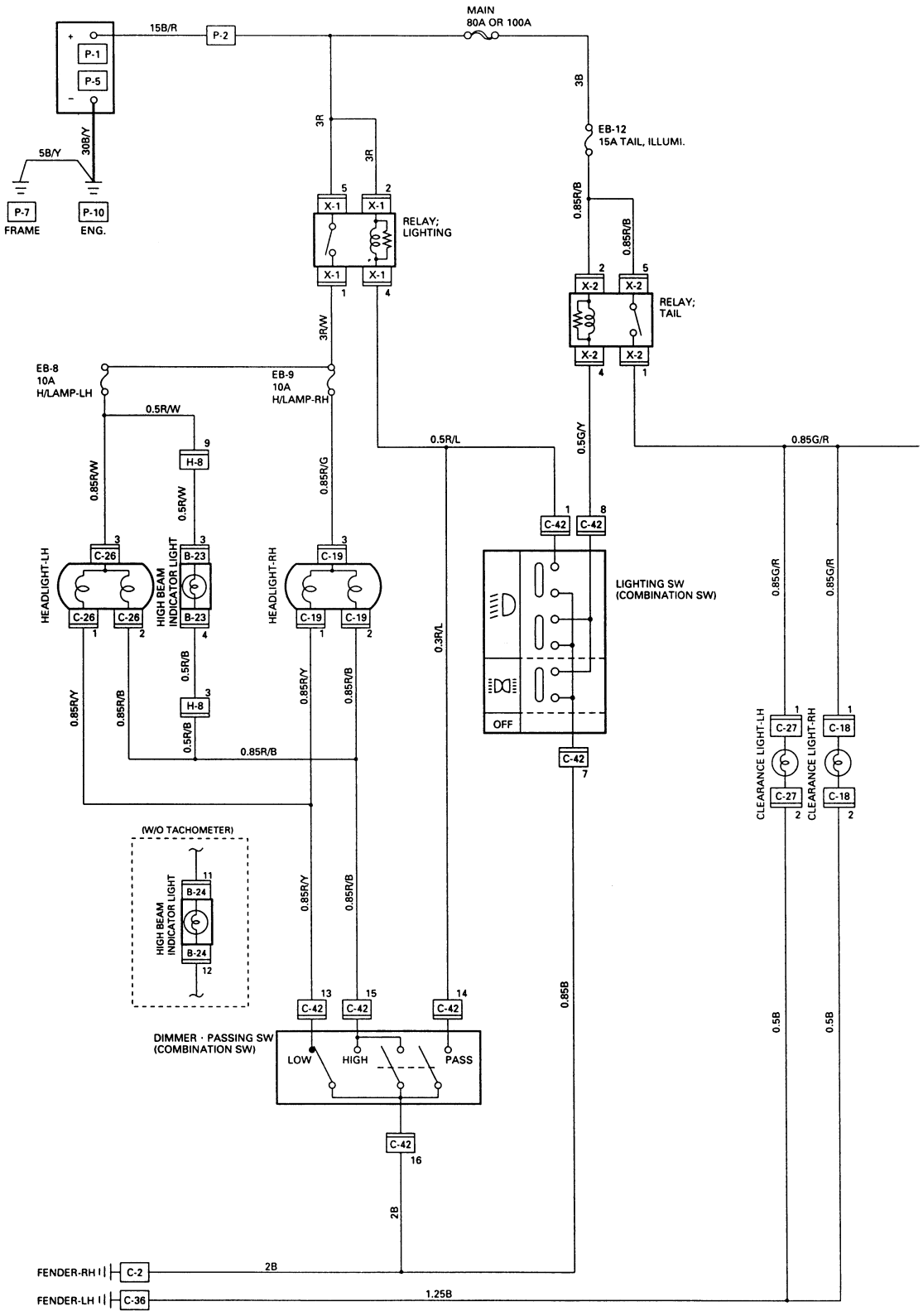

0.85G/R
0.85G/R
0.85G/R
0.85G/R
0.85G/R
CIGAR LIGHTER
ASH TRAY
ENGINE WARMING SW
RR DEFOGGER SW
HAZARD SW
B-20
B-11
B-25
B-15
B-16
2
1
6
3
0.5B
0.5B
0.5B
0.5B
0.5B

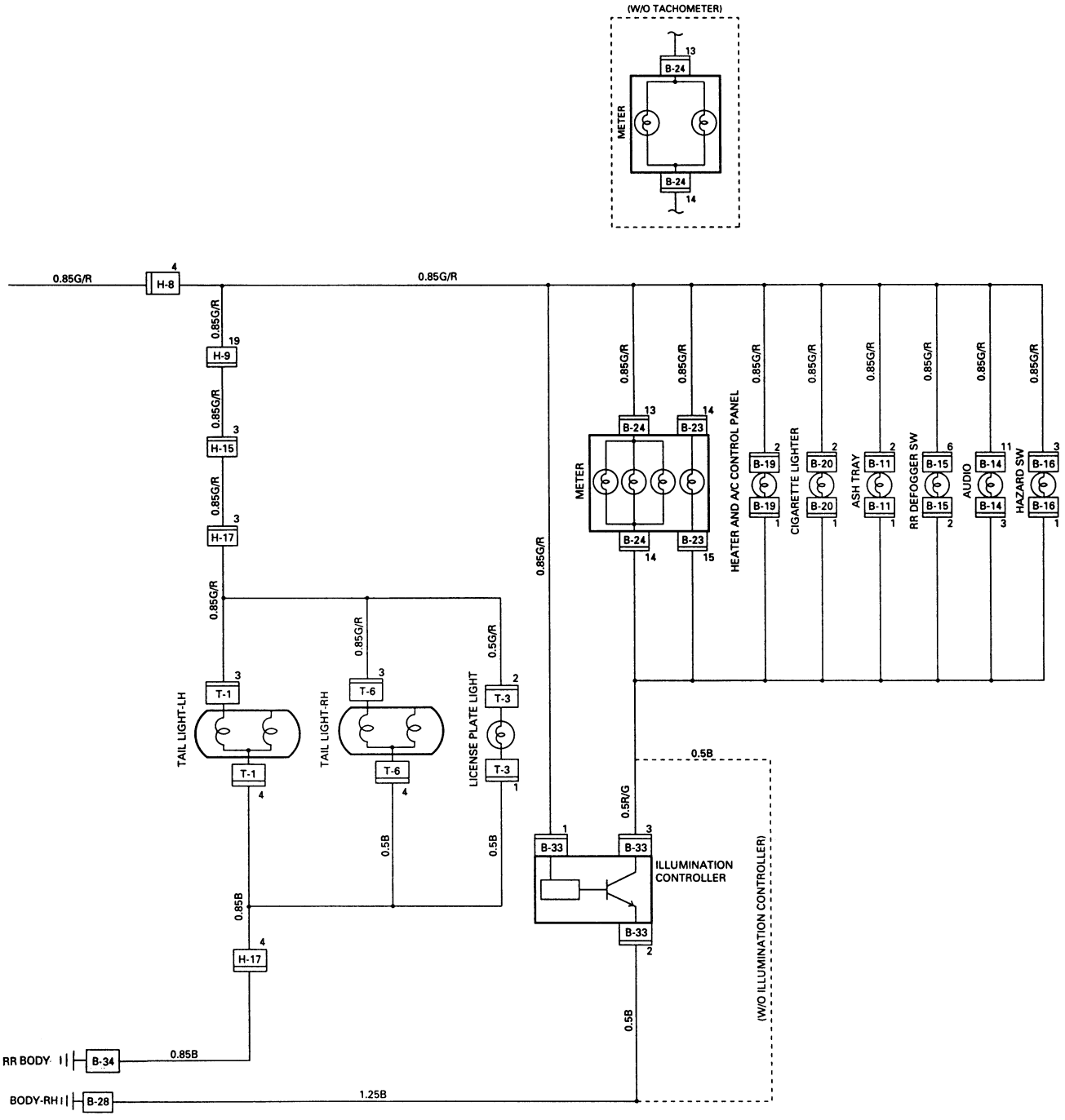
CIRCUIT DIAGRAM (6VD1-LHD)



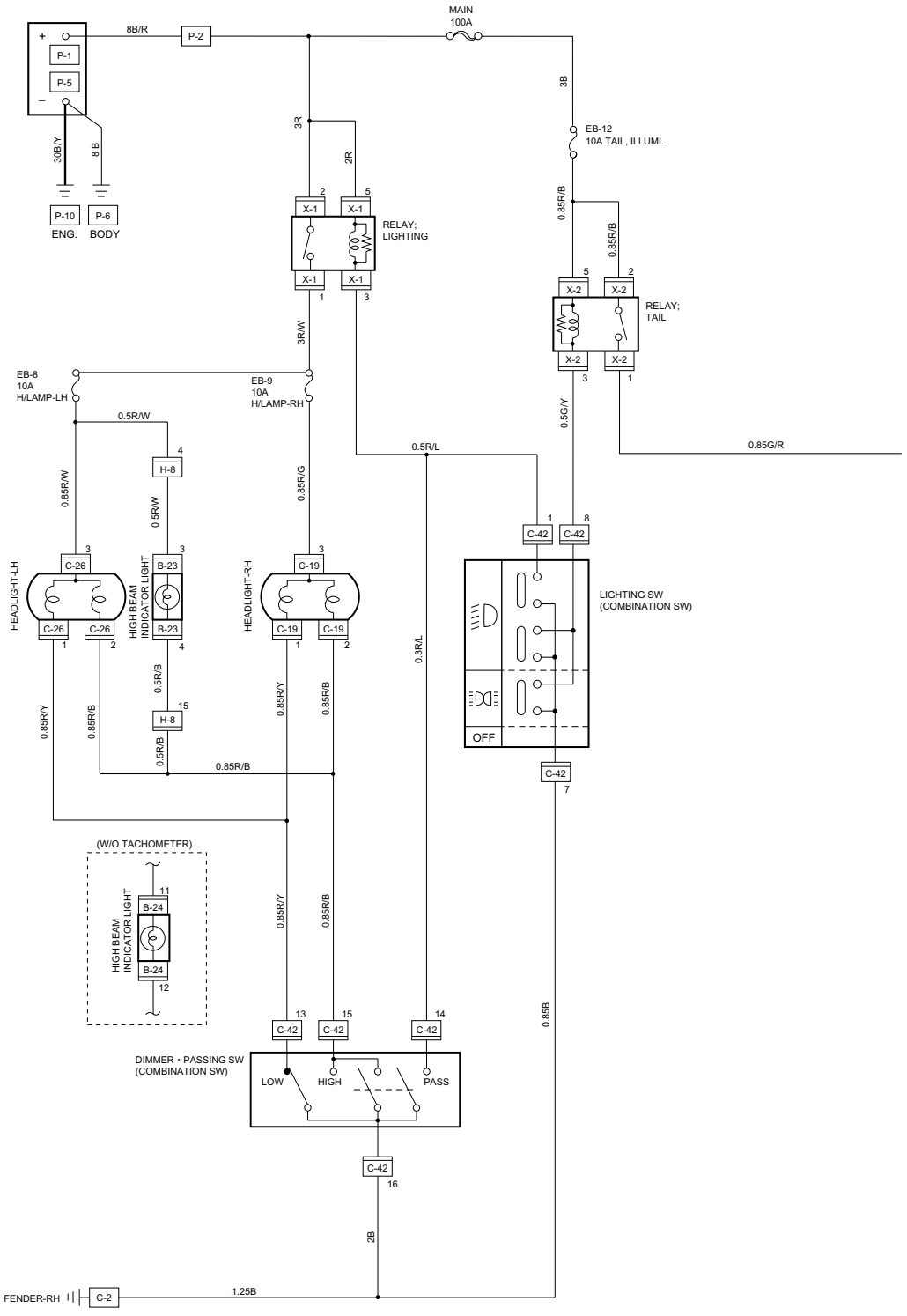

(W/O TACHOMETER)
METER
B-24
13
14
0.85G/R
H-6
5
H-15
3
H-17
3
T-1
T-6
T-3
TAIL LIGHT-LH
TAIL LIGHT-RH
LICENSE PLATE LIGHT
0.5G/R
0.5B
0.85B
1.25B
CHASSIS
B-37
BODY-LH
B-28
B-23
B-19
B-20
B-15
B-14
B-16
HEATER AND A/C CONTROL PANEL
CIGARETTE LIGHTER
RR DEFOGGER SW
AUDIO
HAZARD SW

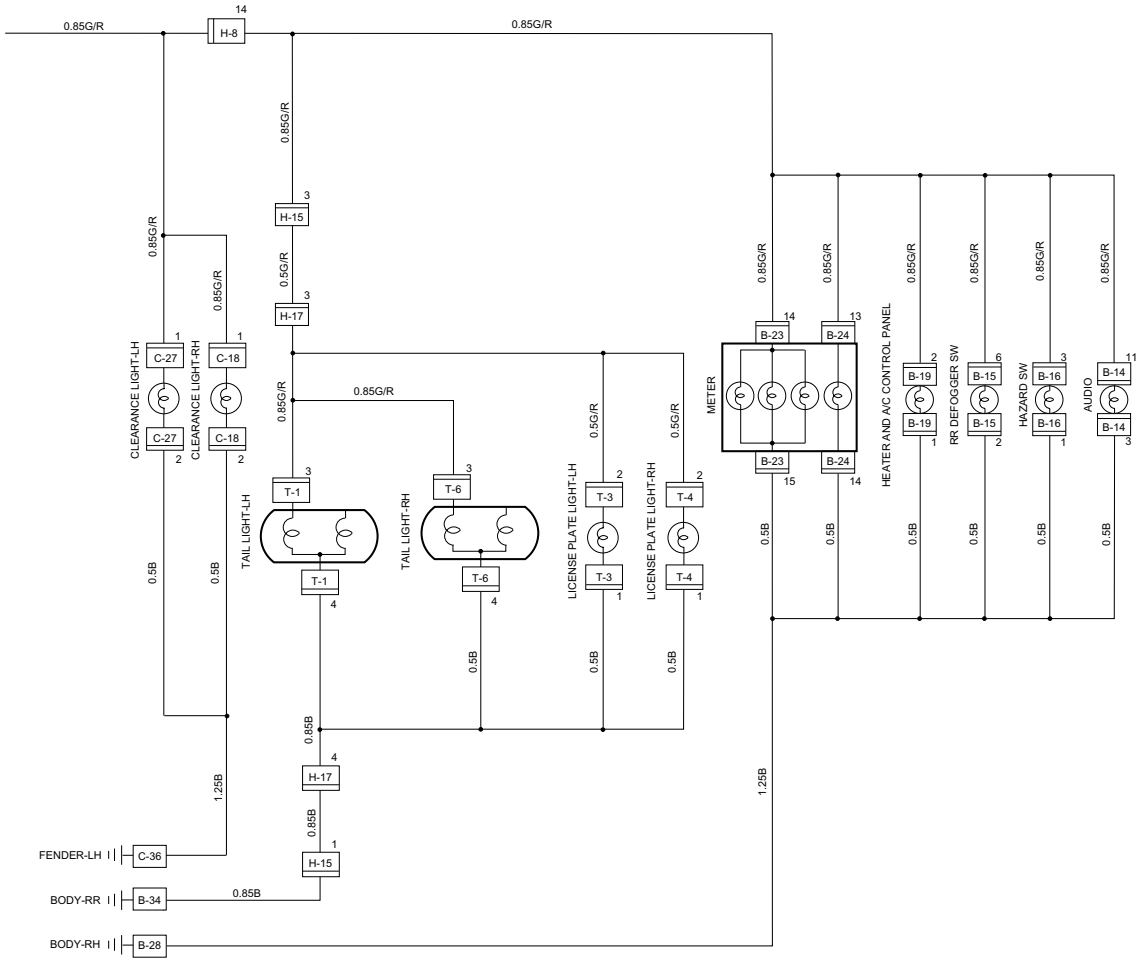
CIRCUIT DIAGRAM (RHD EXCEPT UK)



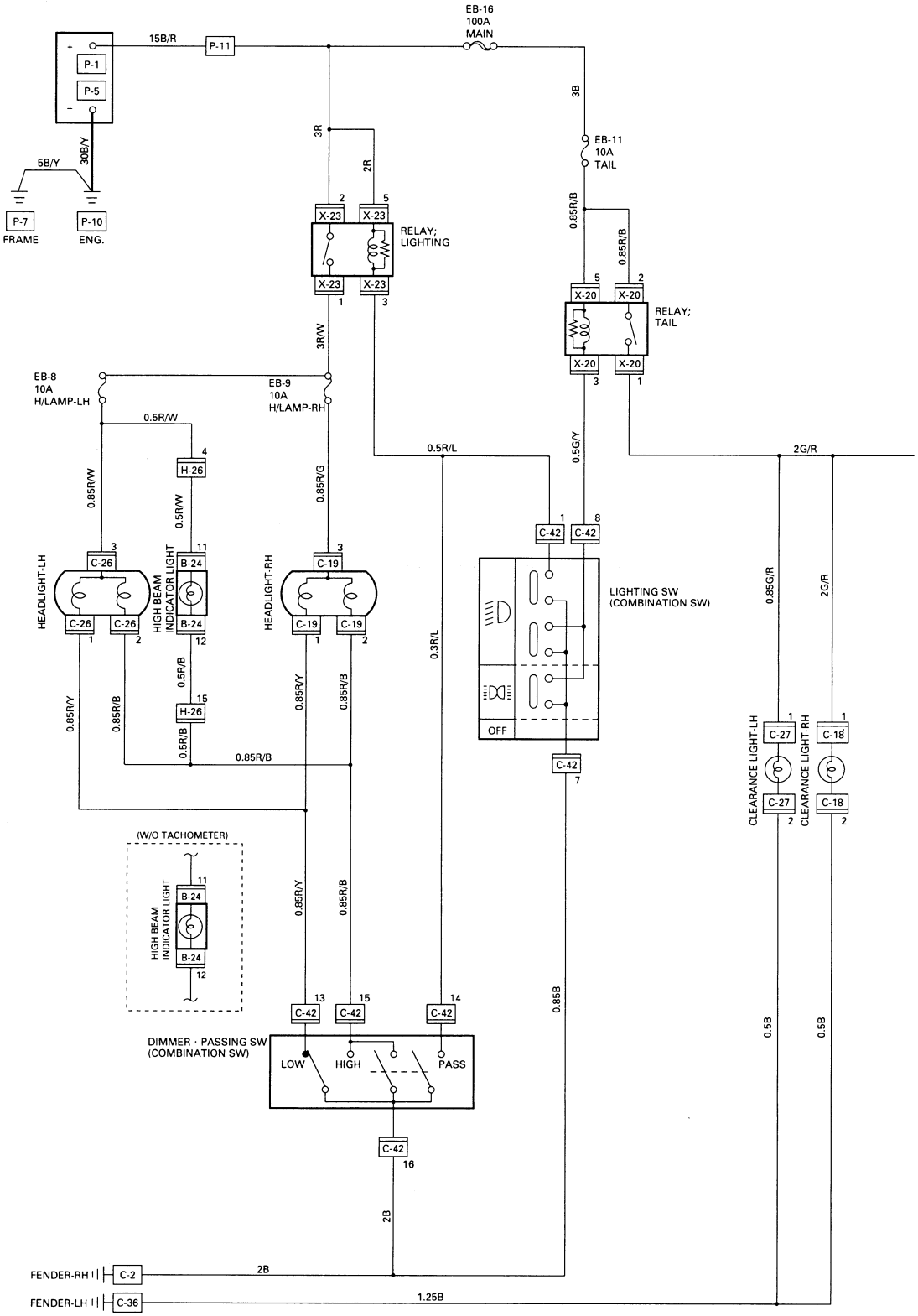

(W/O TACHOMETER)
METER
B-24
13
14
0.85G/R
H-8
4
H-9
19
H-15
3
H-17
3
B-23
15
HEATER AND A/C CONTROL PANEL
CIGARETTE LIGHTER
ASH TRAY
RR DEFOGGER SW
AUDIO
HAZARD SW
B-19
B-20
B-11
B-15
B-14
B-16
TAIL LIGHT-LH
TAIL LIGHT-RH
LICENSE PLATE LIGHT
T-1
T-6
T-3
0.5G/R
0.5B
0.85B
B-33
0.5R/G
ILLUMINATION CONTROLLER
(W/O ILLUMINATION CONTROLLER)
RR BODY
B-34
BODY-RH
B-28
1.25B

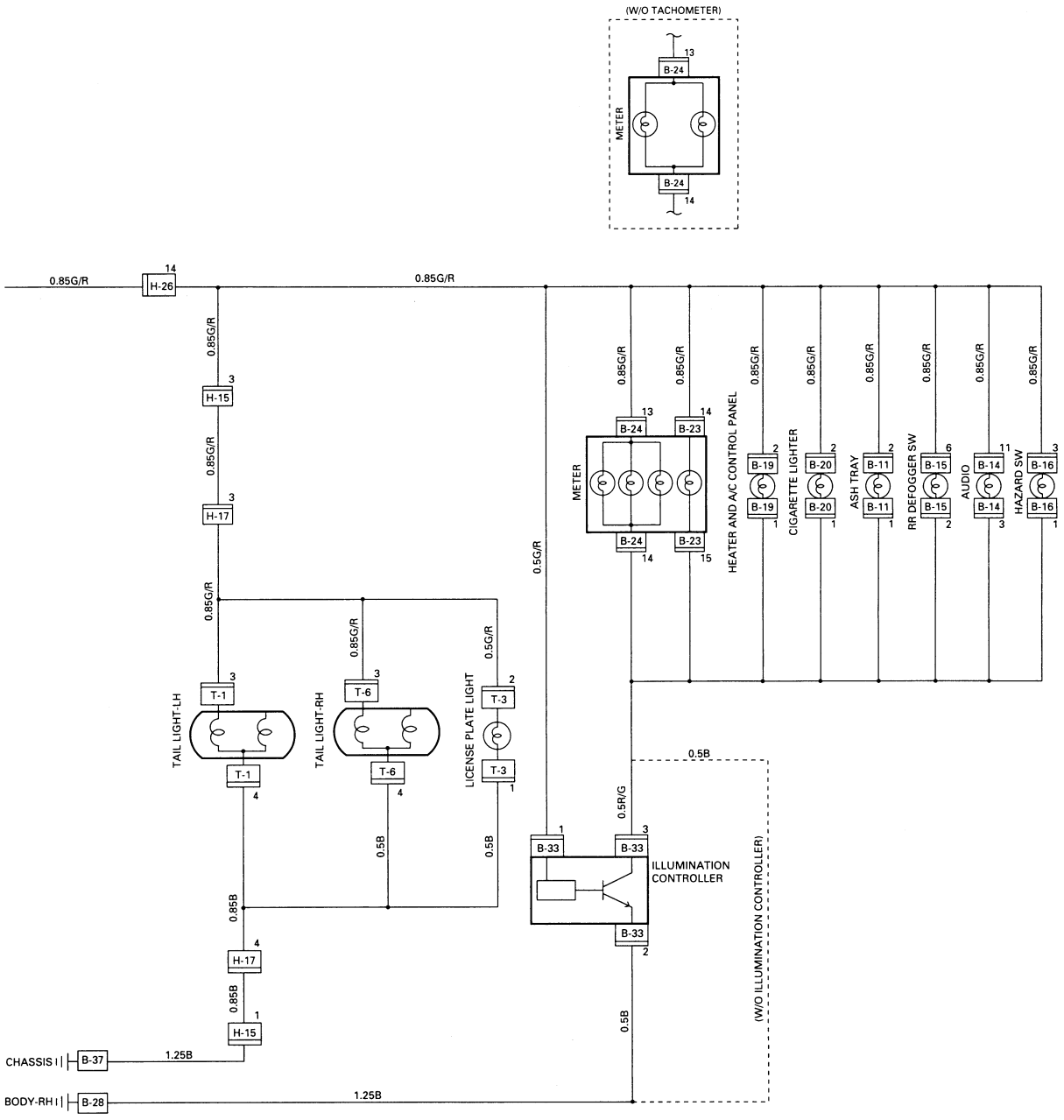
CIRCUIT DIAGRAM (UK)




0.85G/R
H-8
14
0.85G/R
0.85G/R
H-15
3
0.5G/R
H-17
3
0.85G/R
0.85G/R
C-27
C-18
1
CLEARANCE LIGHT-LH
CLEARANCE LIGHT-RH
2
0.5B
0.5B
0.85G/R
0.85G/R
T-1
T-6
3
TAIL LIGHT-LH
TAIL LIGHT-RH
4
0.5G/R
0.5G/R
T-3
T-4
2
LICENSE PLATE LIGHT-LH
LICENSE PLATE LIGHT-RH
1
0.5B
0.5B
0.5B
0.85B
H-17
4
1.25B
0.85B
H-15
1
FENDER-LH
C-36
BODY-RR
B-34
0.85B
BODY-RH
B-28
0.85G/R
0.85G/R
B-23
B-24
14
13
15
METER
HEATER AND A/C CONTROL PANEL
0.85G/R
0.85G/R
0.85G/R
0.85G/R
B-19
B-15
B-16
B-14
2
1
6
3
11
RR DEFOGGER SW
HAZARD SW
AUDIO
0.5B
0.5B
0.5B
0.5B
0.5B
0.5B
1.25B

CIRCUIT DIAGRAM (6VD1-RHD)




(W/O TACHOMETER)
METER
B-24
13
14
0.85G/R
H-26
14
H-15
H-17
3
0.5G/R
0.5B
0.5R/G
B-33
1
2
3
ILLUMINATION CONTROLLER
(W/O ILLUMINATION CONTROLLER)
HEATER AND A/C CONTROL PANEL
B-23
15
B-19
B-20
B-11
B-15
B-14
B-16
CIGARETTE LIGHTER
ASH TRAY
RR DEFOGGER SW
AUDIO
HAZARD SW
TAIL LIGHT-LH
TAIL LIGHT-RH
LICENSE PLATE LIGHT
T-1
T-6
T-3
4
0.85B
CHASSIS
B-37
1.25B
BODY-RH
B-28

TROUBLE SHOOTING

HEADLIGHT

1. Both the headlights (high and low beam) do not light

Checkpoint		Trouble Cause	Countermeasure
Ground point contact (C-2)	NG	Poor ground point contact	Repair the wiring
OK			
Combination switch continuity	NG	Poor switch contact or sw faulty	Repair or replace the combination switch
OK			
Lighting relay	NG	Poor relay contact or relay faulty	Reinstall or replace the lighting relay
OK			
Voltage between 5 [X-1] - ground and 2 [X-1] - ground	NG	Open circuit between battery positive terminal and lighting relay	Repair open circuit
OK			
Voltage between 1 [C-42] - ground	NG	Open circuit between lighting relay and lighting switch	Repair open circuit or connector contact
OK			
Wiring continuity between 7 [C-42] - [C-2] and 16 [C-42] - [C-2]	NG	Open circuit	Repair open circuit

2. High or low beam does not light on both headlights

Checkpoint		Trouble Cause	Countermeasure
Dimmer·passing switch continuity	NG	Poor switch contact or switch faulty	Repair or replace the combination switch
OK			
Voltage between 13 C-42 - ground and 15 C-42 - ground	NG	Open circuit between headlight and dimmer·passing switch	Repair open circuit or connector contact

3. RH (or LH) high and low beam does not light

Fuse No. EB-8 (10A) or No. EB-9 (10A) (Relay and fuse box) (No. EB-9 RH, No. EB-8: LH)	NG	Poor installation or blown fuse	Reinstall or replace fuse No. EB-8 or No. EB-9
OK			
Headlight connector continuity	NG	Blown filament or air leakage	Replace the headlight bulb
OK			
Wiring continuity between connector 3 C-19 - fuse No. EB-9 or 3 C-26 fuse No. EB-8	NG	Open circuit and/or poor connector contact	Repair or replace the wire and/or connector

4. High or low beam does not light on one headlight (RH or LH)

Headlight connector continuity	NG	Blown filament	Replace the headlight assembly
OK			
Wiring continuity between headlight and dimmer·passing switch	NG	Open circuit between headlight and dimmer·passing switch	Repair open circuit or connector contact

5. Headlight does not go out

Checkpoint		Trouble Cause	Countermeasure
Lighting relay continuity between connector 1 [X-1] - 5 [X-1] (Should be no continuity)	NG	Relay point fused	Replace the lighting relay
OK			
Lighting switch continuity between connector 1 [C-42] -7 [C-42] when switch is OFF(Should be no continuity)	NG	point fused or faulty	Replay the combination switch
OK			
Dimmer·passing switch continuity between connector 14 [C-42] - 16 [C-42] when switch is not operating (Should be no continuity)	NG	Switch point fused or faulty	Repair or replace the combination switch
OK			
Check if headlight goes out when connector [C-42] is disconnected	NG	Short circuit	Repair short circuit between 4 [X-1] - 1 [C-42] and 4 [X-1] - 14 [C-42]

6. Insufficient headlight brightness

Headlight lens	NG	Lens dirty	Clean the light lens
OK			
Headlight bulb	NG	Bulb filament faulty	Replace the headlight bulb
OK			
Dimmer·passing switch Wire continuity between connector 16 [C-42] - [C-2]	NG	Poor ground point contact	Repair the wiring

7. Passing light does not function when dimmer switch is operated

Checkpoint		Trouble Cause	Countermeasure
Dimmer switch	NG	Poor switch point contact	Repair or replace the dimmer switch
OK			
Voltage between 14 C-42 - ground (Should be battery voltage present)	NG	Open circuit	Repair open circuit between 4 X-1 - 14 C-42

8. Headlight beam does not change when dimmer switch is operated

Dimmer switch	NG	Loose beam lever or foreign material in switch	Repair or replace the dimmer switch

TAIL LIGHT, LICENSE PLATE LIGHT, CLEARANCE LIGHT AND ILLUMINATION CONTROLLER

1. All lights do not light

Checkpoint		Trouble Cause	Countermeasure
Fuse No. EB-12 (15A, Relay and fuse box)	NG	Poor fuse contact or blown	Reinstall or replace the fuse No. EB-12
OK			
Lighting switch continuity between connector 8 C-42 - 7 C-42	NG	Poor switch point or connector contact	Repair or replace the combination switch
OK			
Tail relay	NG	Poor relay contact or relay faulty	Reinstall or replace the tail relay

2. Tail light does not light

Tail light bulb continuity	NG	Bulb burned out or poor connector contact	Replace the bulb or repair connector contact
OK			
Continuity between connector 3 T-6 - 4 T-6 (RH) or 3 T-1 - 4 T-1 (LH)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

3. License plate light does not light

Checkpoint		Trouble Cause	Countermeasure
License plate light bulb continuity	NG	Bulb burned out or poor connector contact	Replace the bulb or repair connector contact
OK			
Continuity between connector 1 T-3 - 2 T-3	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

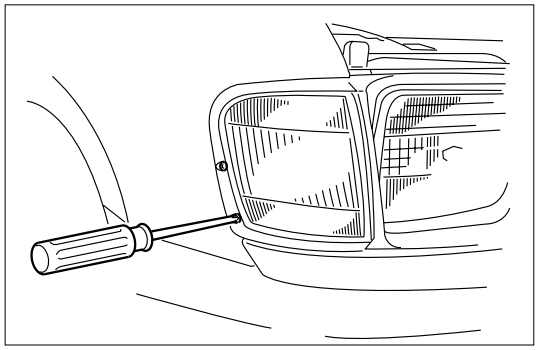
4. Clearance light does not light

Clearance light bulb continuity	NG	Bulb burned out or poor connector contact	Replace the bulb or repair connector contact

5. Illumination controller does not operate

Disconnect the illumination controller connector (Light should be dim)	NG	Short circuit	Repair short circuit or replace the wire
OK			
Turn the illumination controller knob (Brightness should change)	NG	Loose knob or faulty controller	Repair knob installation or replace the controller

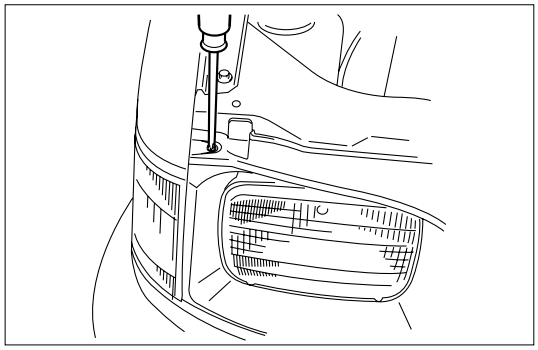
REMOVAL AND INSTALLATION



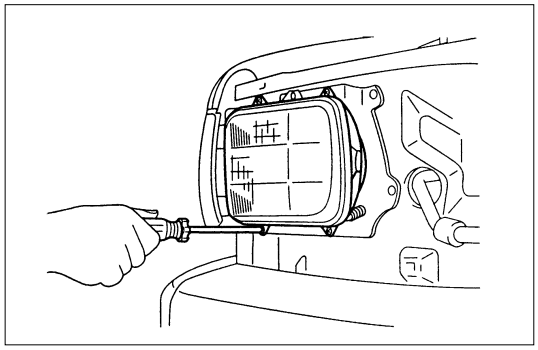
HEADLIGHT

Removal

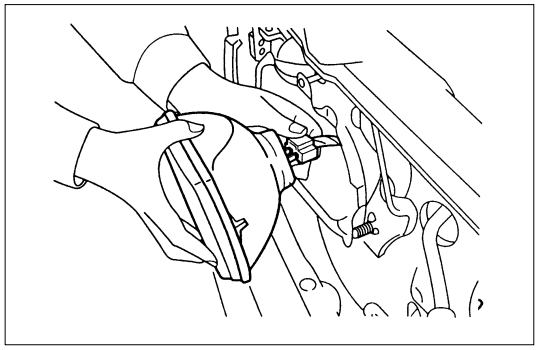
1. Remove the radiator grille center bolt.



2. Use a screwdriver to raise the clip and release the lock. Place a clean rag beneath the screwdriver tip to protect the body painted surfaces.
3. Remove the radiator grille.



4. Remove the headlight rim.



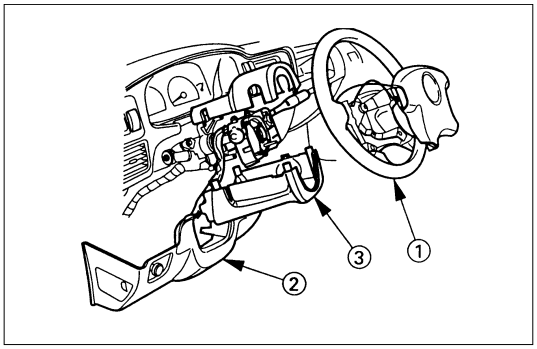
5. Disconnect the headlight connector.
6. Remove the headlight.

Installation

Follow the removal procedure in the reverse order to install the headlight.
Pay close attention to the important points mentioned in the following paragraphs.

Connector

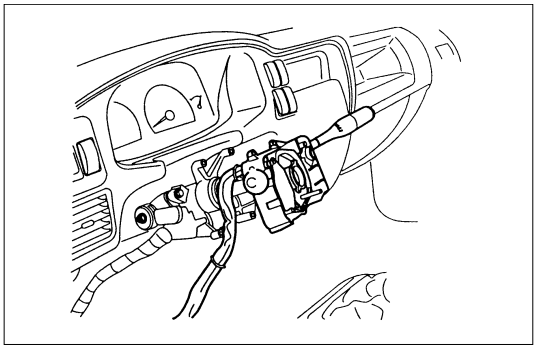
Be absolutely sure that the headlight connector is securely connected.
This will prevent a contact and an open circuit.



LIGHTING SWITCH

Removal

1. Remove the steering wheel ①.
   Refer to the “STEERING” Section of this manual.
2. Remove the Instrument panel lower cover ②.
3. Remove the steering column cover ③.



4. Disconnect the connector.
5. Remove the lighting switch from the steering shaft.

Installation

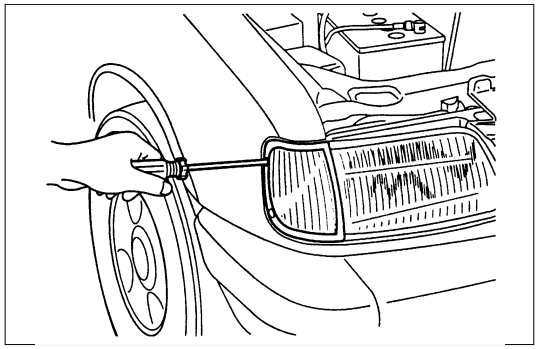
Follow the removal procedure in the reverse order to install the lighting switch.
Pay close attention to the important points mentioned in the following paragraphs.

Connector

Be absolutely sure that the lighting switch connector is securely connected.
This will prevent a poor contact and an open circuit.

Wire Harness

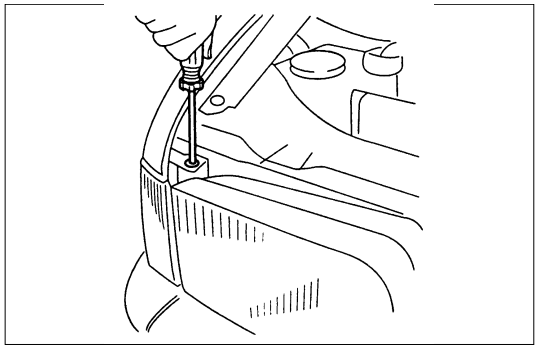
Do not pinch the wire harnesses between the cluster and the meter hood during the cluster installation procedure.
Wire damage will result.



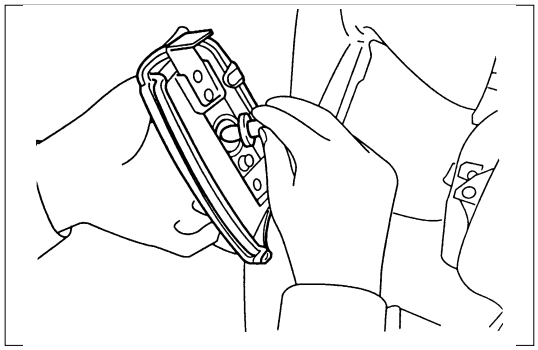
CLEARANCE LIGHT

Removal

1. Remove the radiator grille.
   (Refer to headlight removal procedure.)
2. Remove the side screws.



3. Remove the top screw.



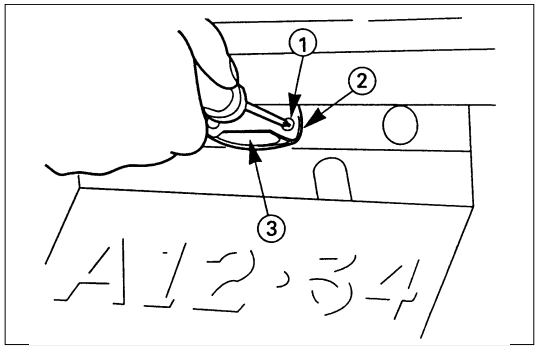
4. Turn the socket counterclockwise to disconnect it from the clearance light housing.
5. Pull the bulb from the socket.

Installation

Follow the removal procedure in the reverse order to install the clearance light.
Pay close attention to the important points mentioned in the following paragraphs.

Connector

Be absolutely sure that the clearance light connector is securely connected.
This will prevent a poor contact and an open circuit.



LICENSE PLATE LIGHT

Removal

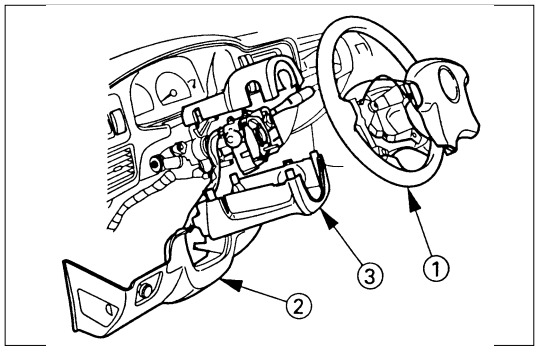
1. Loosen the screws ①.
2. Remove the lens cover ② and the lens ③.
3. Pull the bulb to remove it.

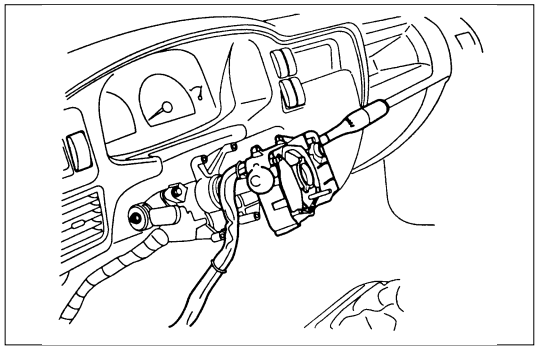
Installation

Follow the removal procedure in the reverse order to install the license plate light.
Pay close attention to the important points mentioned in the following paragraphs.

Bulb

Be absolutely sure that the license plate light bulb is correctly installed.
This will prevent a poor contact and open circuit.





HEADLIGHT BEAM SWITCH (COMBINATION SWITCH)

Removal

1. Remove the screws on the lower part of the steering wheel.
2. Remove the horn pad.
3. Remove the wiring connector.
4. Remove the steering wheel fixing nuts.
5. Remove the steering wheel.
   Refer to the "STEERING" Section of this manual.
6. Remove the Instrument panel lower cover.
7. Remove the steering column cover.
8. Disconnect the connector.
9. Remove the headlight beam switch (lever) from the steering shaft (combination switch).

Installation

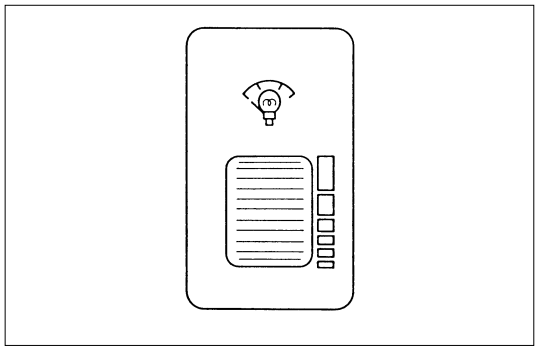
Follow the removal procedure in the reverse order to install the headlight beam switch(lever).
Pay close attention to the important points mentioned in the following paragraphs.

Connector

Be absolutely sure that the headlight beam switch connector is securely connected.
This will prevent a poor contact and an open circuit.

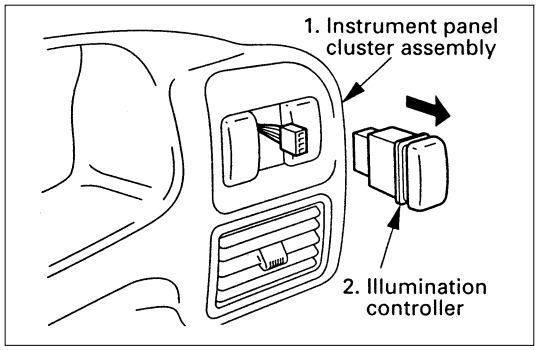
Wire Harness

Do not pinch the wire harnesses between the cluster and the meter hood during the cluster installation procedure.
Wire damage will result.



ILLUMINATION CONTROLLER

Turning the illumination controller knob upward increases the brightness of each illumination light, turning it downward decreases its brightness.



Removal

1. Instrument Panel Cluster Assembly
   - Refer to Section 10 “BODY” for instrument panel cluster assembly removal steps.
2. Illumination Controller
   - Disconnect the switch connector.
   - To remove the switch, push the lock from the back side of the cluster assembly.

Installation

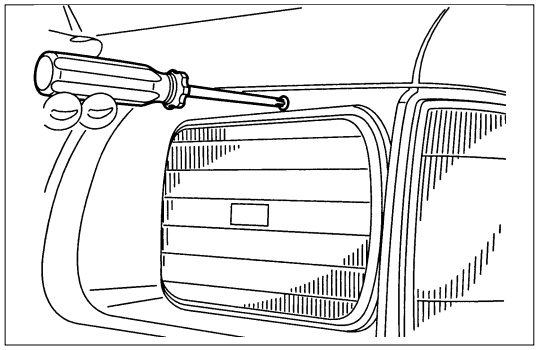
To install, follow the removal procedure in the reverse order.

Connector

Be absolutely sure that the illumination controller connector is securely connected.
This will prevent a poor contact and an open circuit.

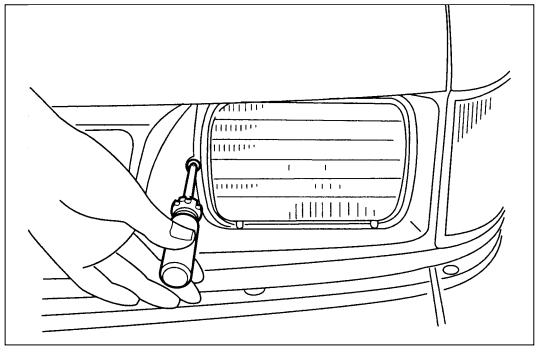
AIMING OF HEADLIGHT

check and adjust the inflation pressures, clean the headlight, park the vehicle on a level surface and insure that vehicle is at curb weight.



VERTICAL ADJUSTMENT

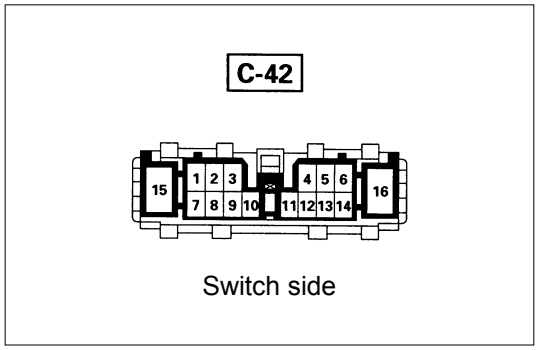
Use a screwdriver for vertical adjustment.



HORIZONTAL ADJUSTMENT

Use a screwdriver horizontal adjustment.

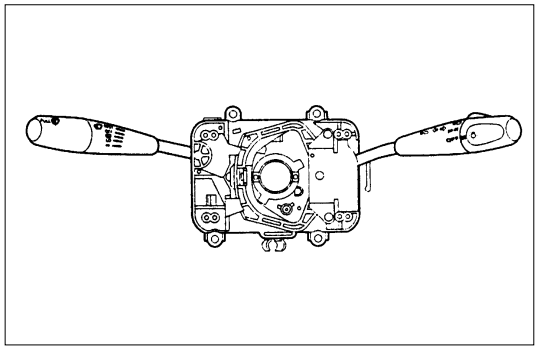
INSPECTION AND REPAIR

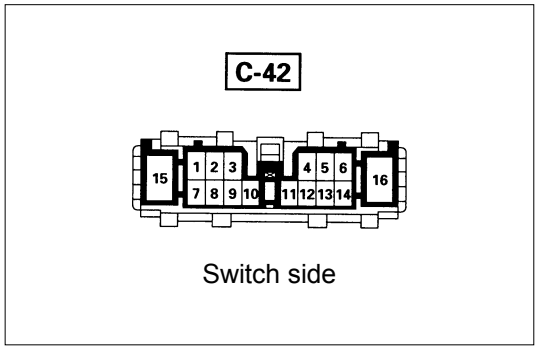


LIGHTING SWITCH

Lighting Switch Connections

SW position \ Terminal No.	1	7	8
OFF			
Tail		○	○
⇕		○	○
Headlight	○	○	○

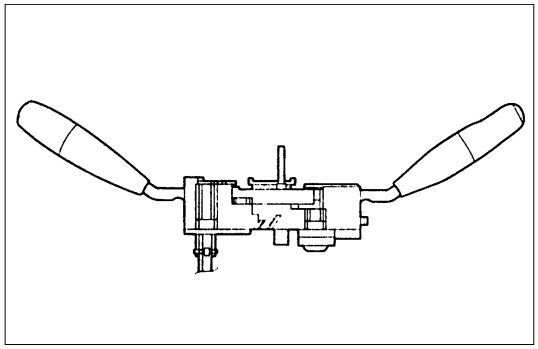


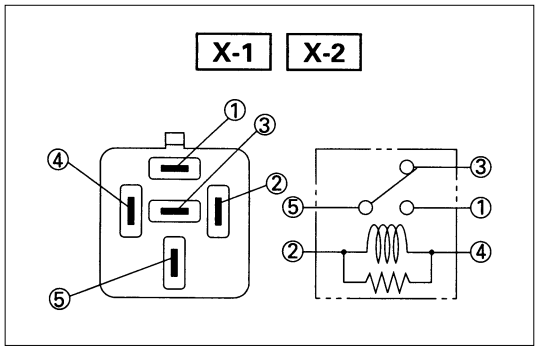


HEADLIGHT BEAM SWITCH

Headlight Beam and Passing Switch Connections

SW position \ Terminal NO.		16	13	15	14
At “Dimmer” position	HI	○		○	
	LO	○	○		
At “Passing” Position		○		○	○

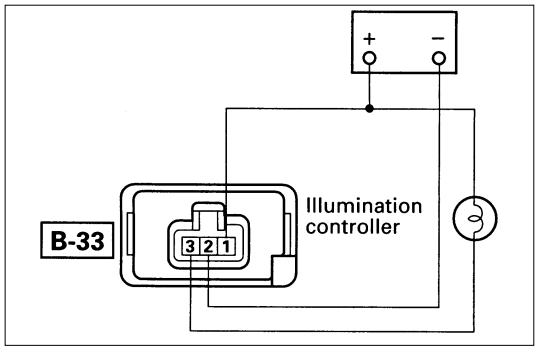




LIGHTING RELAY, TAIL RELAY

Check continuity between the relay terminals.

① - ⑤..... No continuity
(When battery voltage is applied between ② and ④)
① - ⑤..... Continuity



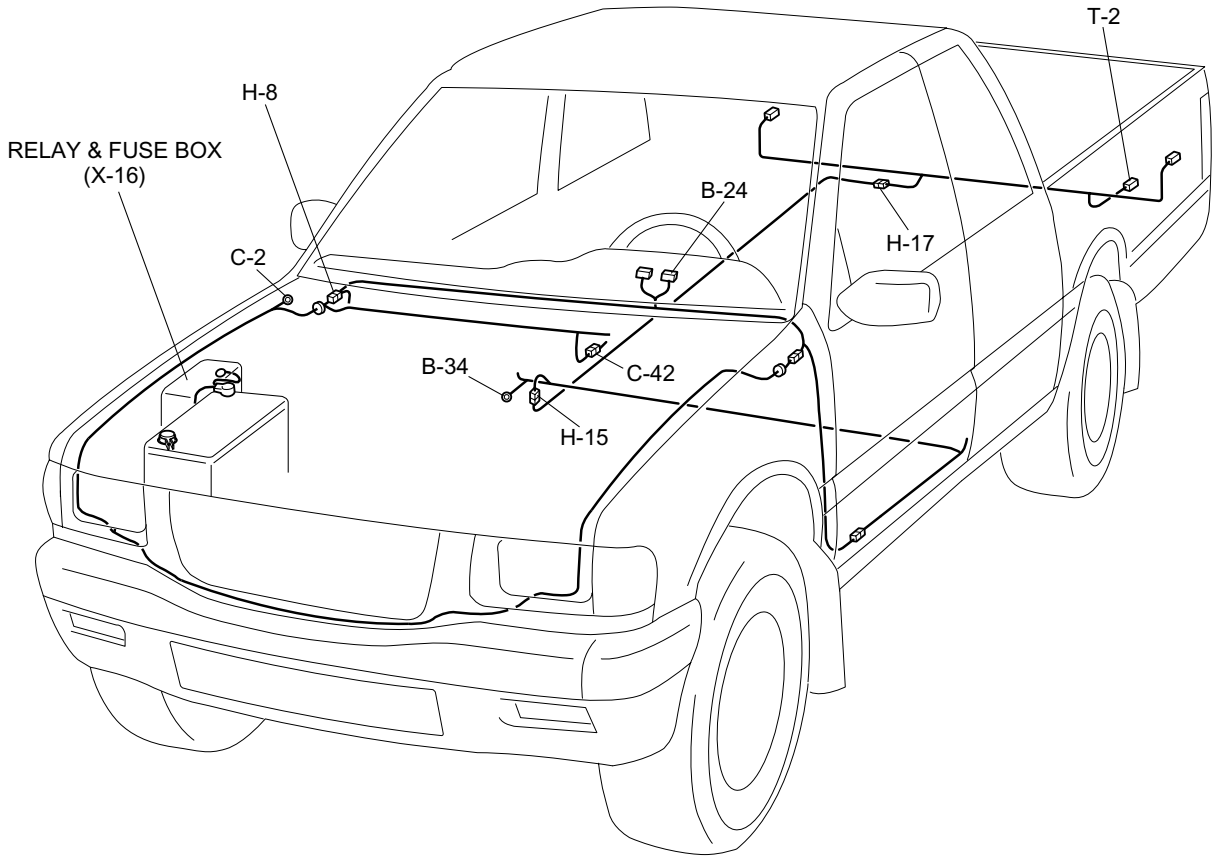
ILLUMINATION CONTROLLER

Controller Inspection

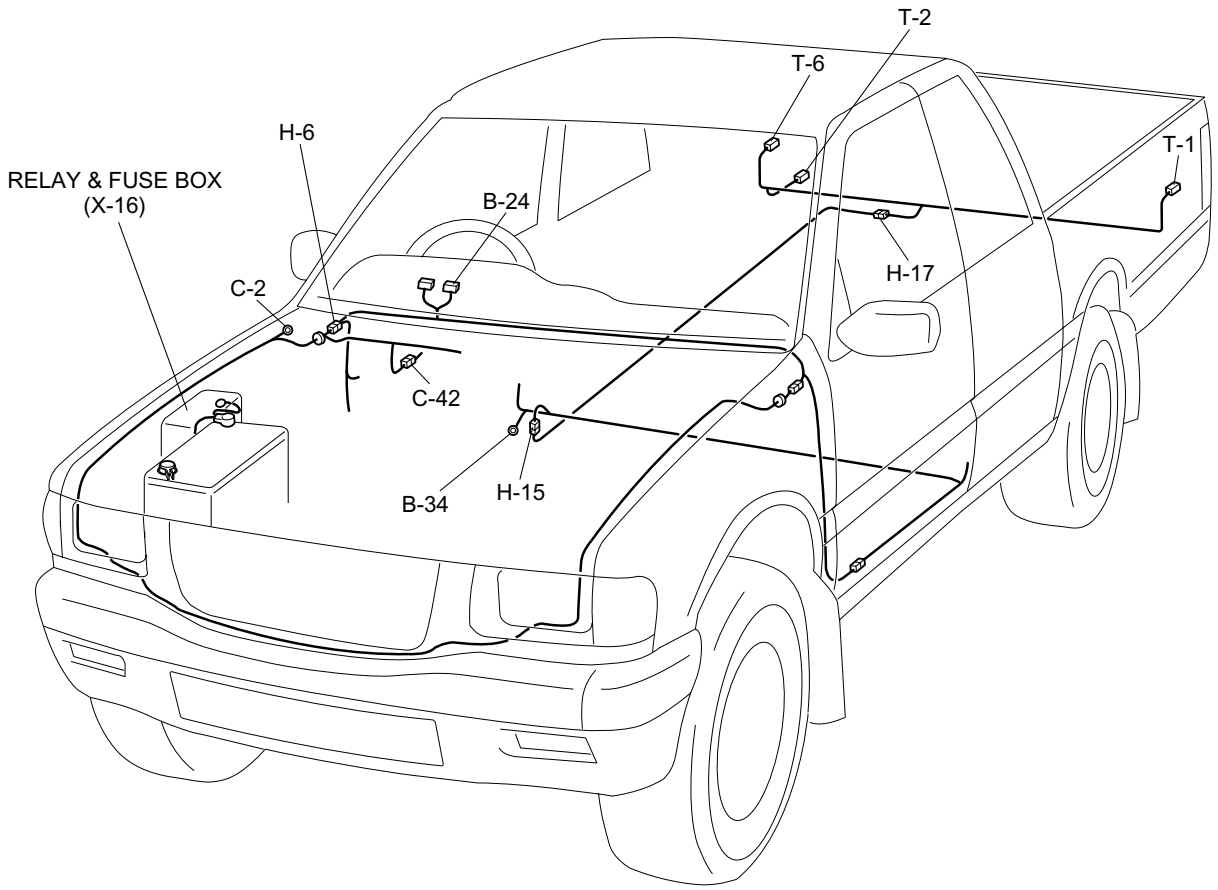
Check the illumination controller function.

REAR FOG LIGHT

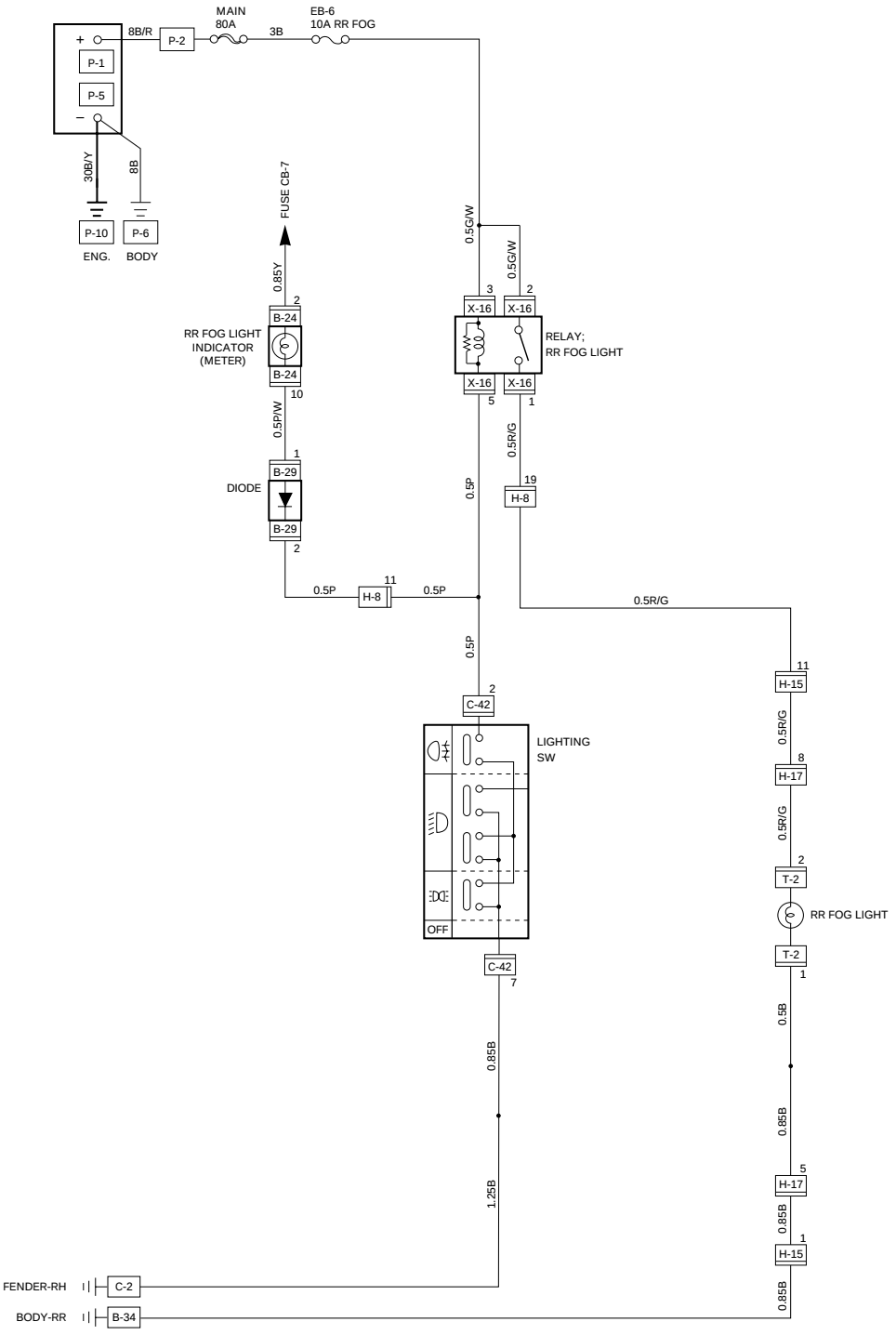
PARTS LOCATION (EC-LHD)



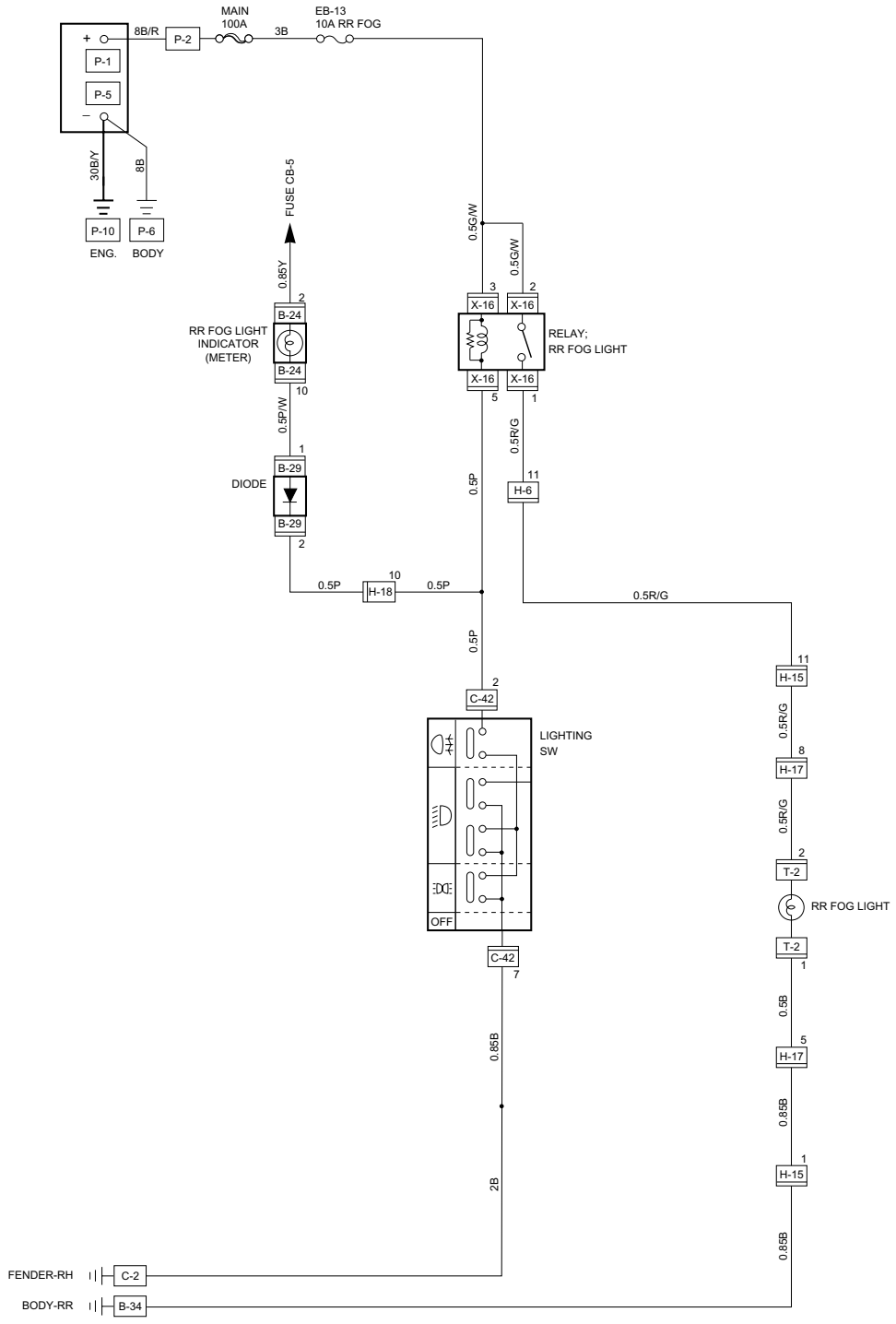
PARTS LOCATION (UK)



CIRCUIT DIAGRAM (EC-LHD)

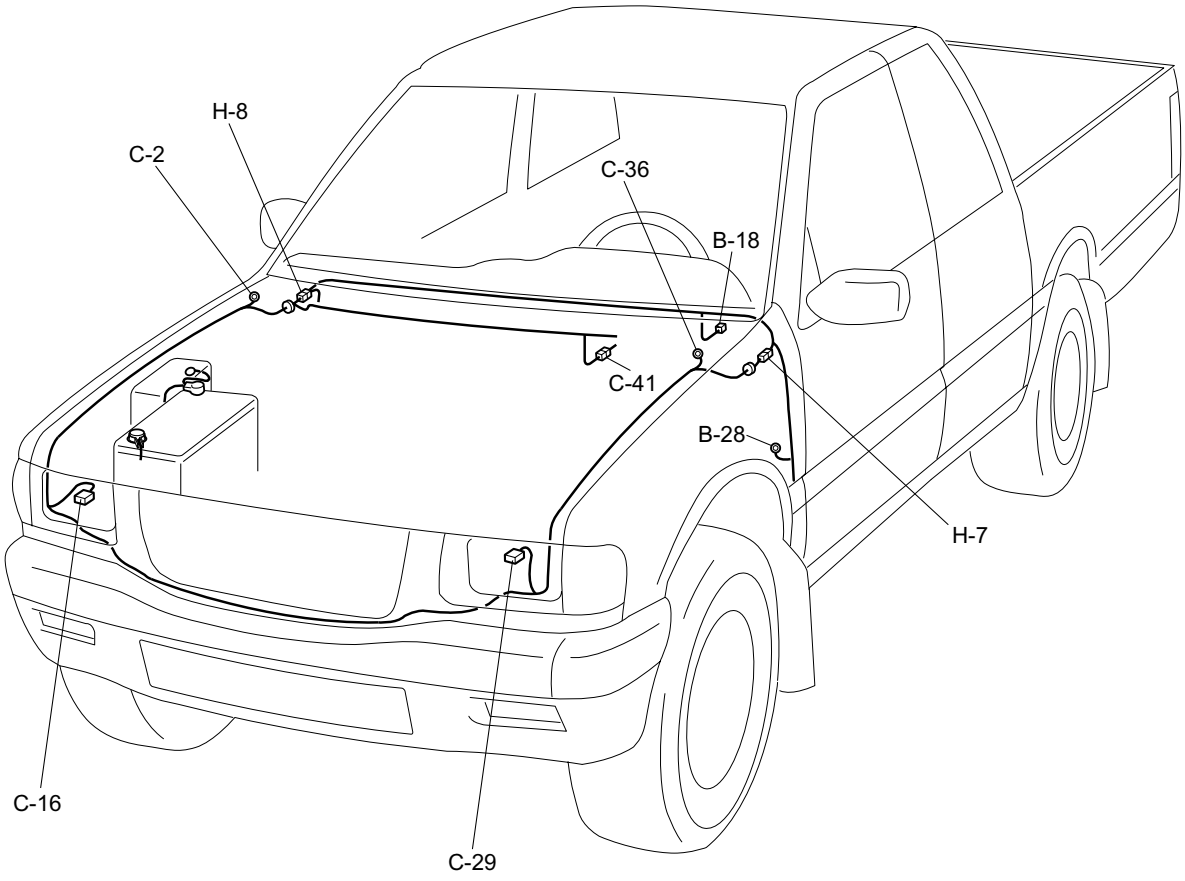


CIRCUIT DIAGRAM (UK)

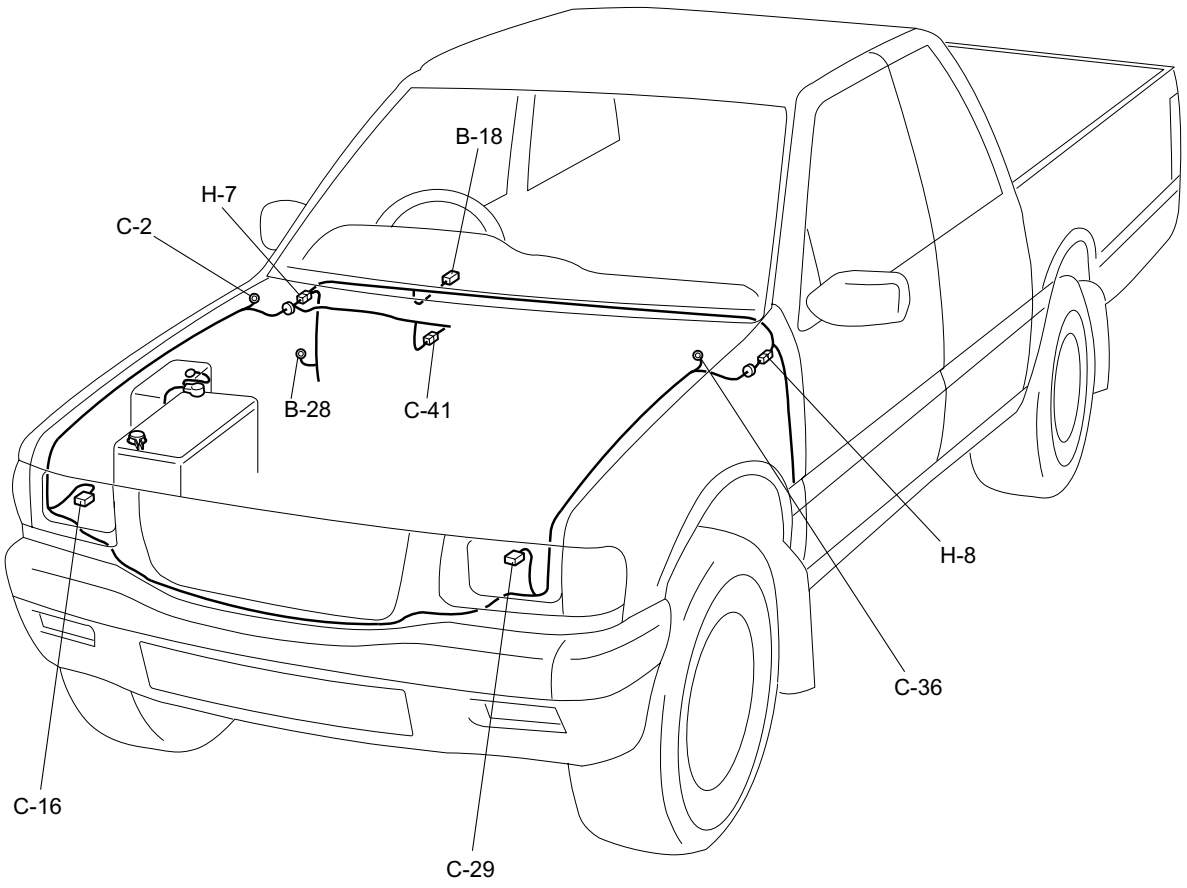


HEADLIGHT LEVELING

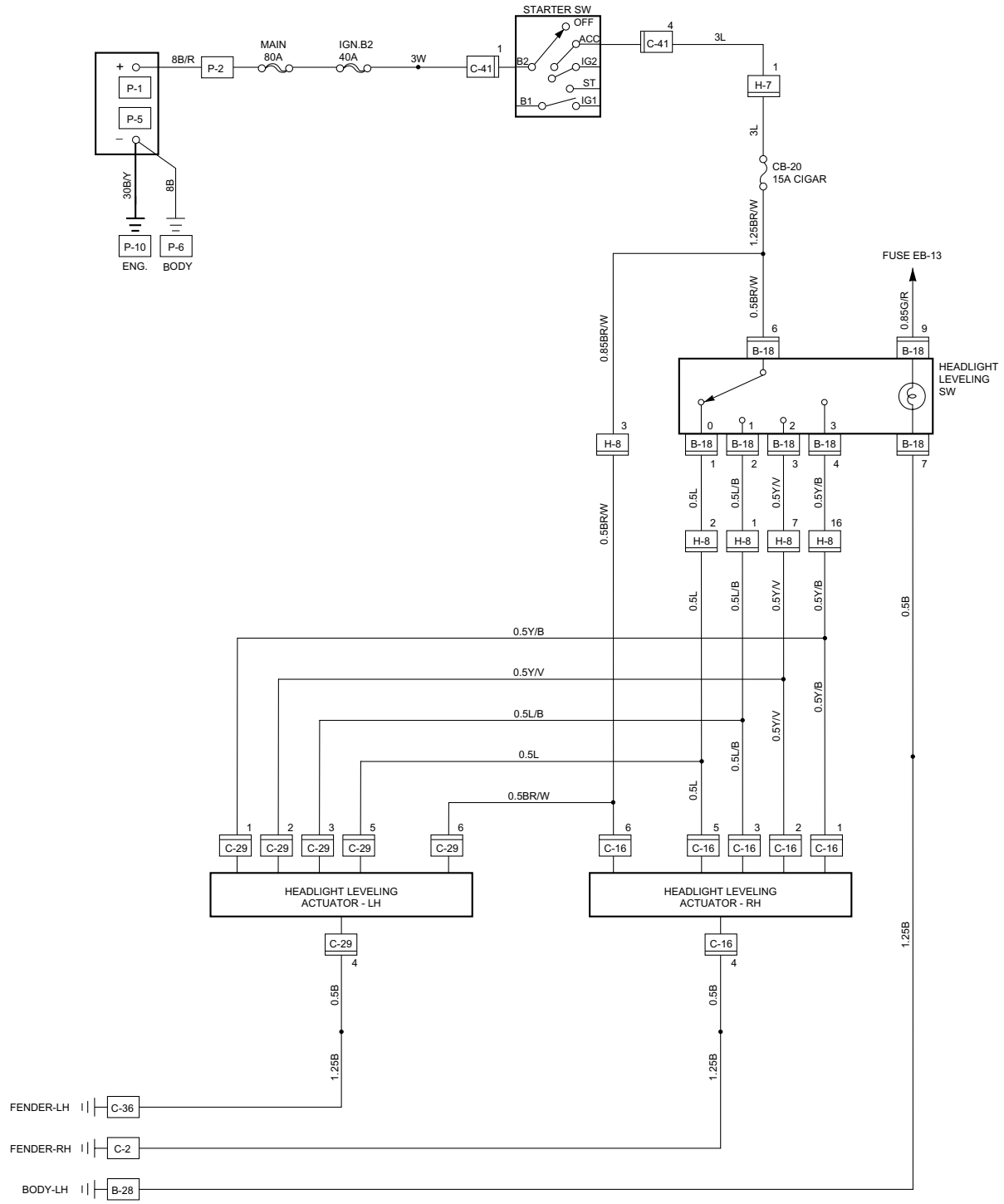
PARTS LOCATION (EC-LHD)



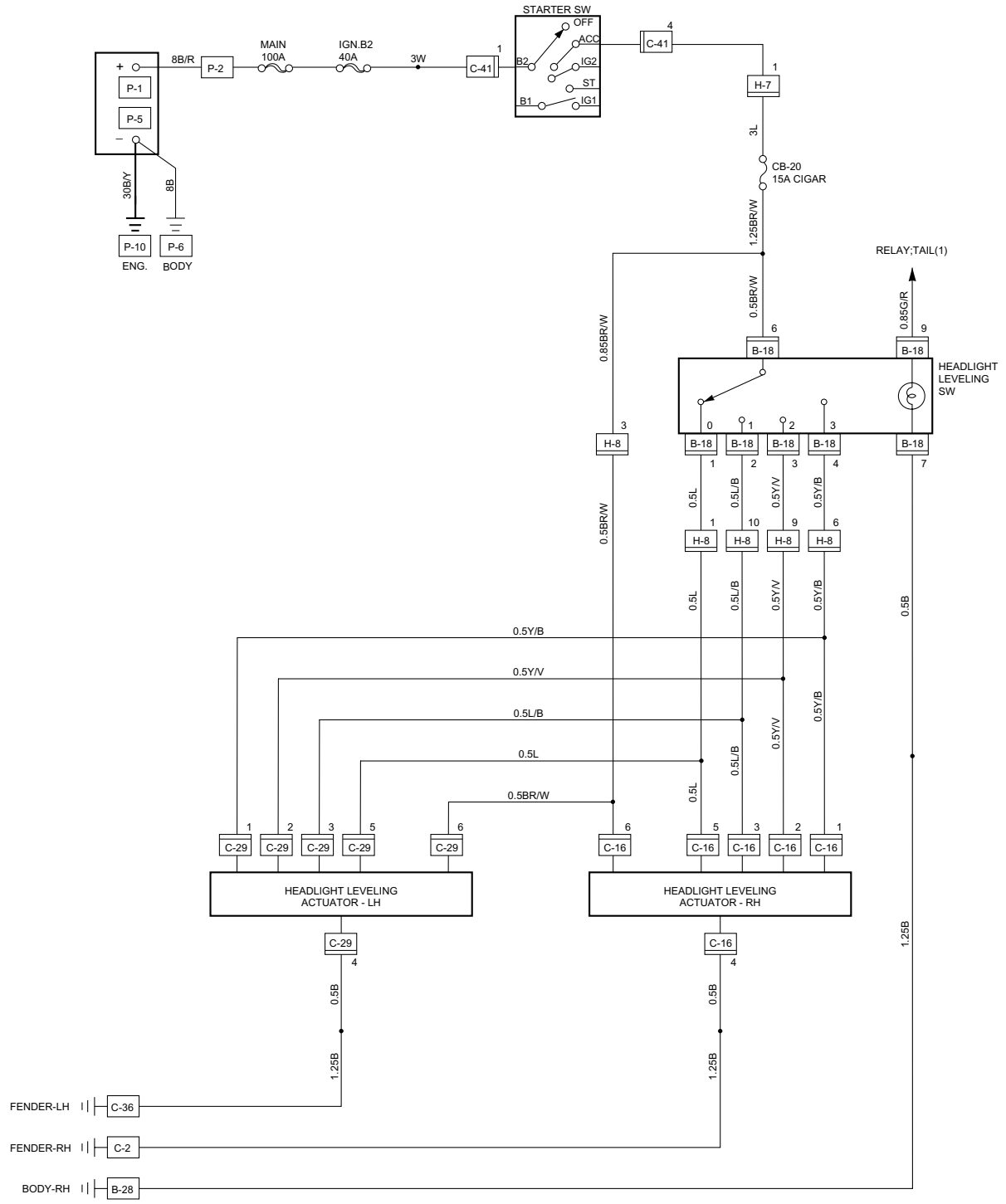
PARTS LOCATION (UK)



CIRCUIT DIAGRAM (EC-LHD)

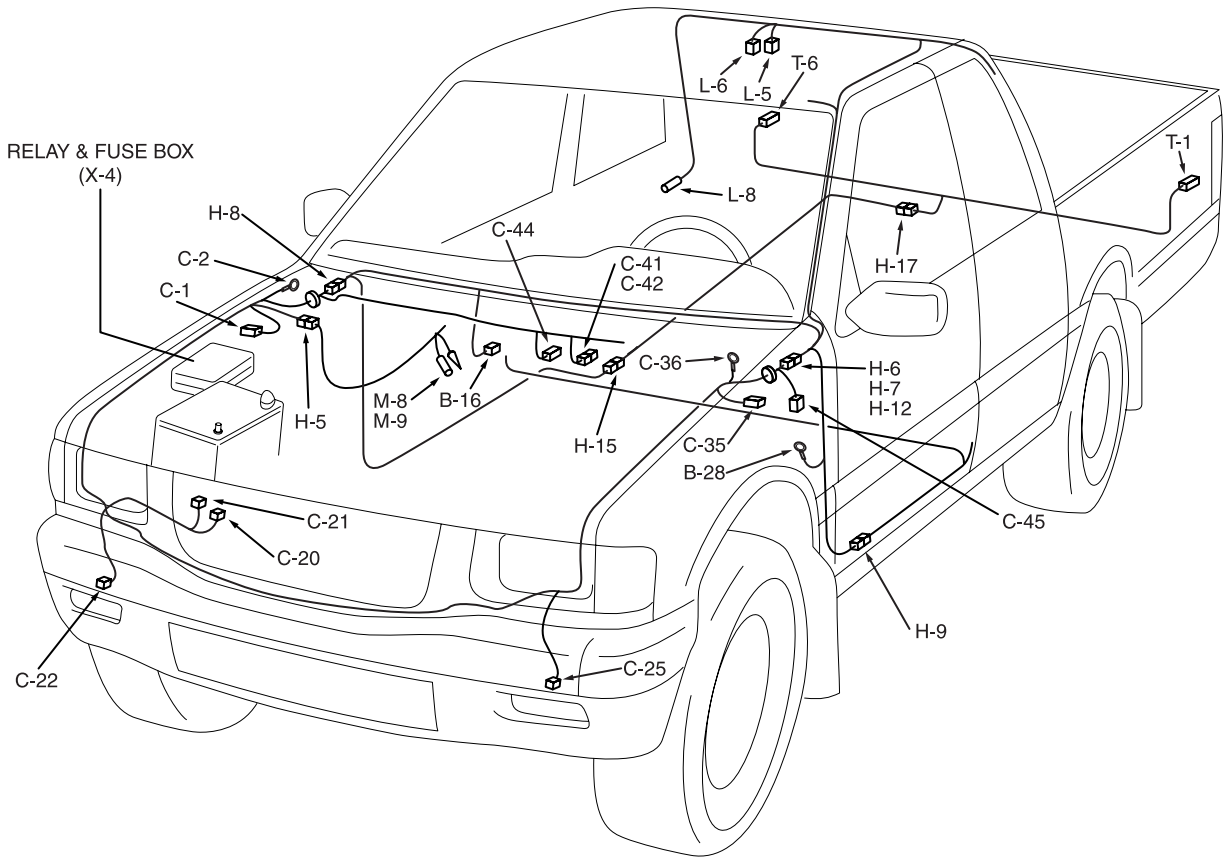


CIRCUIT DIAGRAM (UK)

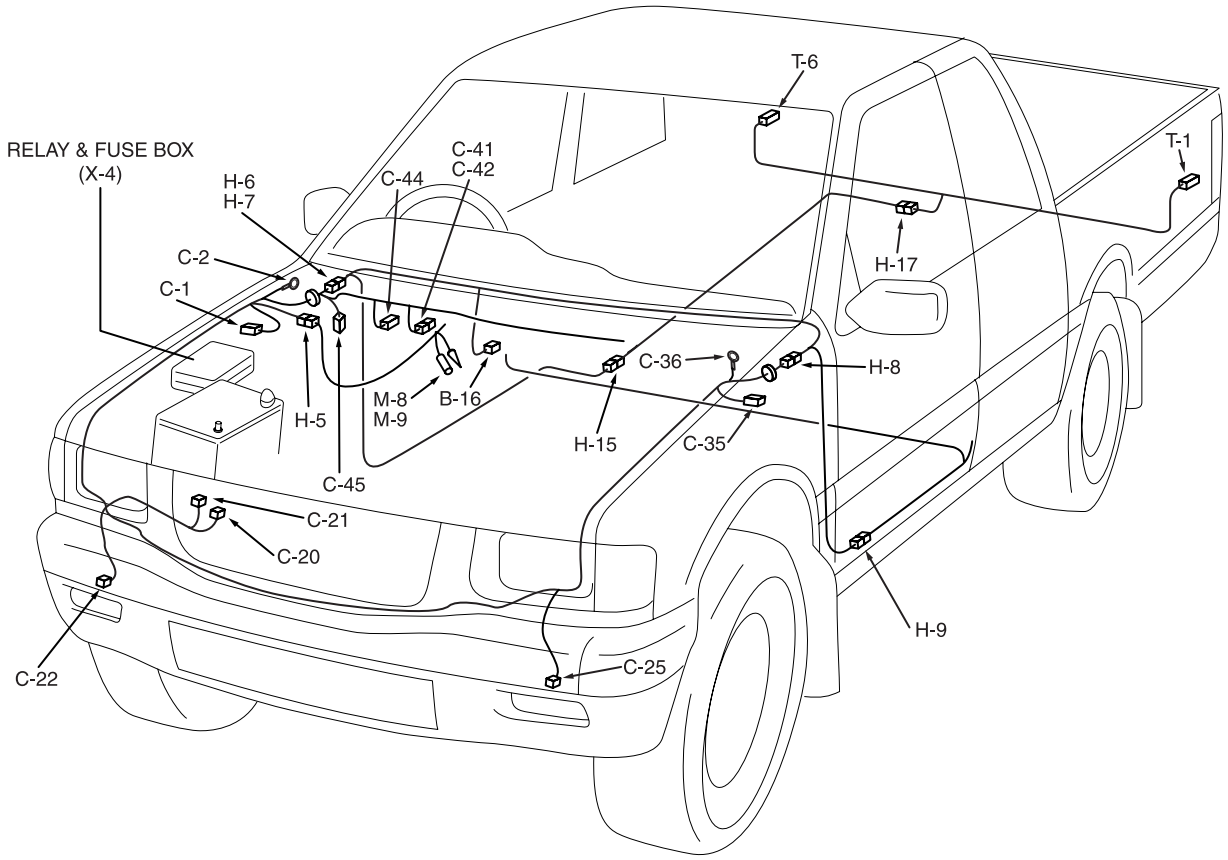


HAZARD WARNING FLASHER, TURN SIGNAL LIGHT, BACK UP LIGHT, HORN AND STOP LIGHT

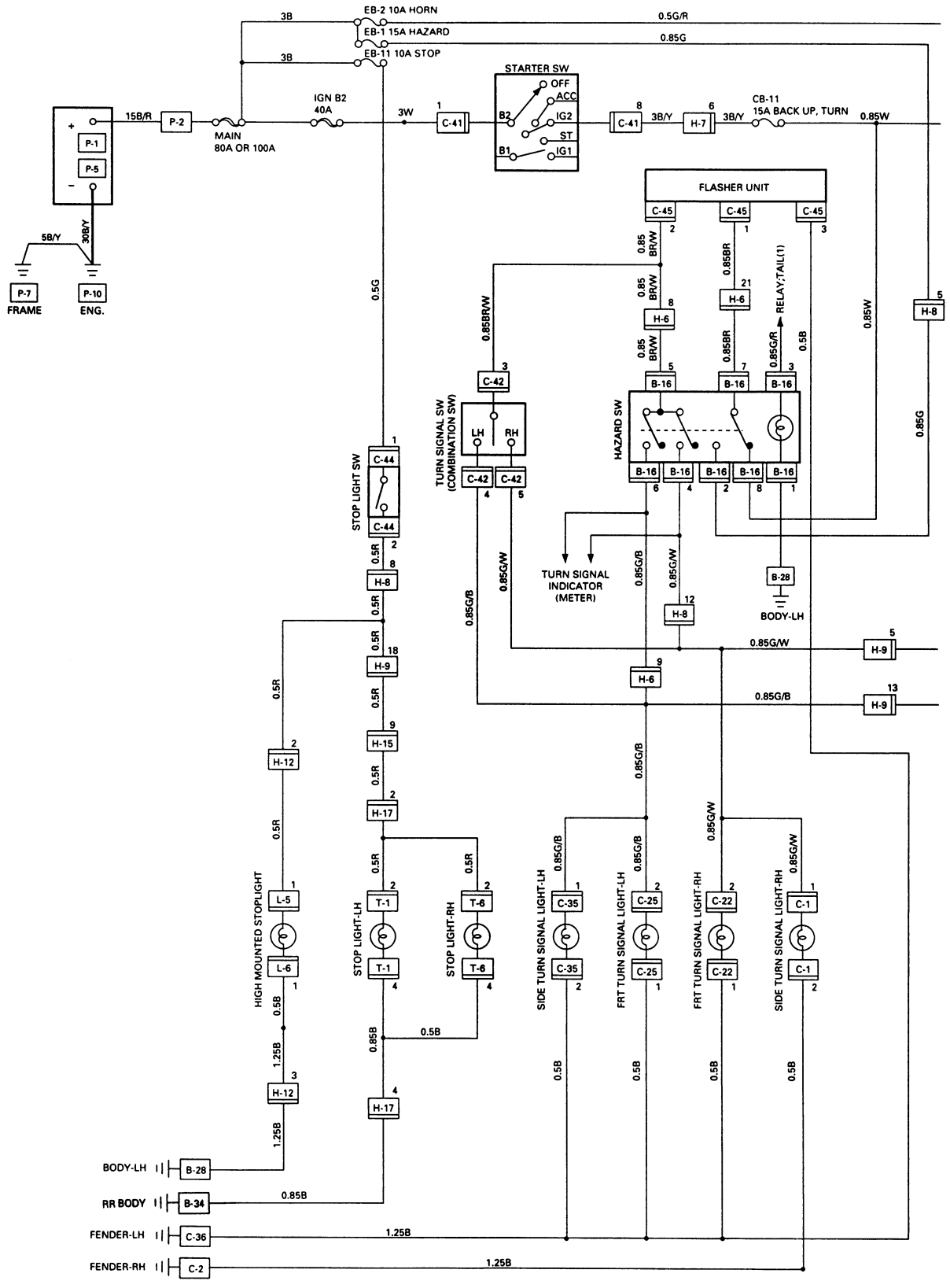
PARTS LOCATION (LHD)

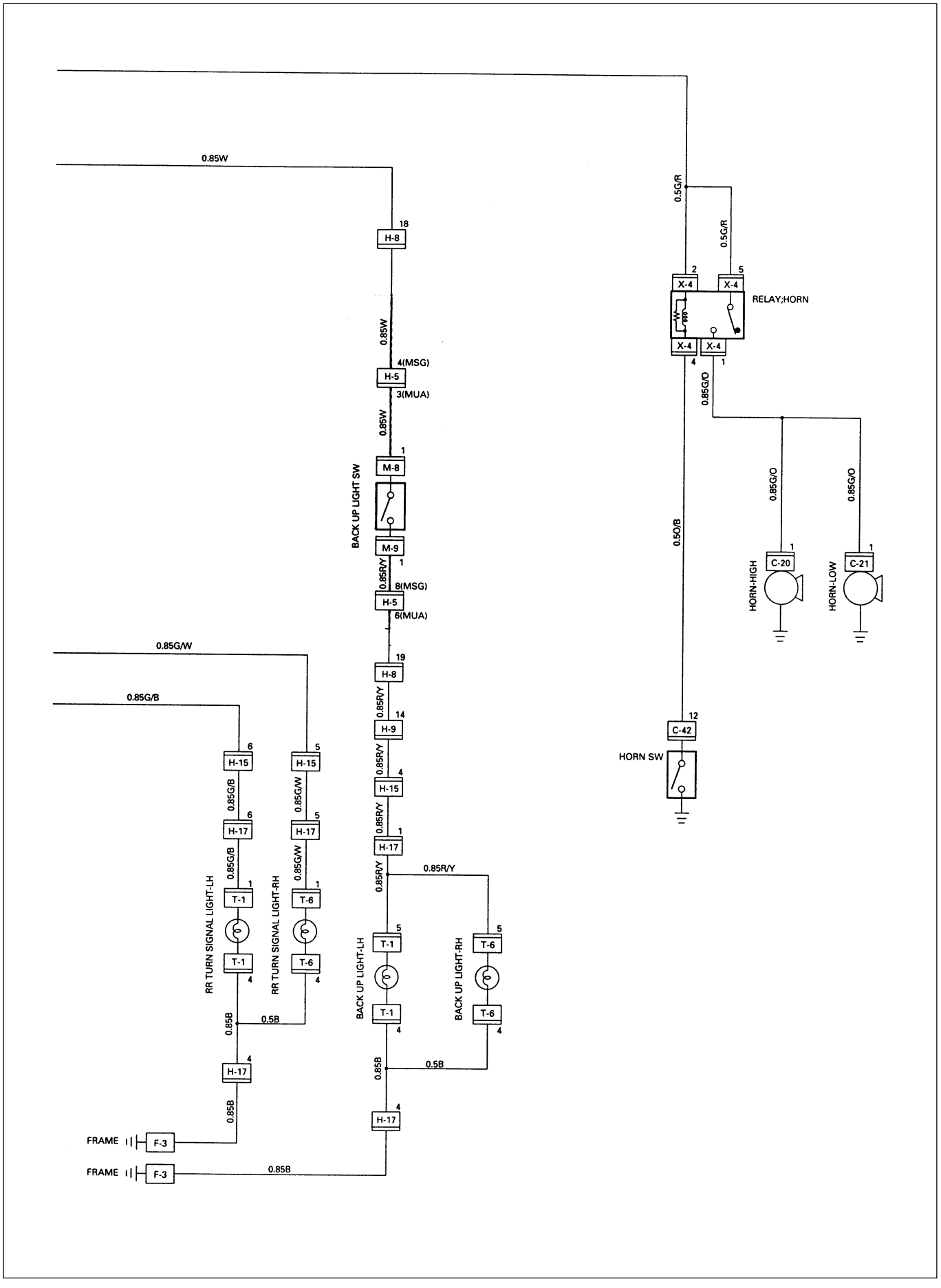


PARTS LOCATION (RHD)

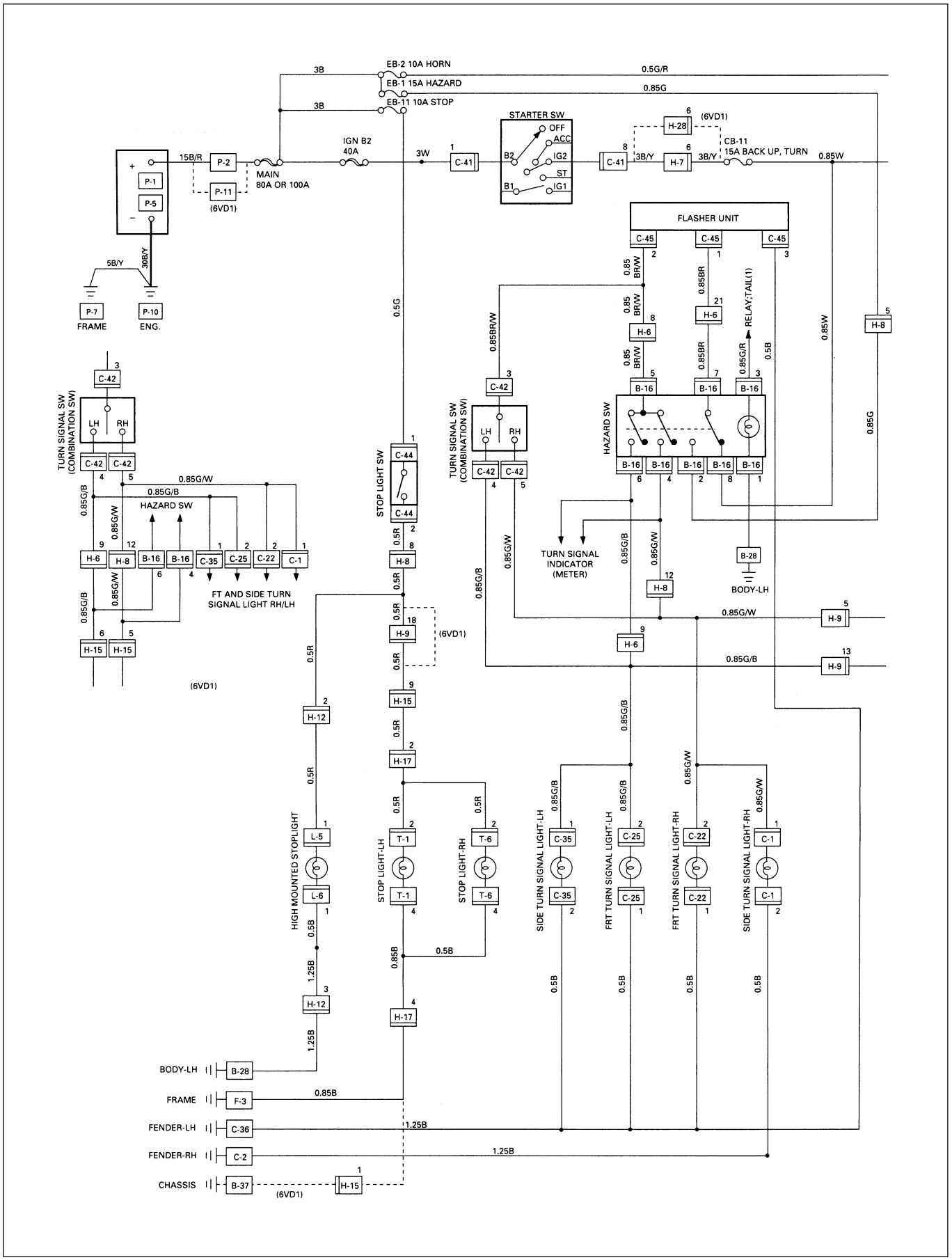


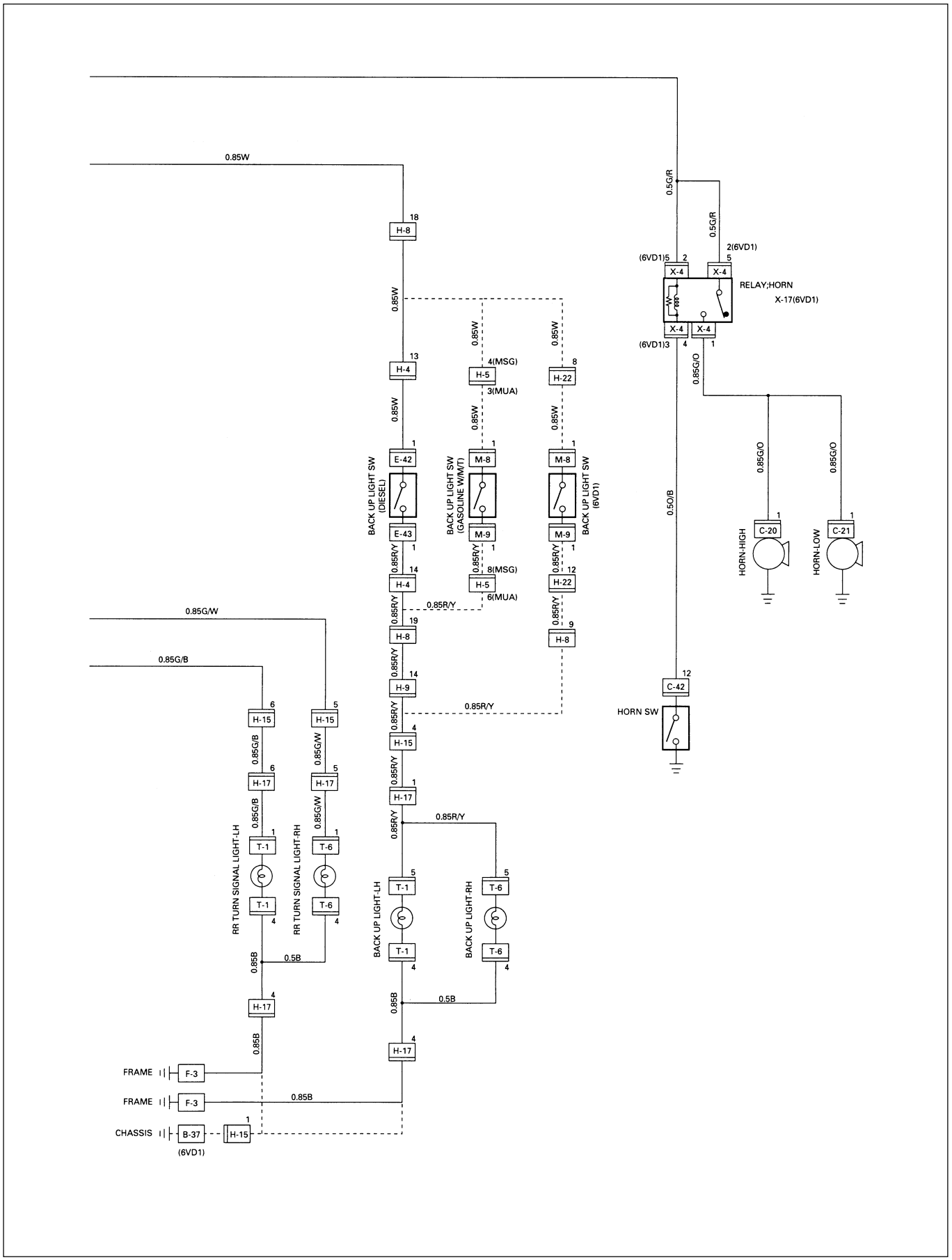
CIRCUIT DIAGRAM (LHD EXCEPT EC)



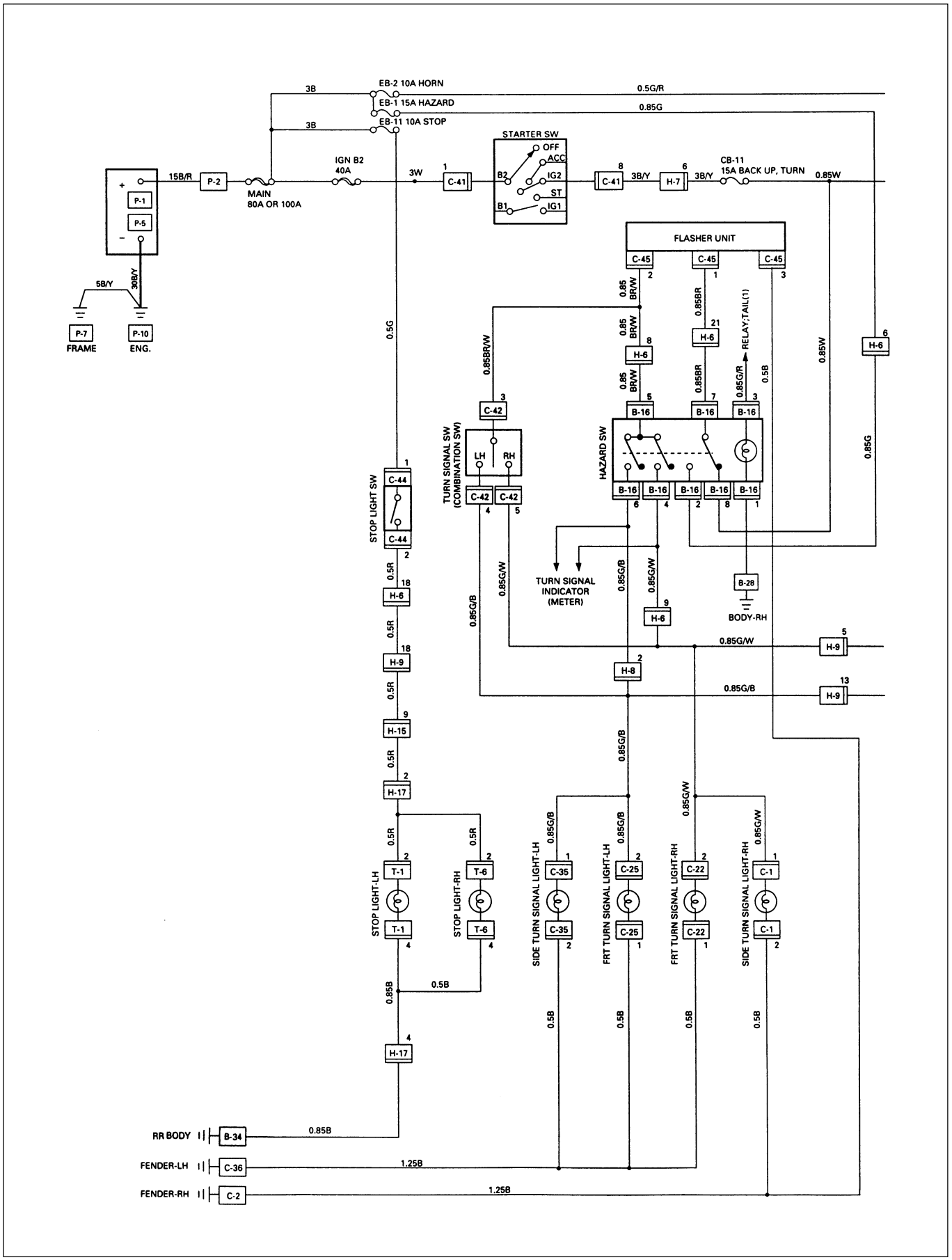

0.85W
0.5G/R
0.5G/R
H-8
18
0.85W
4(MSG)
H-5
3(MUA)
0.85W
M-8
BACK UP LIGHT SW
M-9
0.85R/Y
1
8(MSG)
H-5
6(MUA)
X-4
X-4
RELAY;HORN
X-4
X-4
0.85G/O
0.85G/O
0.85G/O
0.5O/B
C-20
C-21
HORN-HIGH
HORN-LOW
0.85G/W
0.85G/B
H-8
19
0.85R/Y
H-9
14
0.85R/Y
H-15
4
0.85R/Y
H-17
1
0.85R/Y
0.85R/Y
C-42
12
HORN SW
H-15
H-15
0.85G/B
0.85G/W
H-17
H-17
0.85G/B
0.85G/W
T-1
T-6
RR TURN SIGNAL LIGHT-LH
RR TURN SIGNAL LIGHT-RH
T-1
T-6
T-1
T-6
BACK UP LIGHT-LH
BACK UP LIGHT-RH
0.85B
0.5B
0.85B
0.5B
H-17
H-17
0.85B
FRAME
F-3
FRAME
F-3
0.85B

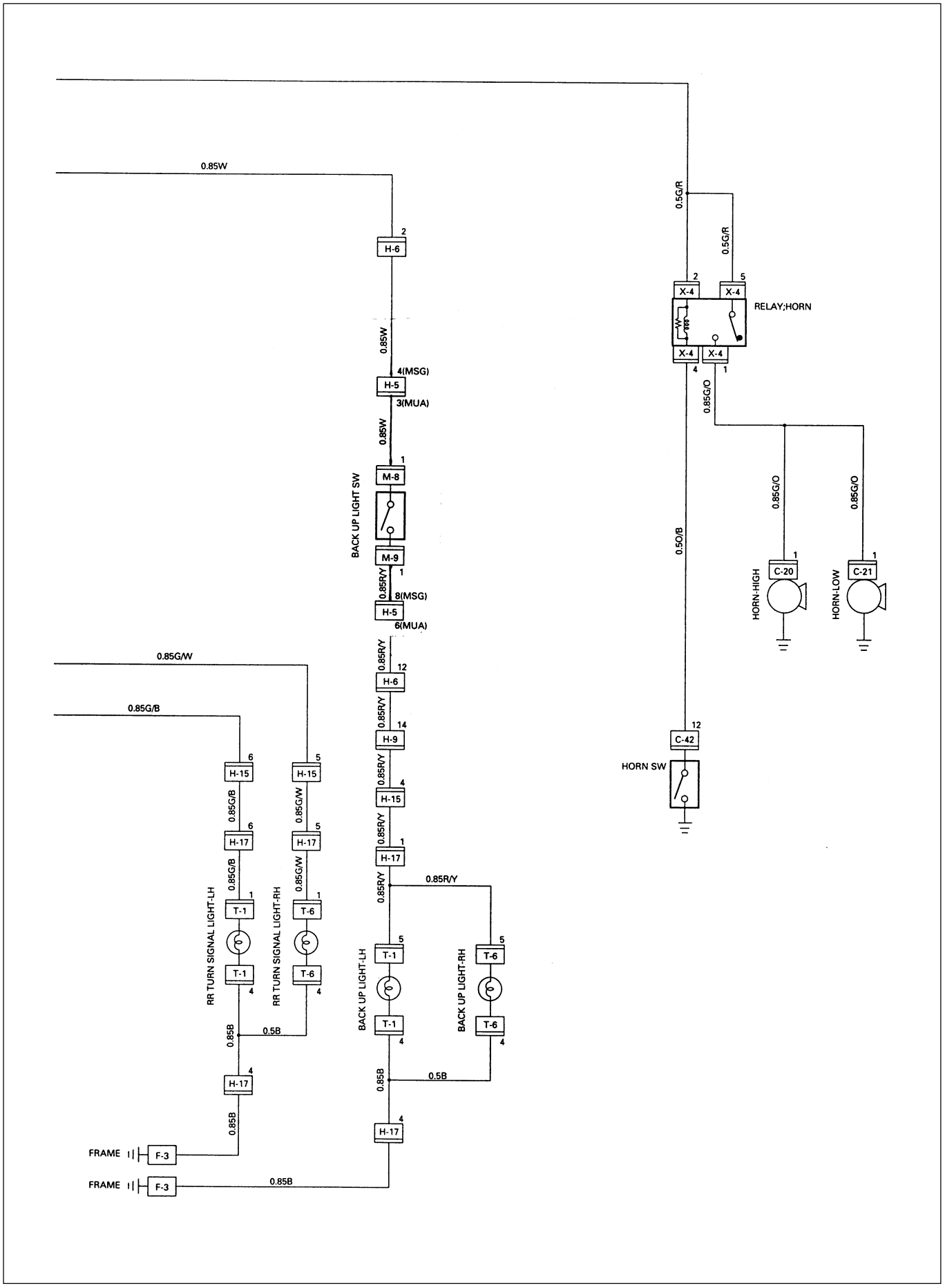
CIRCUIT DIAGRAM (6VD1-LHD)



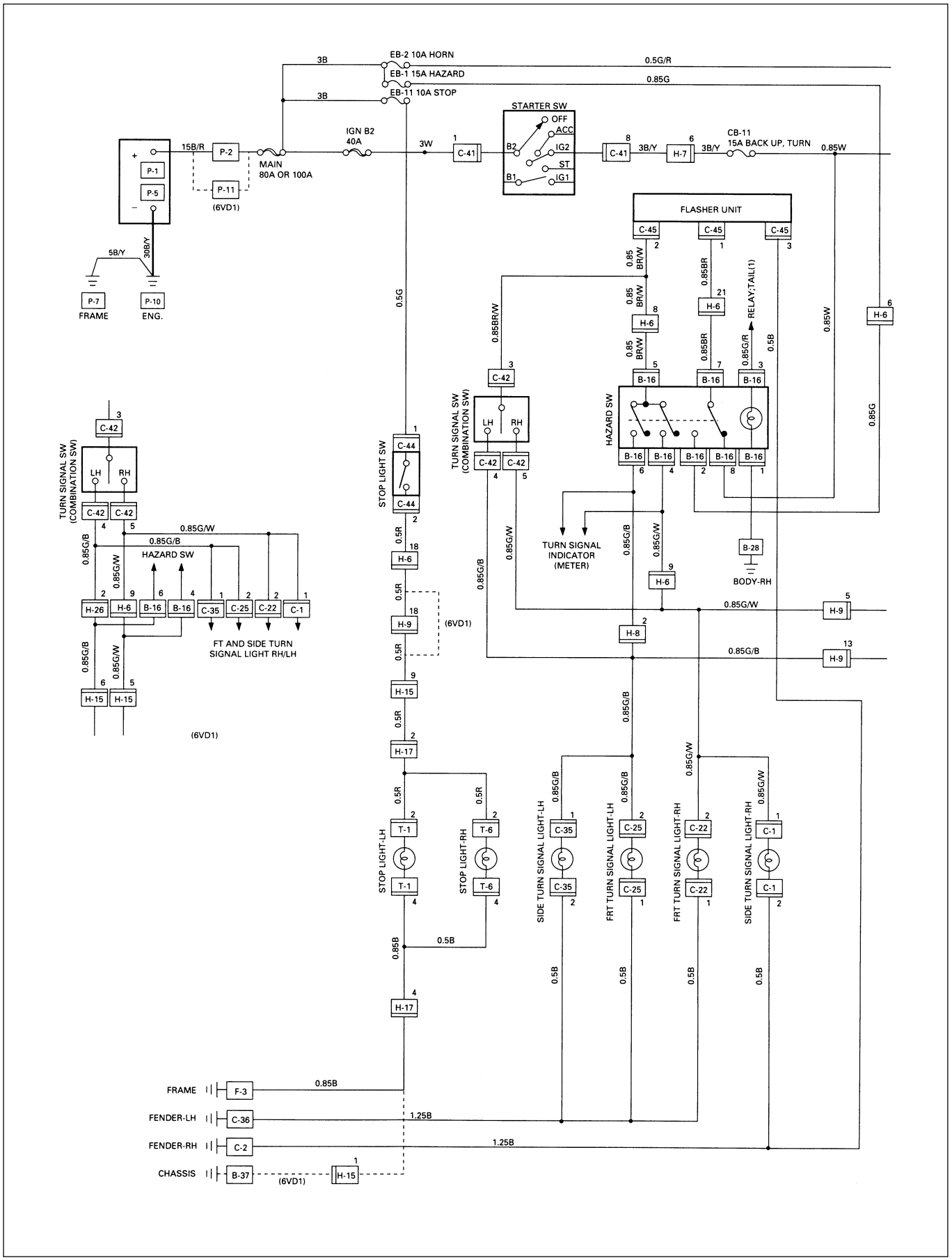

0.85W
0.5G/R
0.5G/R
2(6VD1)
(6VD1)5
X-4
X-4
RELAY;HORN
X-17(6VD1)
(6VD1)3
X-4
X-4
H-8
18
0.85W
H-4
13
0.85W
E-42
1
BACK UP LIGHT SW (DIESEL)
E-43
1
0.85R/Y
H-4
14
0.85R/Y
0.85R/Y
H-8
19
0.85R/Y
H-9
14
0.85R/Y
H-15
4
0.85R/Y
H-17
1
0.85R/Y
0.85W
4(MSG)
H-5
3(MUA)
0.85W
M-8
1
BACK UP LIGHT SW (GASOLINE W/M/T)
M-9
1
0.85R/Y
8(MSG)
H-5
6(MUA)
0.85R/Y
0.85W
8
H-22
0.85W
M-8
1
BACK UP LIGHT SW (6VD1)
M-9
1
0.85R/Y
12
H-22
0.85R/Y
9
H-8
0.85G/O
0.50/B
0.85G/O
0.85G/O
C-20
1
HORN-HIGH
C-21
1
HORN-LOW
C-42
12
HORN SW
0.85G/W
0.85G/B
H-15
6
H-15
5
0.85G/B
0.85G/W
H-17
6
H-17
5
0.85G/B
0.85G/W
T-1
1
T-6
1
RR TURN SIGNAL LIGHT-LH
RR TURN SIGNAL LIGHT-RH
T-1
4
T-6
4
0.85B
0.5B
H-17
4
0.85B
0.85R/Y
T-1
5
T-6
5
BACK UP LIGHT-LH
BACK UP LIGHT-RH
T-1
4
T-6
4
0.85B
0.5B
H-17
4
0.85B
FRAME
F-3
FRAME
F-3
0.85B
CHASSIS
B-37
(6VD1)
H-15
1

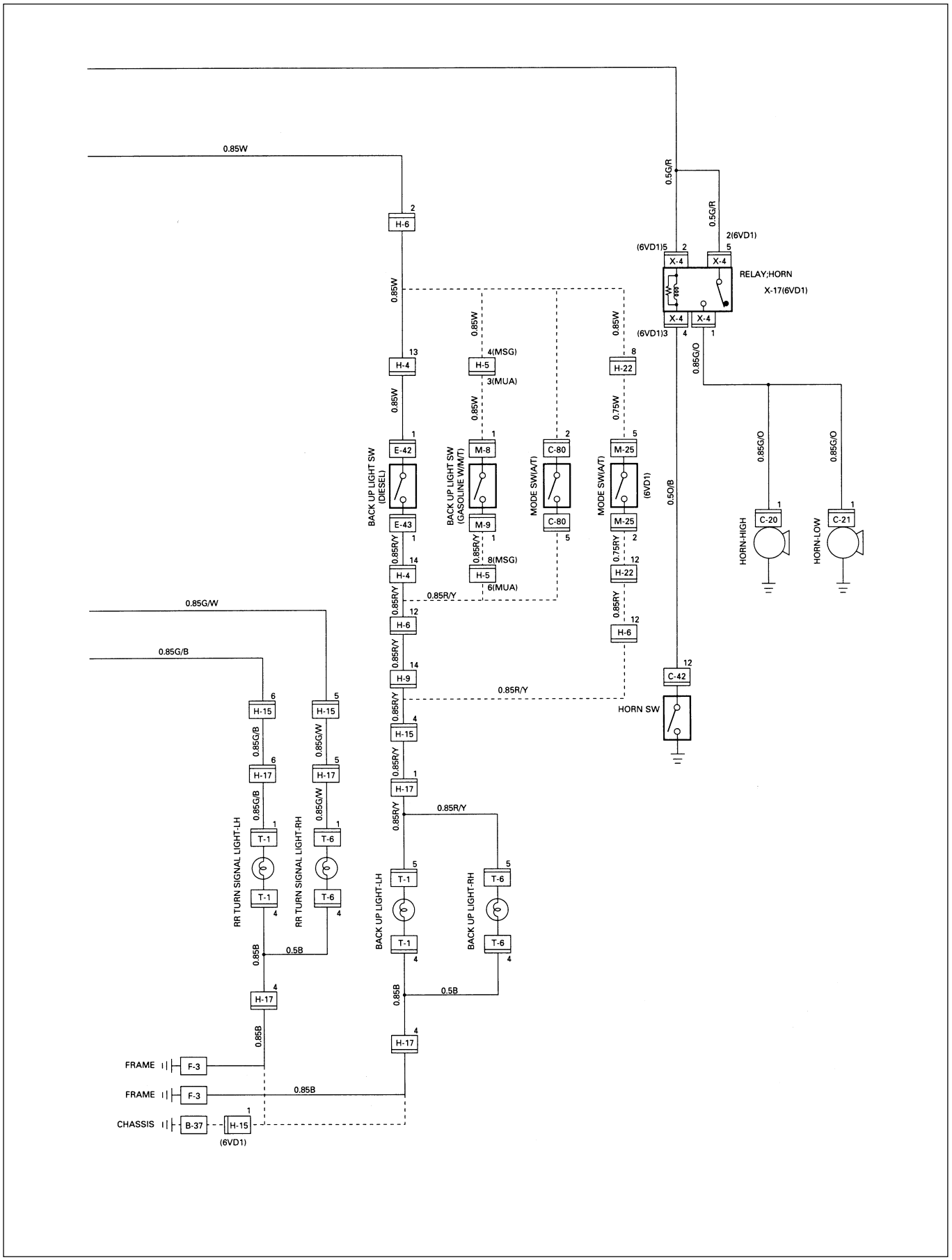
CIRCUIT DIAGRAM (RHD EXCEPT UK)



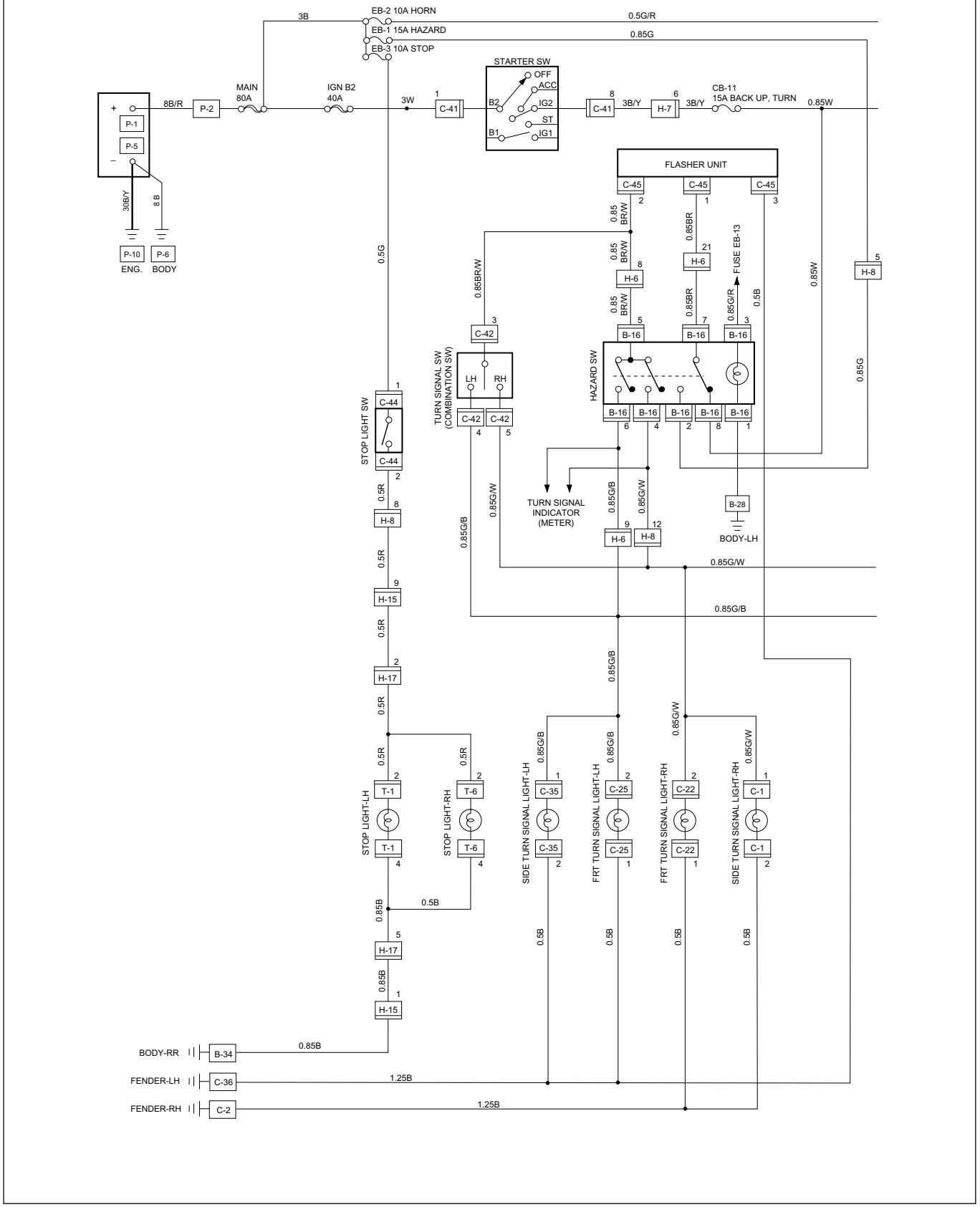

0.85W
0.5G/R
0.5G/R
H-6
2
X-4
2
X-4
5
RELAY;HORN
0.85W
4(MSG)
H-5
3(MUA)
X-4
4
X-4
1
0.85G/O
0.85W
1
M-8
BACK UP LIGHT SW
M-9
1
0.85G/O
0.85G/O
0.5O/B
0.85R/Y
8(MSG)
H-5
6(MUA)
1
C-20
1
C-21
HORN-HIGH
HORN-LOW
0.85G/W
0.85R/Y
12
H-6
0.85G/B
0.85R/Y
14
H-9
12
C-42
HORN SW
0.85R/Y
4
H-15
0.85R/Y
1
H-17
0.85R/Y
0.85R/Y
6
H-15
5
H-15
0.85G/B
0.85G/W
6
H-17
5
H-17
0.85G/B
0.85G/W
1
T-1
1
T-6
RR TURN SIGNAL LIGHT-LH
RR TURN SIGNAL LIGHT-RH
5
T-1
5
T-6
BACK UP LIGHT-LH
BACK UP LIGHT-RH
T-1
4
T-6
4
T-1
4
T-6
4
0.85B
0.5B
0.85B
0.5B
4
H-17
4
H-17
0.85B
FRAME
F-3
FRAME
F-3
0.85B

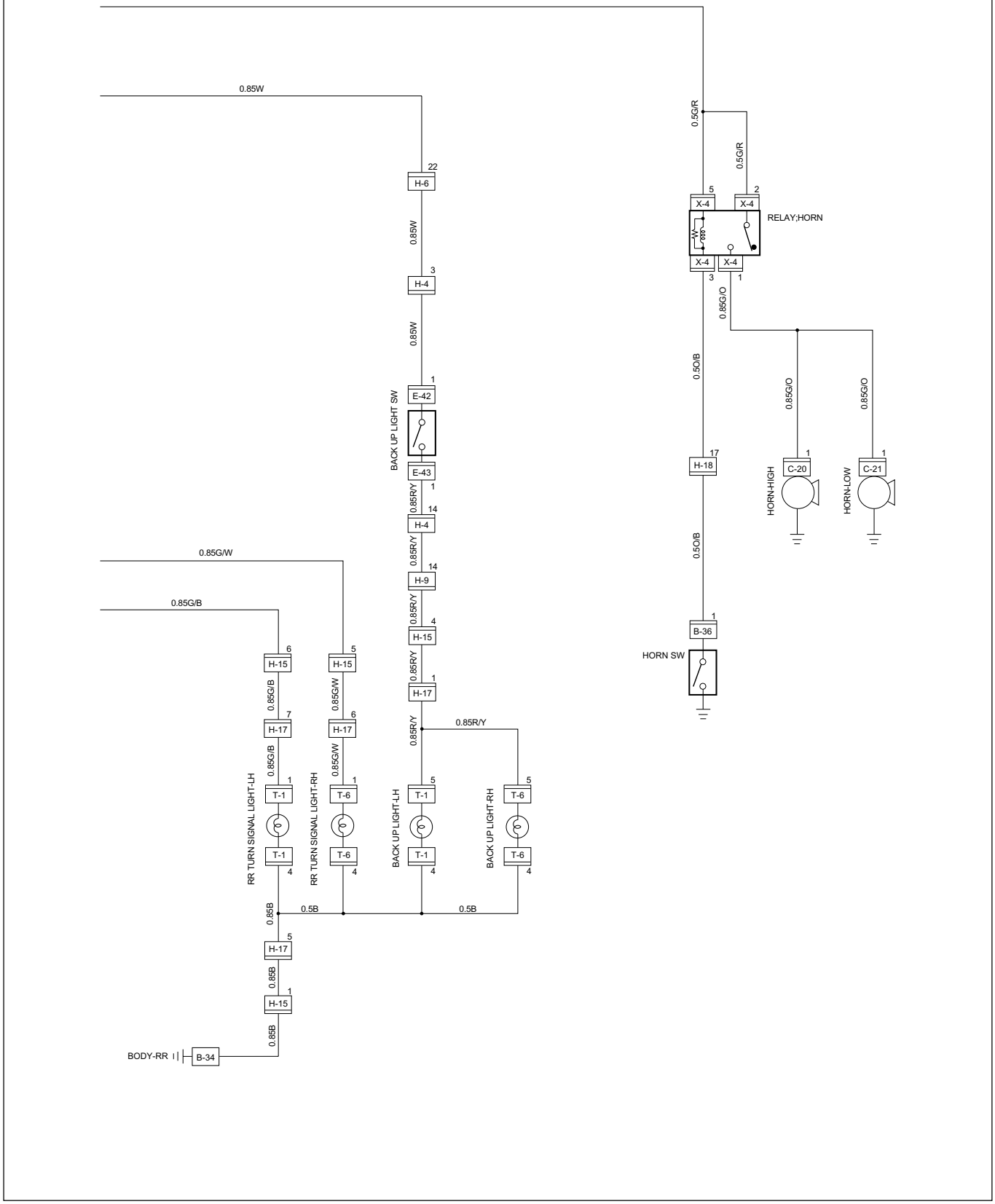
CIRCUIT DIAGRAM (6VD1-RHD)



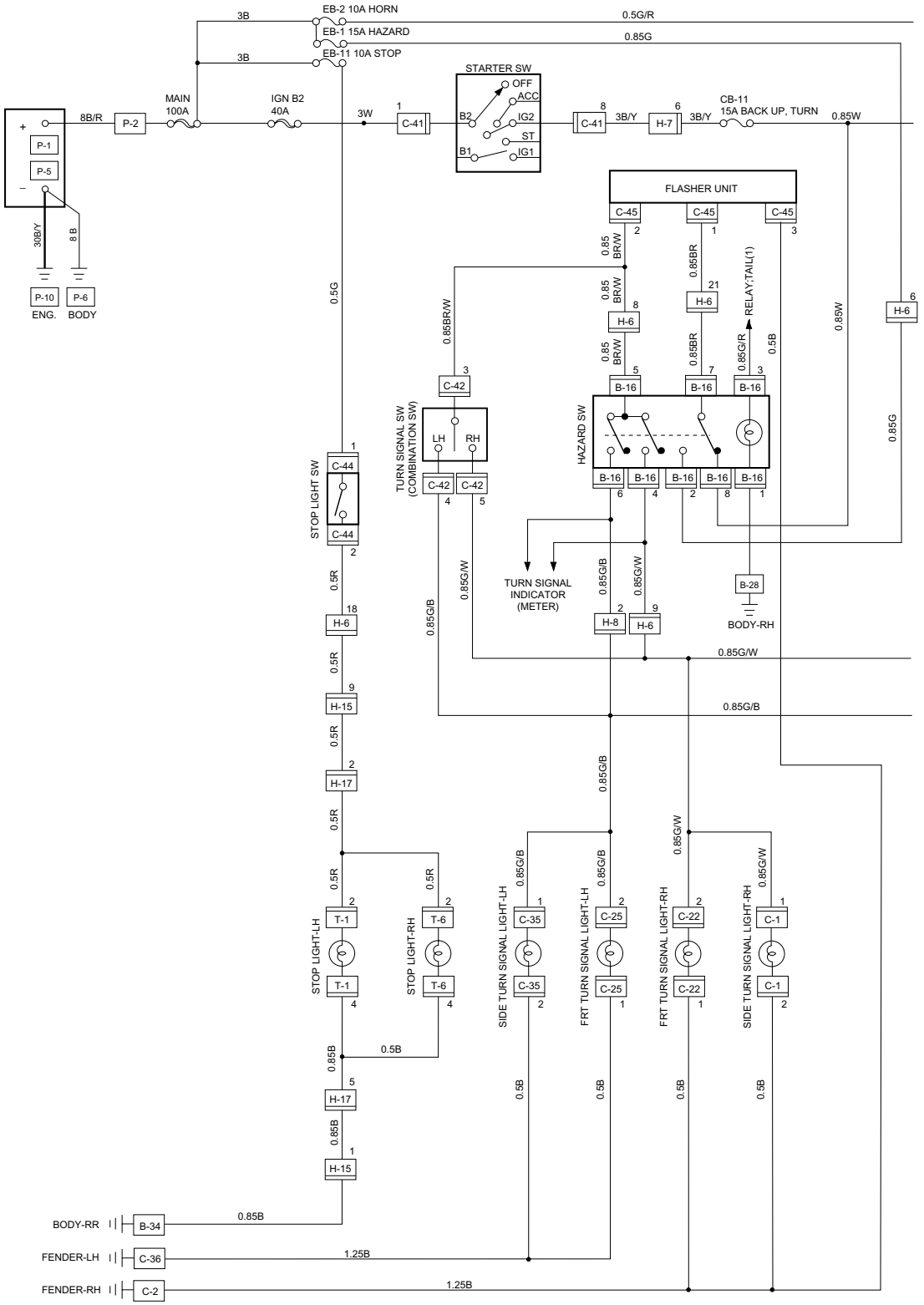

0.85W
0.5G/R
0.5G/R
2(6VD1)
(6VD1)5
X-4
X-4
RELAY;HORN
X-17(6VD1)
X-4
X-4
(6VD1)3
4
1
0.85G/O
H-6
2
0.85W
H-4
13
4(MSG)
H-5
3(MUA)
H-22
8
0.85W
0.85W
0.75W
BACK UP LIGHT SW (DIESEL)
E-42
E-43
BACK UP LIGHT SW (GASOLINE W/M/T)
M-8
M-9
MODE SW(A/T)
C-80
C-80
MODE SW(A/T) (6VD1)
M-25
M-25
0.85R/Y
0.85R/Y
0.75RY
0.50/B
0.85G/O
0.85G/O
HORN-HIGH
C-20
HORN-LOW
C-21
H-4
14
8(MSG)
H-5
6(MUA)
H-22
12
0.85R/Y
0.85R/Y
0.85R/Y
0.85G/W
H-6
12
H-6
12
0.85G/B
0.85R/Y
H-9
14
C-42
12
HORN SW
0.85R/Y
H-15
6
H-15
5
0.85G/B
0.85G/W
H-15
4
H-17
6
H-17
5
0.85R/Y
H-17
1
0.85G/B
0.85G/W
0.85R/Y
RR TURN SIGNAL LIGHT-LH
T-1
1
RR TURN SIGNAL LIGHT-RH
T-6
1
BACK UP LIGHT-LH
T-1
5
BACK UP LIGHT-RH
T-6
5
T-1
T-6
4
4
T-1
T-6
4
4
0.85B
0.5B
0.85B
0.5B
H-17
4
H-17
4
0.85B
FRAME
F-3
FRAME
F-3
0.85B
CHASSIS
B-37
H-15
1
(6VD1)

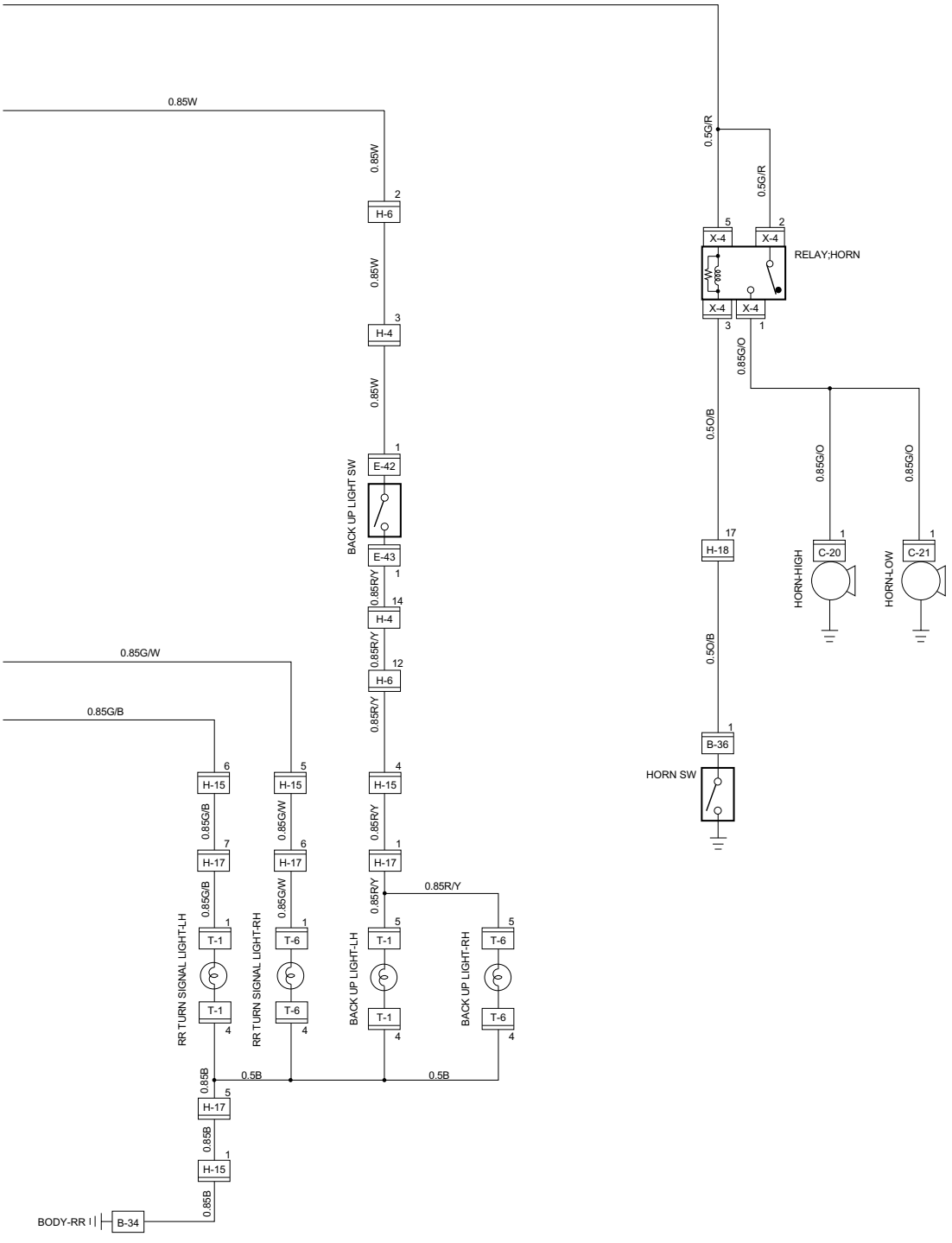
CIRCUIT DIAGRAM (EC-LHD)




0.85W
0.5G/R
0.5G/R
22
H-6
0.85W
3
H-4
0.85W
1
E-42
BACK UP LIGHT SW
E-43
1
0.85R/Y
14
H-4
0.85R/Y
14
H-9
0.85R/Y
4
H-15
0.85R/Y
1
H-17
0.85R/Y
0.85R/Y
0.85G/W
0.85G/B
6
H-15
0.85G/B
7
H-17
0.85G/B
1
T-1
T-1
4
RR TURN SIGNAL LIGHT-LH
5
H-15
0.85G/W
6
H-17
0.85G/W
1
T-6
T-6
4
RR TURN SIGNAL LIGHT-RH
5
T-1
T-1
4
BACK UP LIGHT-LH
5
T-6
T-6
4
BACK UP LIGHT-RH
0.85B
0.5B
0.5B
5
H-17
0.85B
1
H-15
0.85B
BODY-RR
B-34
5
X-4
2
X-4
RELAY;HORN
X-4
3
X-4
1
0.85G/O
0.5O/B
17
H-18
0.5O/B
1
B-36
HORN SW
0.85G/O
1
C-20
HORN-HIGH
0.85G/O
1
C-21
HORN-LOW

CIRCUIT DIAGRAM (UK)




0.85W
0.85W
H-6
2
0.85W
H-4
3
0.85W
E-42
1
BACK UP LIGHT SW
E-43
1
0.85R/Y
H-4
14
0.85R/Y
H-6
12
0.85R/Y
0.85G/W
0.85G/B
H-15
6
H-15
5
H-15
4
0.85G/B
0.85G/W
0.85R/Y
H-17
7
H-17
6
H-17
1
0.85G/B
0.85G/W
0.85R/Y
0.85R/Y
RR TURN SIGNAL LIGHT-LH
RR TURN SIGNAL LIGHT-RH
BACK UP LIGHT-LH
BACK UP LIGHT-RH
T-1
1
T-6
1
T-1
5
T-6
5
T-1
4
T-6
4
T-1
4
T-6
4
0.85B
0.5B
0.5B
H-17
5
0.85B
H-15
1
0.85B
BODY-RR
B-34
0.5G/R
0.5G/R
X-4
5
X-4
2
RELAY;HORN
W
B
X-4
3
X-4
1
0.85G/O
0.5O/B
0.85G/O
0.85G/O
H-18
17
C-20
1
C-21
1
HORN-HIGH
HORN-LOW
0.5O/B
B-36
1
HORN SW

TROUBLESHOOTING

STOPLIGHT AND HIGH MOUNTED STOPLIGHT

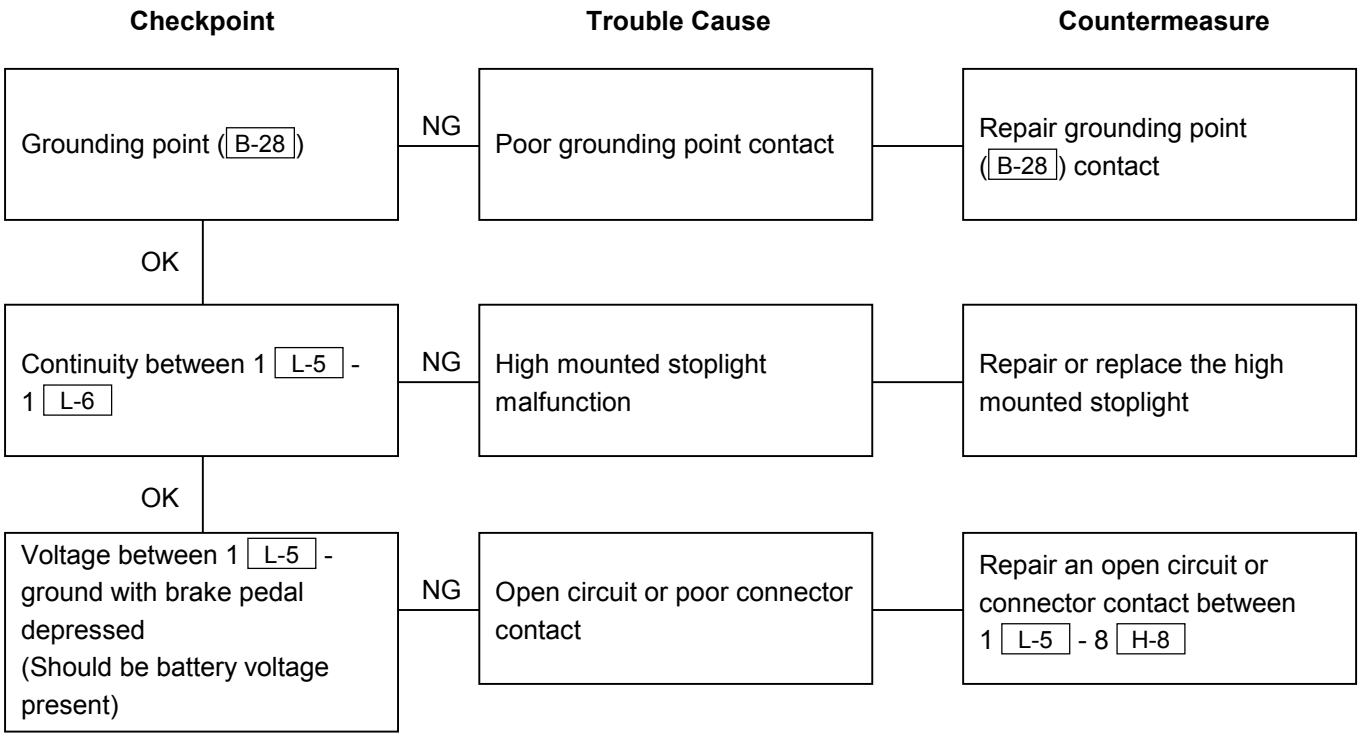
1. One side of stoplight does not light

Checkpoint		Trouble Cause	Countermeasure
Stoplight bulb continuity	NG	Burned out bulb or poor connector contact	Replace the bulb or repair connector contact
OK			
LHD: Continuity between 8 [H-8] - 2 [T-1] (LH) (or 2 [T-6] (RH)) RHD: Continuity between 18 [H-6] - 2 [T-1] (LH) (or 2 [T-6] (RH))	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Continuity between [B-34] - 4 [T-1] (LH) (or 4 [T-6] (RH))	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

2. Both sides of stoplight do not light

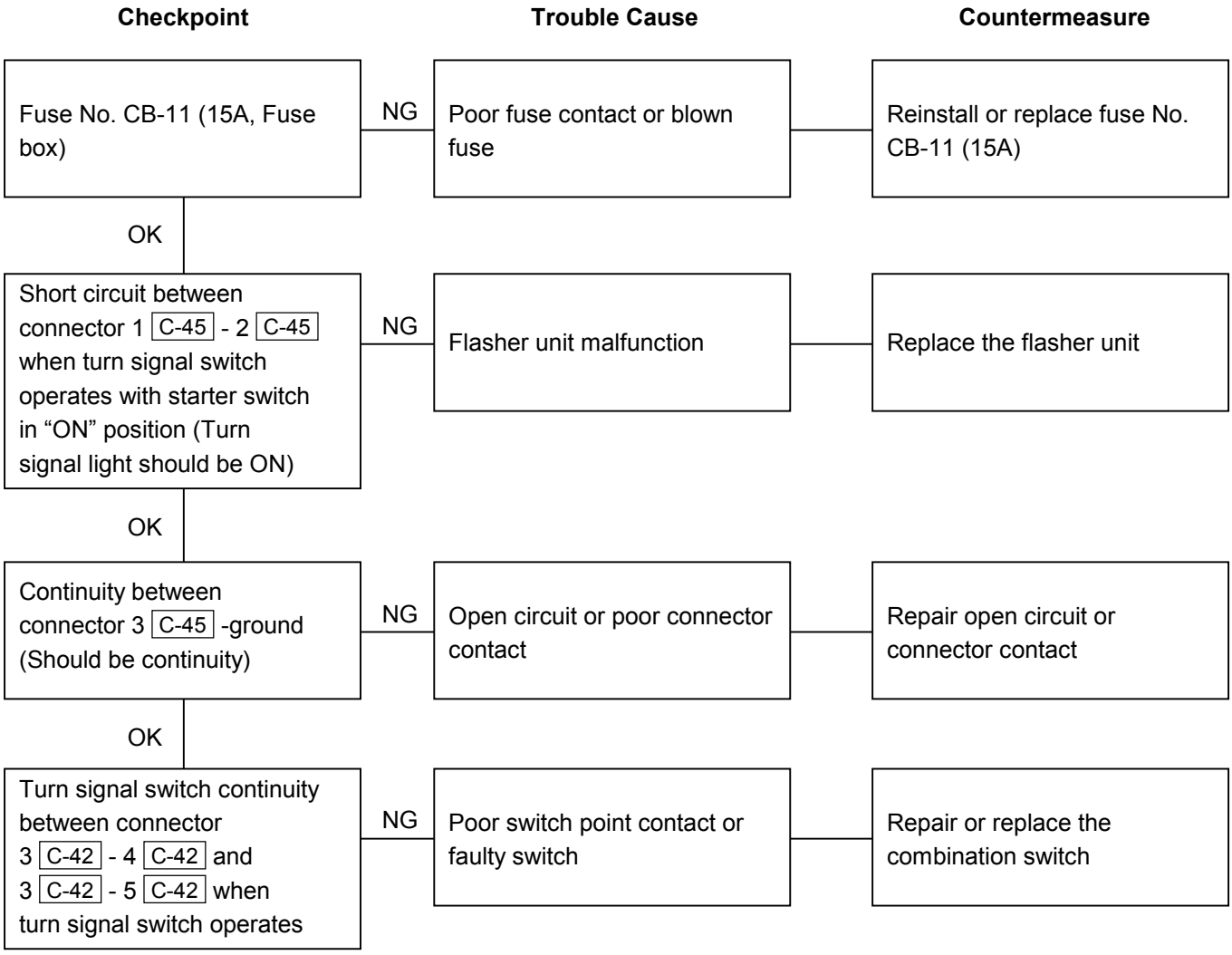
Fuse No. EB-11 (10A, Fuse and Relay box)	NG	Poor fuse contact or blown	Reinstall or replace fuse No. EB-11 (10A)
OK			
Stop light switch (or brake switch) function	NG	Incorrect the switch installation or adjustment	Adjust the switch installation position
OK			
Voltage between 2 [T-1] ground or 2 [T-6] - ground with brake pedal depressed (Should be battery voltage present)	NG	Open circuit or poor connector contact between stoplight switch (or brake switch) and stoplight	Repair open circuit or connector contact

3. High mounted stoplight does not light



TURN SIGNAL LIGHT AND HAZARD WARNING LIGHT

1. Turn signal light does not light on both sides (RH and LH)



2. Turn signal light does not light on one side (RH or LH)

Checkpoint		Trouble Cause	Countermeasure
Turn signal switch continuity	NG	Poor switch point contact or faulty switch	Repair or replace the combination switch
OK			
(RH) Continuity between 2 C-22 - 5 C-42 (FRT), 1 C-1 - 5 C-42 (SIDE) 1 T-6 - 5 C-42 (RR)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
(LH) Continuity between 2 C-25 - 4 C-42 (FRT), 1 C-1 - 4 C-42 (SIDE) 1 T-6 - 4 C-42 (RR)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

3. Hazard warning light does not light

Fuse No. EB-1 (15A, Relay and fuse box)	NG	Poor fuse contact or blown fuse	Reinstall or replace the fuse No. EB-1 (15A)
OK			
Hazard SW. continuity	NG	Hazard SW. malfunction	Repair or replace the hazard SW.
OK			
Voltage between 2 B-16 - ground (Should be battery voltage present)	NG	Open circuit or poor connector contact between fuse No. EB-1 (15A) - 2 B-16	Repair open circuit or connector contact

4. Flashing rate too fast (One side)

Inspect bulb	NG	Burned out bulb	Replace the bulb or repair open circuit

BACKUP LIGHT

1. Backup light does not light on one side (RH or LH)

Checkpoint		Trouble Cause	Countermeasure
Backup light bulb continuity	NG	Burned out bulb or poor connector contact	Replace the bulb or repair connector contact
OK			
Grounding point	NG	Poor ground contact	Repair grounding point contact

2. Backup light does not light on both sides

Fuse No. CB-11 (15A, Fuse box)	NG	Poor fuse contact or blown fuse	Reinstall or replace fuse No. CB-11 (15A)
OK			
Back up light switch (mode switch) continuity	NG	Poor switch point contact of faulty switch	Repair or replace the switch
OK			
Voltage between 5 T-1 (5 T-6) - ground with starter switch ON and shift lever into reverse position (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

HORN

1. Both sides of horn do not sound

Checkpoint		Trouble Cause	Countermeasure
Fuse No EB-2 (10A, Relay and fuse box)	NG	Poor fuse contact or blown fuse	Reinstall or replace fuse No. EB-2 (10A)
OK			
Grounding point	NG	Poor ground contact	Repair the grounding point
OK			
Horn relay	NG	Poor relay contact or faulty horn relay	Reinstall or replace the horn relay
OK			
Voltage between connector 2 [X-4] - ground or 5 [X-4] - ground (Should be battery voltage present)	NG	Open circuit or poor connector contact between fuse No. EB-2 (10A) and horn relay	Repair open circuit or reconnect the connector
OK			
Remove steering pad and steering wheel			
OK			
Horn switch continuity	NG	Poor switch point contact or faulty switch	Repair or replace the horn switch
OK			
Continuity between 4 [X-4] - 12 [C-42] 1 [X-4] - 1 [C-20] (1 [C-21])	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

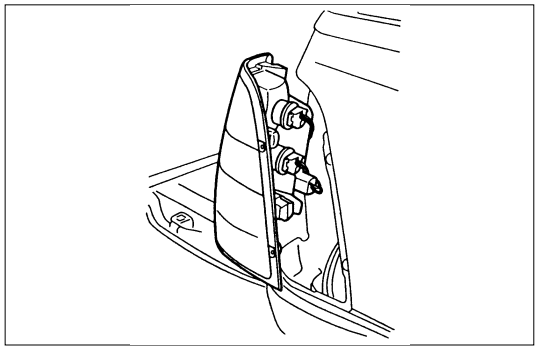
2. One side of horn does not blow

Checkpoint		Trouble Cause	Countermeasure
Horn continuity between connectors	NG	Faulty horn assembly	Replace the horn assembly
OK			
Voltage between 1 C-20 (1 C-21) - ground with horn switch depressed (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair open circuit or reconnect the connector

3. Insufficient horn volume

Battery condition	NG	Discharged battery	Recharge or replace the battery
OK			
Horn	NG	Stain foreign material in the horn	Clfean and/or remove the foreign material

REMOVAL AND INSTALLATION

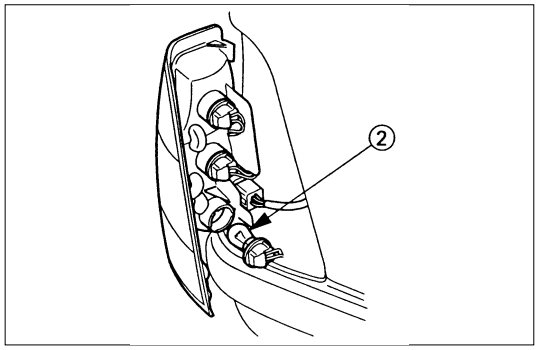


REAR COMBINATION LIGHT

Stoplight

Removal

1. Open the rear gate.
2. Remove the screws of rear combination light.
3. Remove the rear combination light assembly.



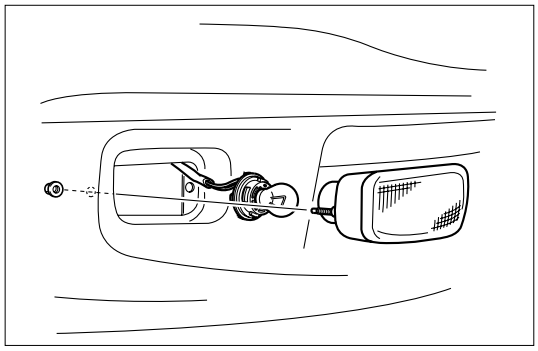
4. Turn the bulb ② counterclockwise to remove it.

Installation

Follow the removal procedure in the reverse order to install the rear combination light.
Pay close attention to the important points mentioned in the following paragraphs.

Bulb

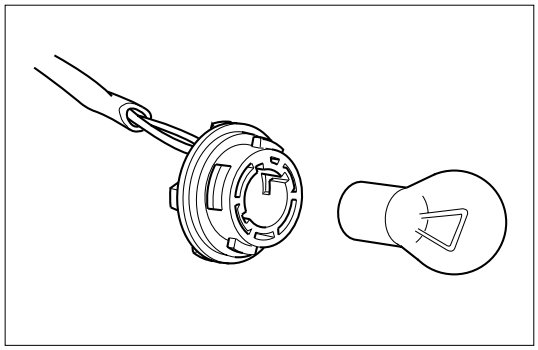
Be absolutely sure that each bulb is correctly installed.
This will prevent a poor contact and an open circuit.



FRONT TURN LIGHT

Removal

1. Remove the screws of the front turn light.
2. Pull out the light housing for front turn light from bumper.



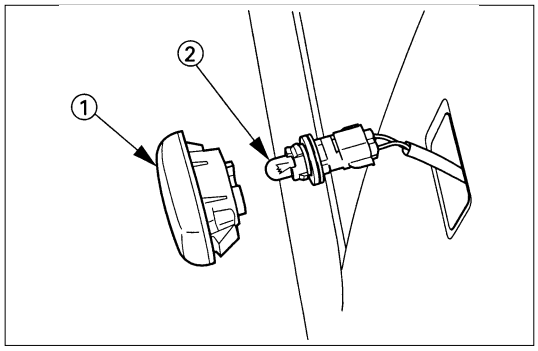
3. Push the bulb in and turn it counterclockwise to remove it from the light housing.

Installation

Follow the removal procedure in the reverse order to install the front turn light.
Pay close attention to the important points mentioned in the following paragraphs.

Bulb

Be absolutely sure that the front turn light bulb is correctly installed.
This will prevent a poor contact and an open circuit.



SIDE TURN LIGHT

Removal

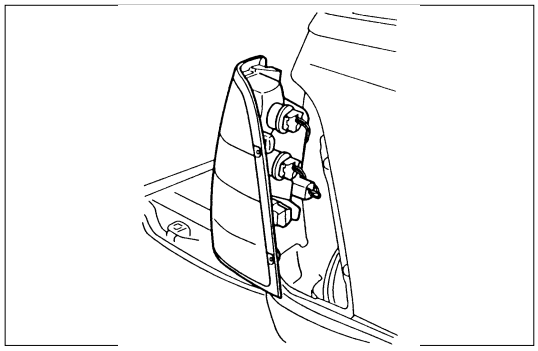
1. Remove the lens ①.
   - Pull the light/bulb toward you while pushing the light housing in the rear direction of the vehicle to release its lock.
   - Remove the socket by turning it counterclockwise.
2. Pull the bulb ② to remove it.

Installation

Follow the removal procedure in the reverse order to install the side turn light.
Pay close attention to the important points mentioned in the following paragraphs.

Bulb

Be absolutely sure that the side turn light bulb is correctly installed.
This will prevent a poor contact and an open circuit.

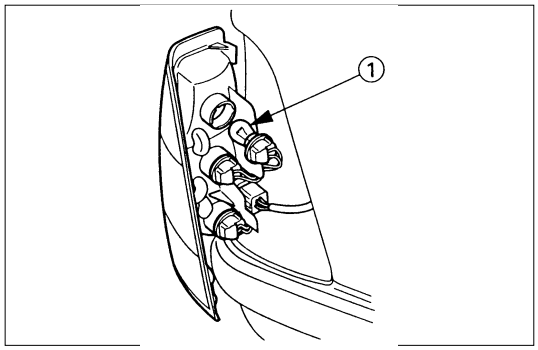


REAR COMBINATION LIGHT

Turn Signal Light

Removal

1. Open the rear gate.
2. Remove the screws.
3. Remove the rear combination light assembly.



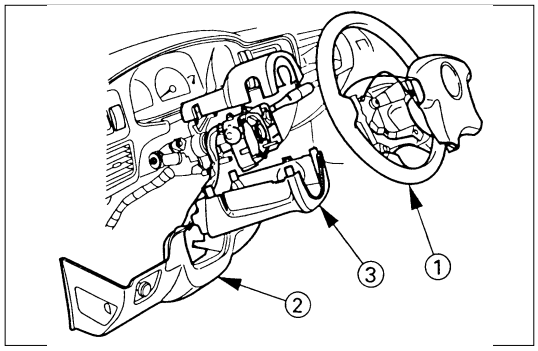
4. Turn the bulb ① counterclockwise to remove it.

Installation

Follow the removal procedure in the reverse order to install the rear combination light.
Pay close attention to the important points mentioned in the following paragraphs.

Bulb

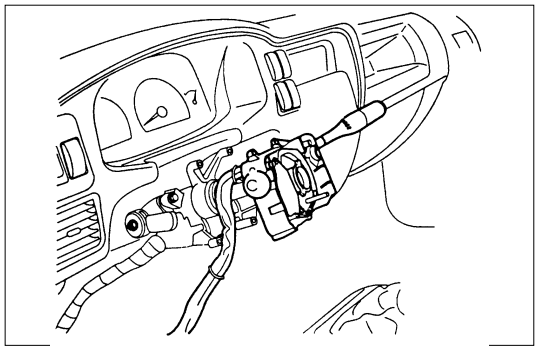
Be absolutely sure that the rear combination light bulb is correctly installed.
This will prevent a poor contact and an open circuit.



TURN SIGNAL SWITCH

Removal

1. Remove the steering wheel ①.
   Refer to the “STEERING” Section of this Manual.
2. Remove the instrument panel lower cover ②.
3. Remove the steering column cover ③.



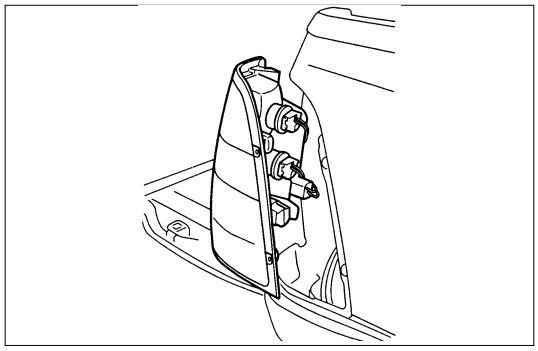
4. Disconnect the connector.
5. Remove the turn signal switch from the steering shaft.

Installation

Follow the removal procedure in the reverse order to install the turn signal switch (lever).
Pay close attention to the important points mentioned in the following paragraphs.

Connector

Be absolutely sure that the turn signal switch connector is securely connected.
This will prevent a poor contact and at an open circuit.

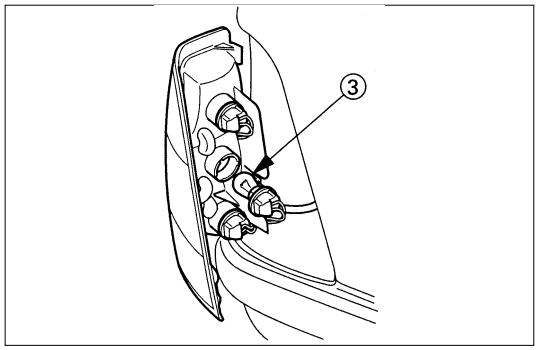


REAR COMBINATION LIGHT

Back Up Light

Removal

1. Open the rear gate.
2. Remove the screws.
3. Remove the rear combination light assembly.



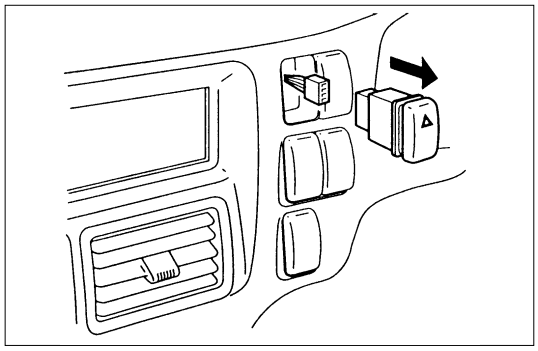
4. Turn the bulb ③ counterclockwise to remove it.

Installation

Follow the removal procedure in the reverse order to install the rear combination light.
Pay close attention to the important points mentioned in the following paragraphs.

Bulbs

Be absolutely sure that each bulb is correctly installed.
This will prevent a poor contact and an open circuit.



HAZARD WARNING FLASHER SWITCH

Removal

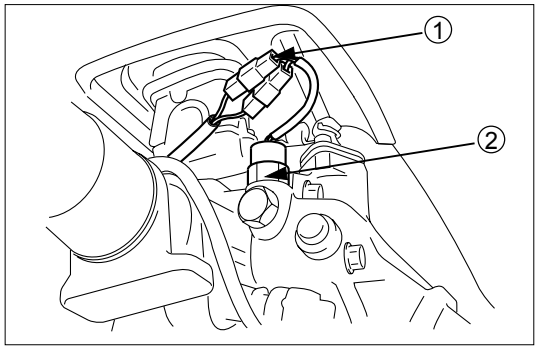
1. Instrument Panel Cluster Assembly
   - Refer to Section 10 “BODY” for instrument panel cluster assembly removal steps.
2. Hazard Warning Switch
   - Disconnect the switch connector.
   - To remove the switch, push the lock from the back side of the cluster assembly.

Installation

To install, follow the removal procedure in the reverse order.

Connector

Be absolutely sure that the hazard warning flasher switch connector is securely connected.
This will prevent a poor contact and an open circuit.



BACK UP LIGHT SWITCH

Removal

1. Disconnect the connector ①.
2. Remove the back up light switch from the transmission ②.

Installation

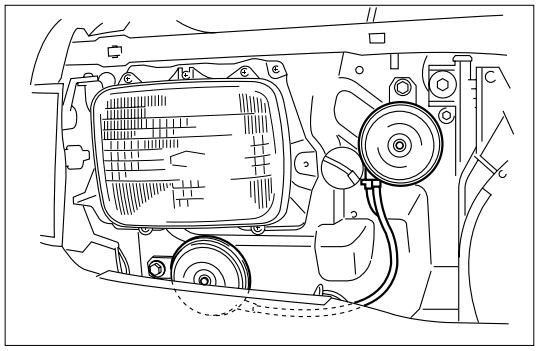
Follow the removal procedure in the reverse order to install the back up light switch.
Pay close attention to the important points mentioned in the following paragraphs.

Back up Light Switch Threads

Apply liquid gasket to the threaded portion and install the back up light switch.

Connector

Be absolutely sure that the back up light connector is securely connected.
This will prevent a poor contact and an open circuit.



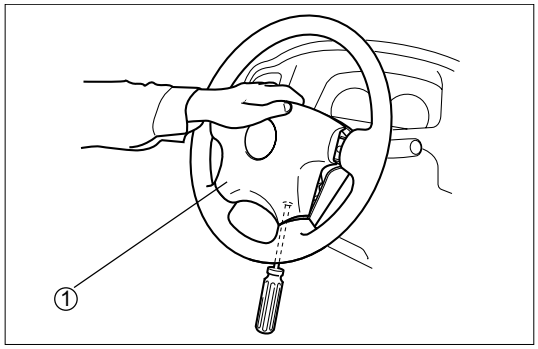
HORN

Installation

Follow the removal procedure in the reverse order to install the horn.
Pay close attention to the important point mentioned in the following paragraphs.

Connector

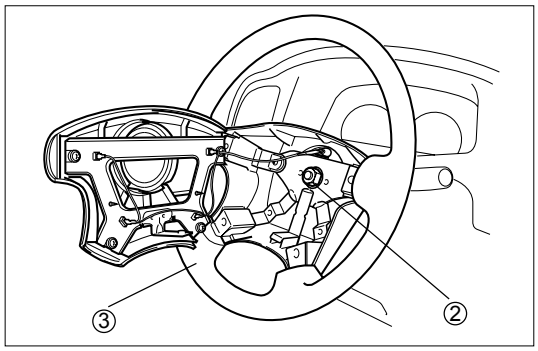
Be absolutely sure the horn connector is securely connected. This will prevent a poor contact and open circuit.



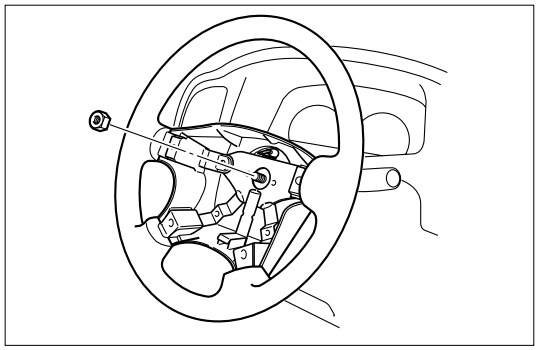
HORN SWITCH

Removal

1. Remove the screws on the lower part of the steering wheel.
2. Remove the horn pad ①.
3. Remove the horn wiring connector.



4. Remove the steering wheel nut ②.
5. Remove the steering wheel ③.
6. Remove the connector.
7. Remove the horn switch (combination switch).



Installation

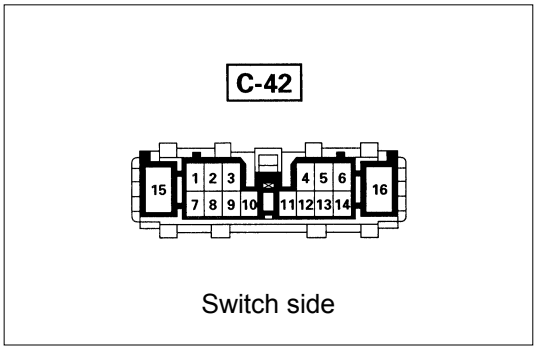
Follow the removal procedure in the reverse order to install the horn switch.
Pay close attention to the important points mentioned in the following paragraphs.

Steering Wheel Nut

Tighten the nut to the specified torque.

Steering Wheel Nut Torque	N·m (kgf·m/lb·ft)
	34.3±4.9 (3.5±0.5 / 25±3.6)

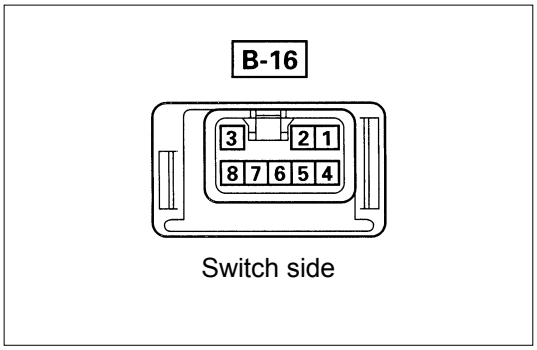
INSPECTION AND REPAIR



TURN SIGNAL SWITCH

Lighting Switch Connections

SW position \ Terminal No.		3	4	5
Turning direction	Left	○	○	
	⇕	×		×
	Neutral			
	⇕	×	×	
	Right	○		○



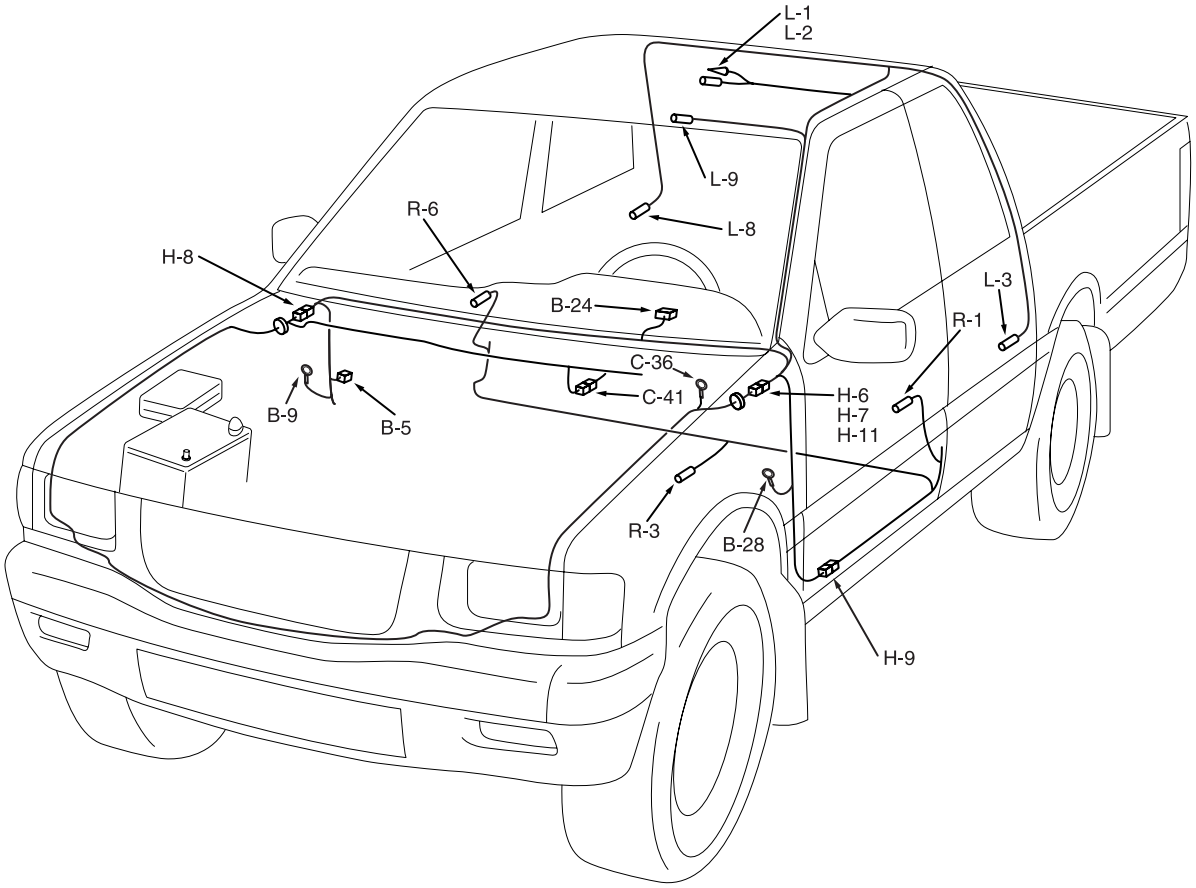
HAZARD WARNING FLASHER SWITCH

Hazard Warning Flasher Switch Connections

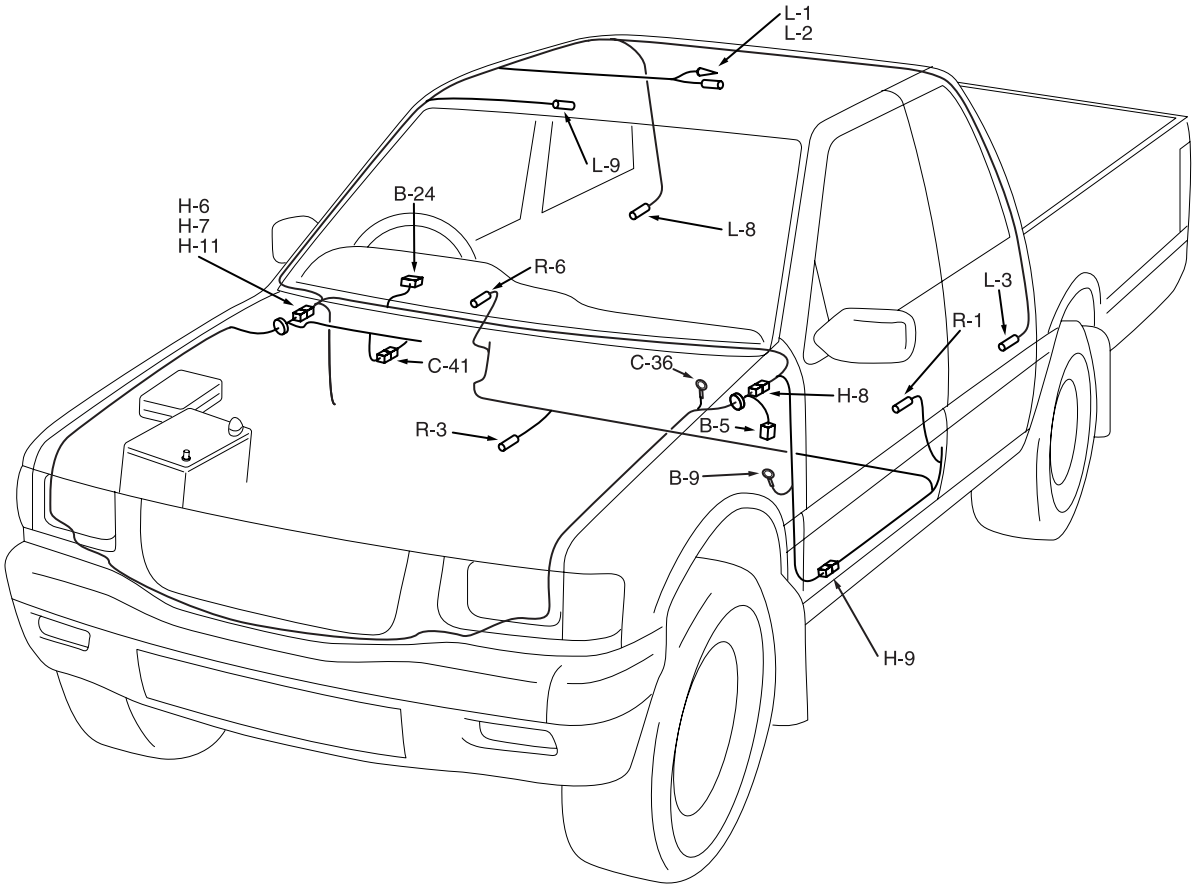
SW position \ Terminal No.	4	5	6	7	8	2	1	3
ON	○	○	○	○		○		
OFF				○	○			

DOME LIGHT, SPOT LIGHT AND WARNING BUZZER

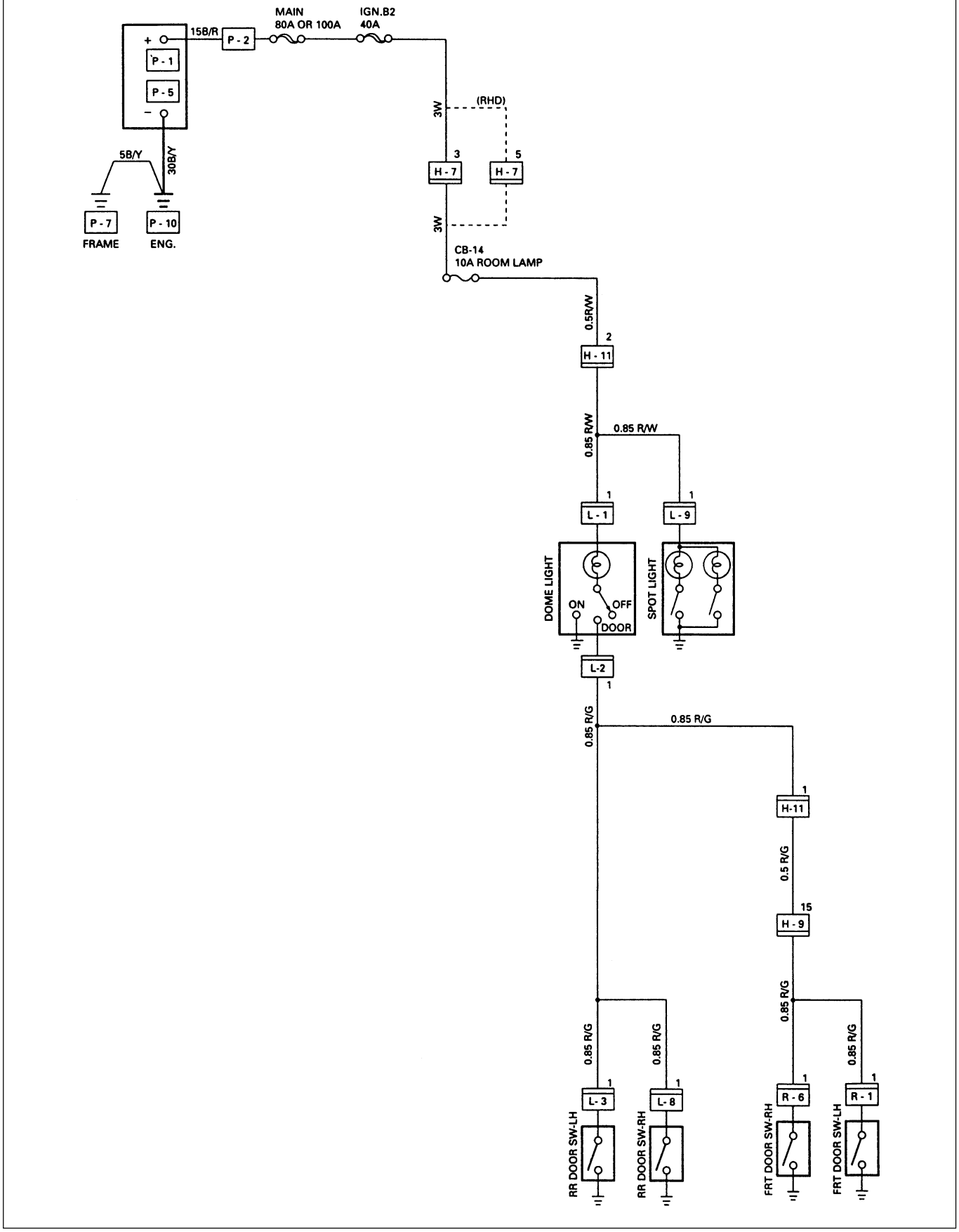
PARTS LOCATION (LHD)



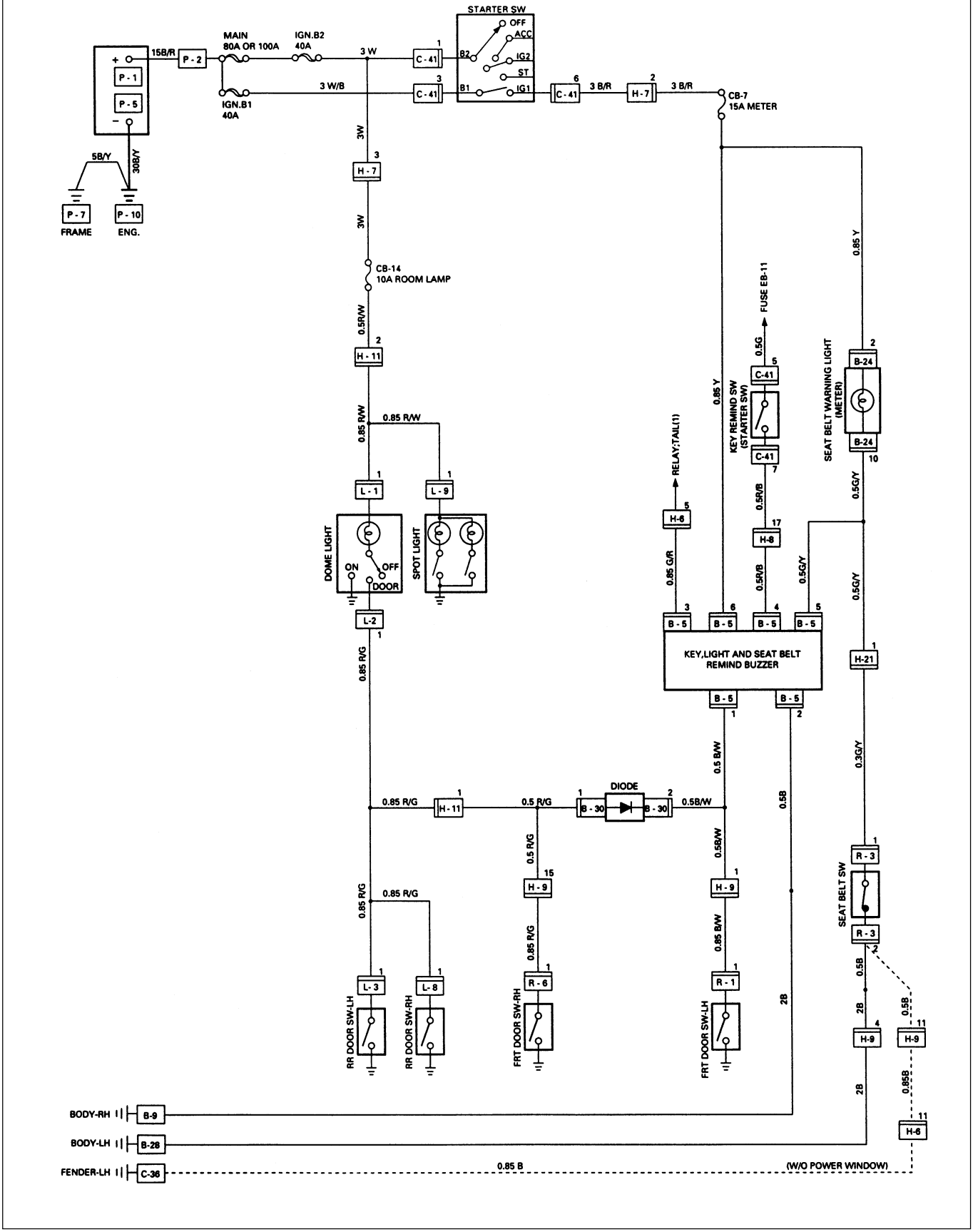
PARTS LOCATION (RHD)



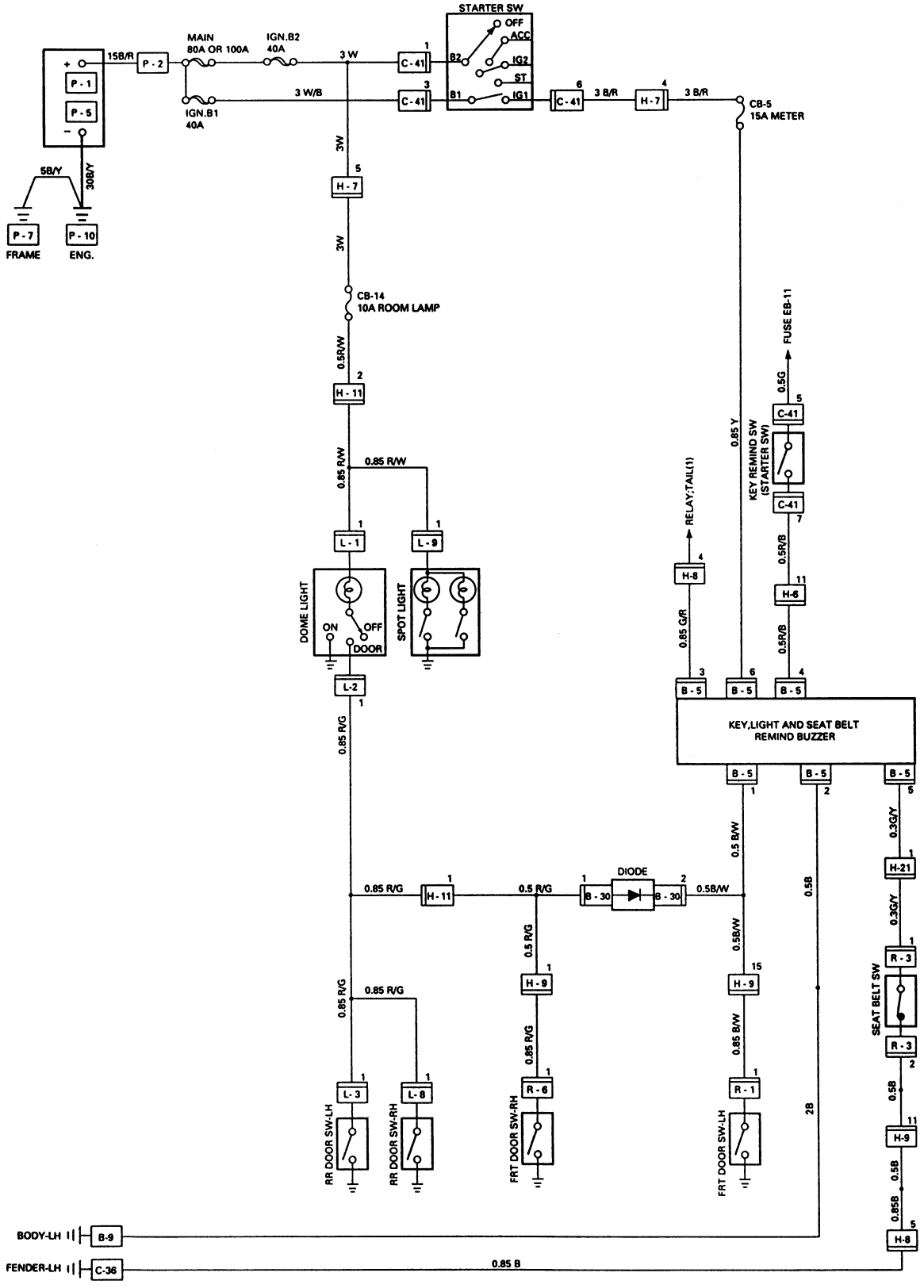
CIRCUIT DIAGRAM (LHD & RHD)



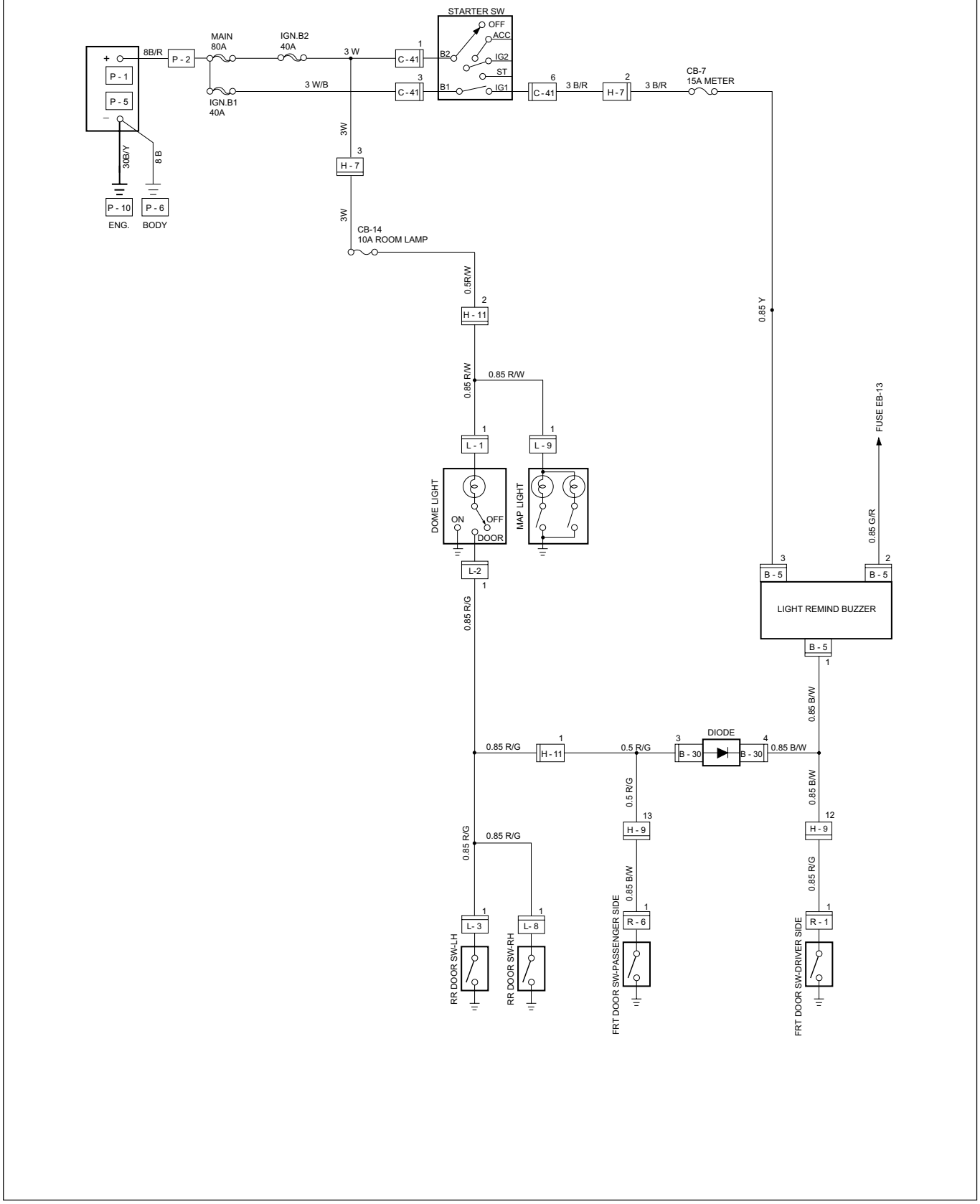
CIRCUIT DIAGRAM (SAUDI ARABIA)



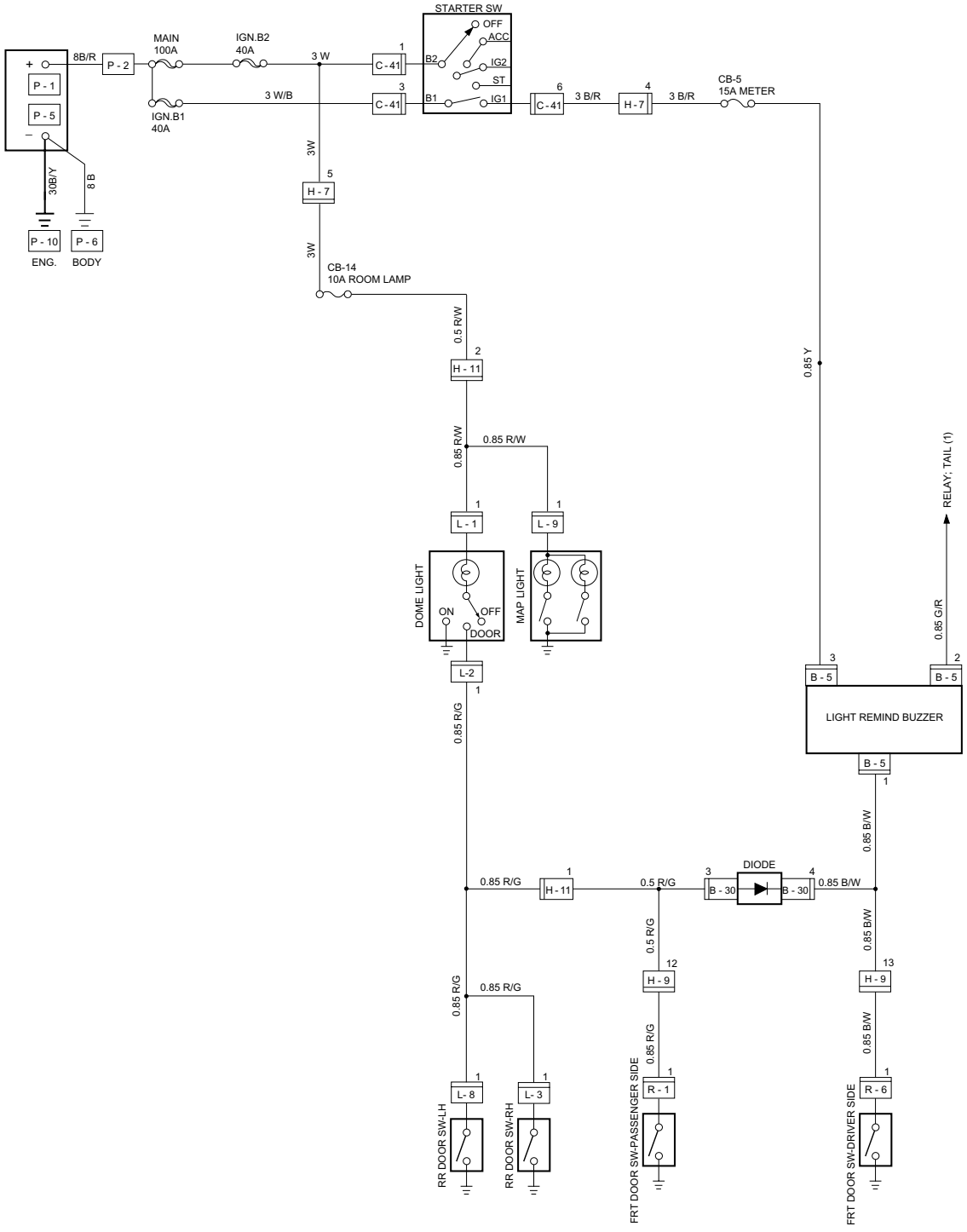
CIRCUIT DIAGRAM (SOUTH AFRICA)



CIRCUIT DIAGRAM (EC-LHD)



CIRCUIT DIAGRAM (UK)



TROUBLE SHOOTING

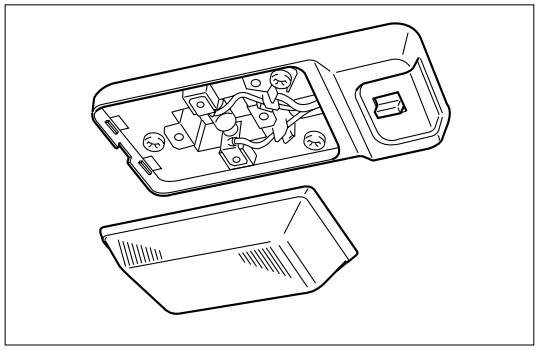
1. Dome light dose not light

Checkpoint		Trouble Cause	Countermeasure
Dome light bulb continuity	NG	Burned out the bulb	Replace the dome light bulb
OK			
Dome light switch function	NG	Switch malfunction	Repair or replace the dome light assembly
OK			
Continuity between connector 2 [H-11] - 1 [L-1]	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

2. Dome light does not go out

Door switch function (Both side)	NG	Switch malfunction or foreign material switch	Repair or replace the door switch
OK			
Continuity between connector 1 [L-2] -ground when shutting the door (Should be no continuity)	NG	Short circuit	Repair short circuit or connector contact

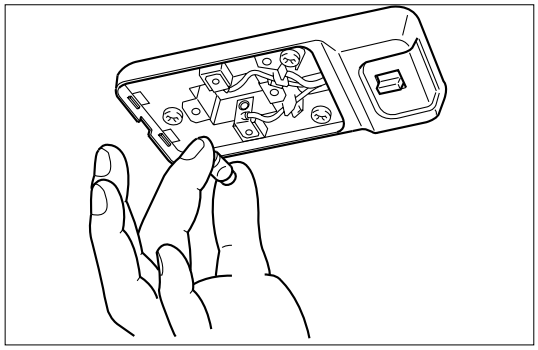
REMOVAL AND INSTALLATION



DOME LIGHT

Removal

1. Remove the dome light lens free.
2. Remove three dome light fixing screws.
3. Remove the wiring connector.
4. Remove the dome light.



5. Pull the bulb to remove it.

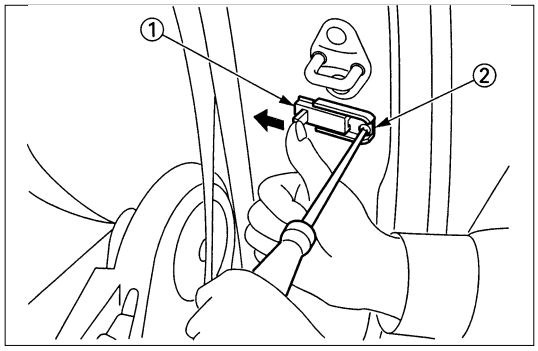
Installation

Follow the removal procedure in the reverse order to install the dome light.

Pay close attention to the important points mentioned in the following paragraphs.

Bulb

Be absolutely sure that the dome light bulb is correctly installed.
This will prevent a poor contact and an open circuit.



DOOR SWITCH

Removal

1. Push the door switch sliding portion ① in the direction of the arrow in the illustration.
2. Loosen the screw ②.
3. Pull the switch free to remove it.
4. Disconnect the door switch connector.

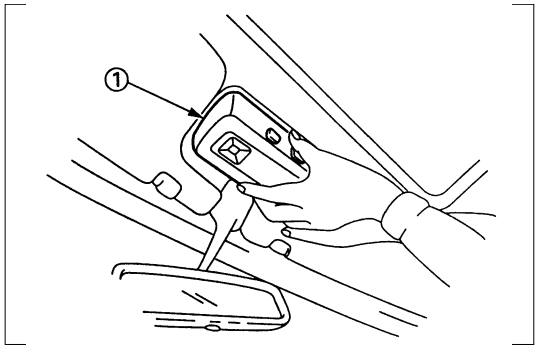
Installation

Follow the removal procedure in the reverse order to install the spot light.

Pay close attention to the important points mentioned in the following paragraphs.

Connector

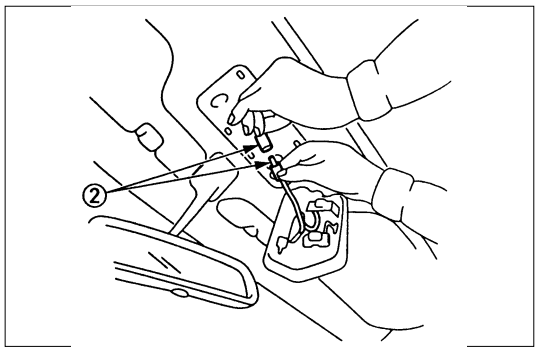
Be absolutely sure that the door switch connector is securely connected.
This will prevent a poor contact and an open circuit.



SPOT LIGHT

Removal

1. Grasp the spot light housing ① with both hands.
   Pull the housing straight down.
   This will release the clip.



2. Disconnect the connector ②.
3. Push the bulb in and turn it counterclockwise to remove it.

Installation

Follow the removal procedure in the reverse order to install the spot light.

Pay close attention to the important points mentioned in the following paragraphs.

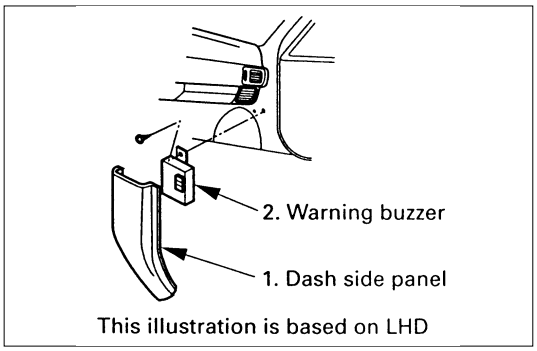
Connector

Be absolutely sure that the spot light connector is securely connected.
This will prevent a poor contact and an open circuit.

Bulb

Be absolutely sure that the spot light bulb is correctly installed.
This will prevent a poor contact and an open circuit.

WARNING BUZZER (For Gulf only)



This illustration is based on LHD

Removal

1. Dash Side Panel
2. Warning Buzzer
   - Disconnect the connector.
   - Remove the screw.

Installation

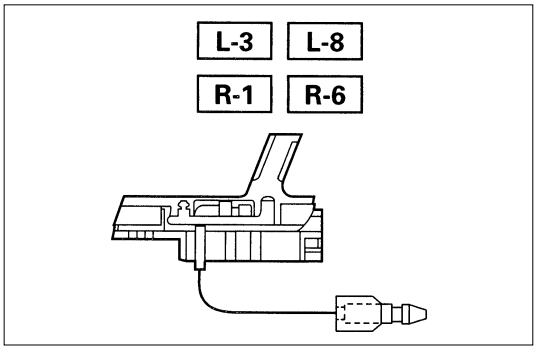
Follow the removal procedure in the reverse order to install the warning buzzer.

Pay close attention to the important points mentioned in the following paragraphs.

Connector

Be absolutely sure that the warning buzzer connector is securely connected.
This will prevent a poor contact and an open circuit.

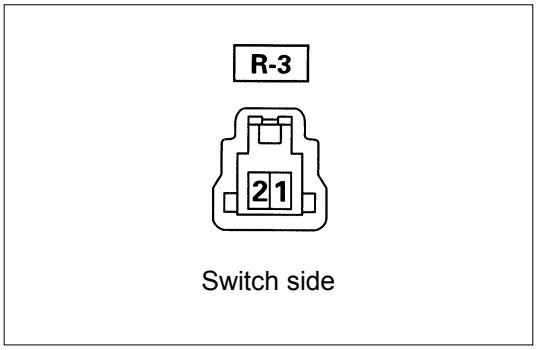
INSPECTION AND REPAIR



DOOR SWITCH

Door Switch Connections

SW position \ Connector No. / Terminal No.	L-3 L-8 R-1 R-6	
	1	Body Ground
PUSHED		
RELEASED	○	○

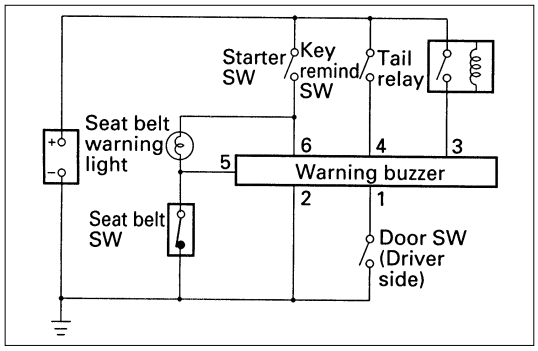


Switch side

SEAT BELT SWITCH (GULF, SOUTH AFRICA)

Seat Belt Switch Connections

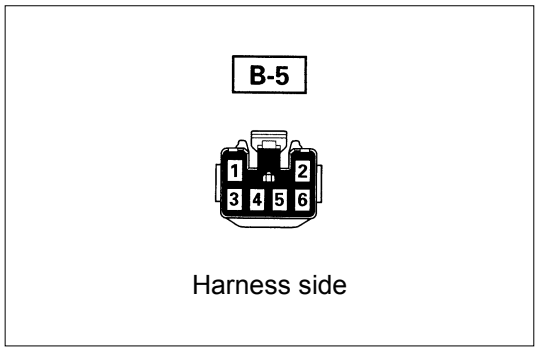
SW position \ Connector No. / Terminal No.	R-3	
	1	2
ON (Belt tongue removed)	○	○
OFF (Belt tongue inserted)		



WARNING BUZZER

1. Warning Buzzer Circuit

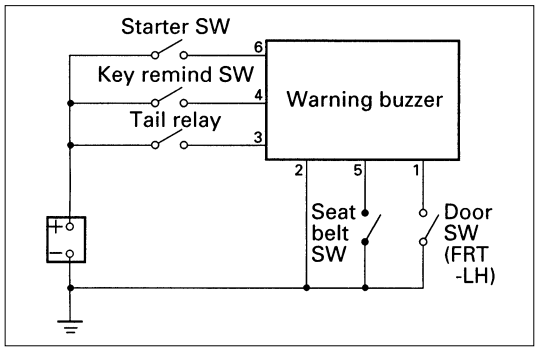
Warning function	Operational conditions
Fasten the seat belt	The warning light meter assembly turned about 6 seconds from the moment the starter switch is turned on.
	The buzzer sounds for about 6 seconds when the starter switch is turned on with the seat belt switch on (when the seat belt is not used).
Key left in starter switch	The buzzer sounds when both the key remind switch and the FRT door switch-LH are turned on. To stop the sound of the buzzer, turn on the starter switch.
Tail lights left on	The buzzer sounds when the starter switch is turned from the “on” to “off” position while the taillights are on.



2. Warning Buzzer Harness Side Connector Circuit

Disconnect the warning buzzer connector and check continuity and voltage between the warning buzzer harness side connector terminals.

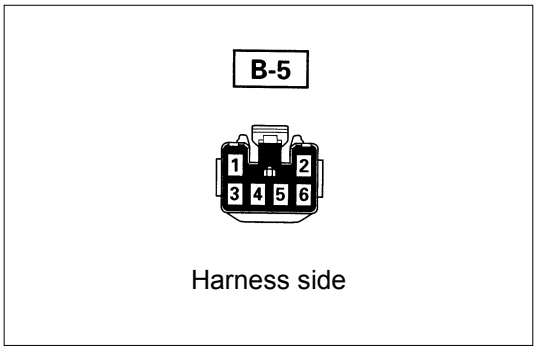
Terminal NO.	Wire color	Connecting to	Check item	Connecting terminal	Check condition		Standard
5	G/Y	Seat belt SW	Continuity	5-Ground	Seat belt	Unfasten	Continuity
						Fasten	No continuity
3	G/Y	Tail relay	Voltage	3-Ground	Light SW “ON”		Approx. 12V
4	R/B	Key remind SW (Starter SW)		4-Ground	Key	Insert	Approx. 12V
						Remove	0V
6	Y	Fuse CB-7		6-Ground	Starter SW “ON”		Approx. 12V
1	B/W	Door SW (FRT-LH)	Continuity	1-Ground	FRT door-LH	Open	Continuity
						Close	No continuity
2	B	Ground		2-Ground	-		Continuity



WARNING BUZZER (For the Gulf Countries)

1. Warning Buzzer Circuit

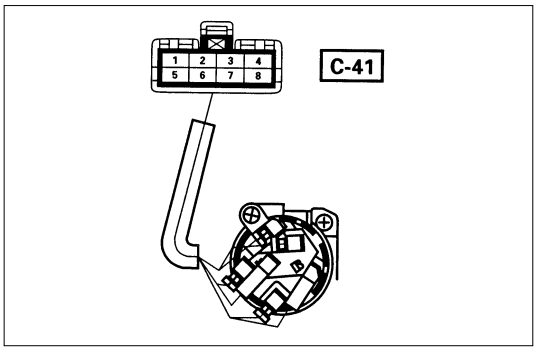
Warning function	Operational conditions
Fasten the seat belt	The buzzer sounds when the starter switch is turned on with the seat belt switch on (when the seat belt is not used)
Key left in starter switch	The buzzer sounds when both the key remind switch and the FRT door switch-LH are turned on. To stop the sound of the buzzer, turn on the starter switch.
Taillights left on	The buzzer sounds when the starter switch is turned from the “on” to “off “ position while the taillights are on.



2. Warning Buzzer Harness Side Connector Circuit

Disconnect the warning buzzer connector and check continuity and voltage between the warning buzzer harness side connector terminals.

Terminal NO.	Wire color	Connecting to	Check item	Connecting terminal	Check condition		Standard
5	G/Y	Seat belt SW	Continuity	5-Ground	Seat belt	Unfasten	Continuity
						Fasten	No continuity
3	G/R	Tail relay	Voltage	3-Ground	Lighting SW “ON”		Approx. 12V
4	R/B	Key remind SW (Starter SW)		4-Ground	Key	Insert	Approx. 12V
						Remove	0V
6	Y	Fuse CB-5		6-Ground	Starter SW “ON”		Approx. 12V
1	B/W	Door SW (FRT-LH)	Continuity	1-Ground	FRT door-LH	Open	Continuity
						Close	No continuity
2	B	Ground		2-Ground	-		Continuity



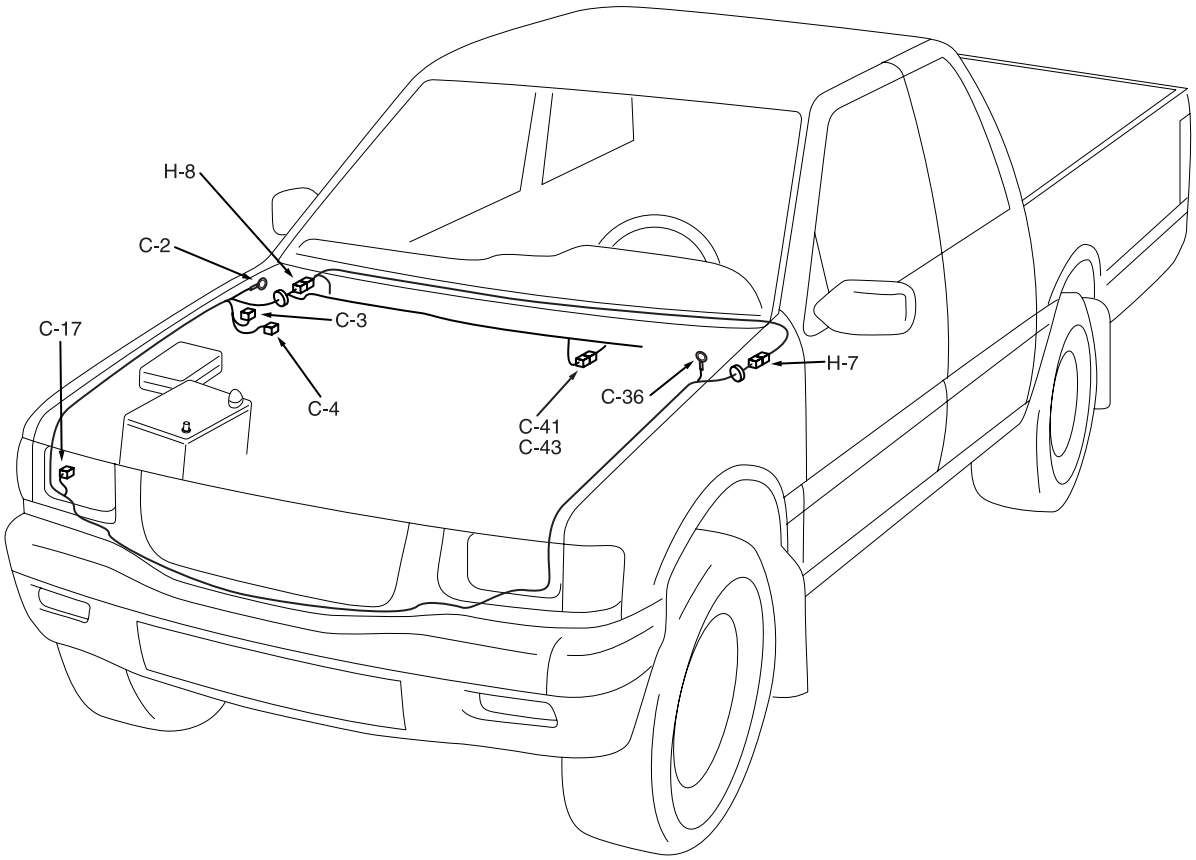
KEY REMIND SWITCH (STARTER SWITCH)

Switch Connections

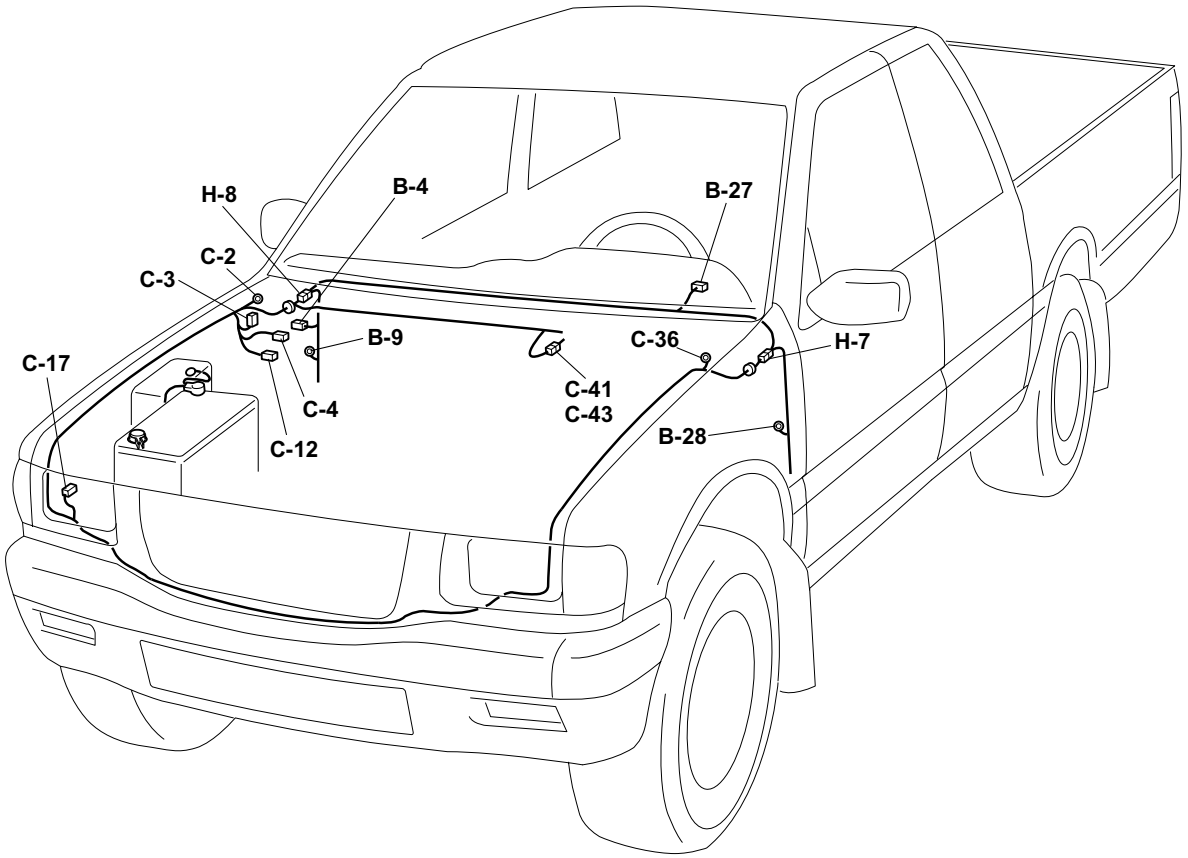
Connector No. / Terminal No. / Starter switch key position		C-41	
		5	7
LOCK	Removed		
OFF	Inserted	○	○
ACC			
ON			
START			

WINDSHIELD WIPER AND WASHER

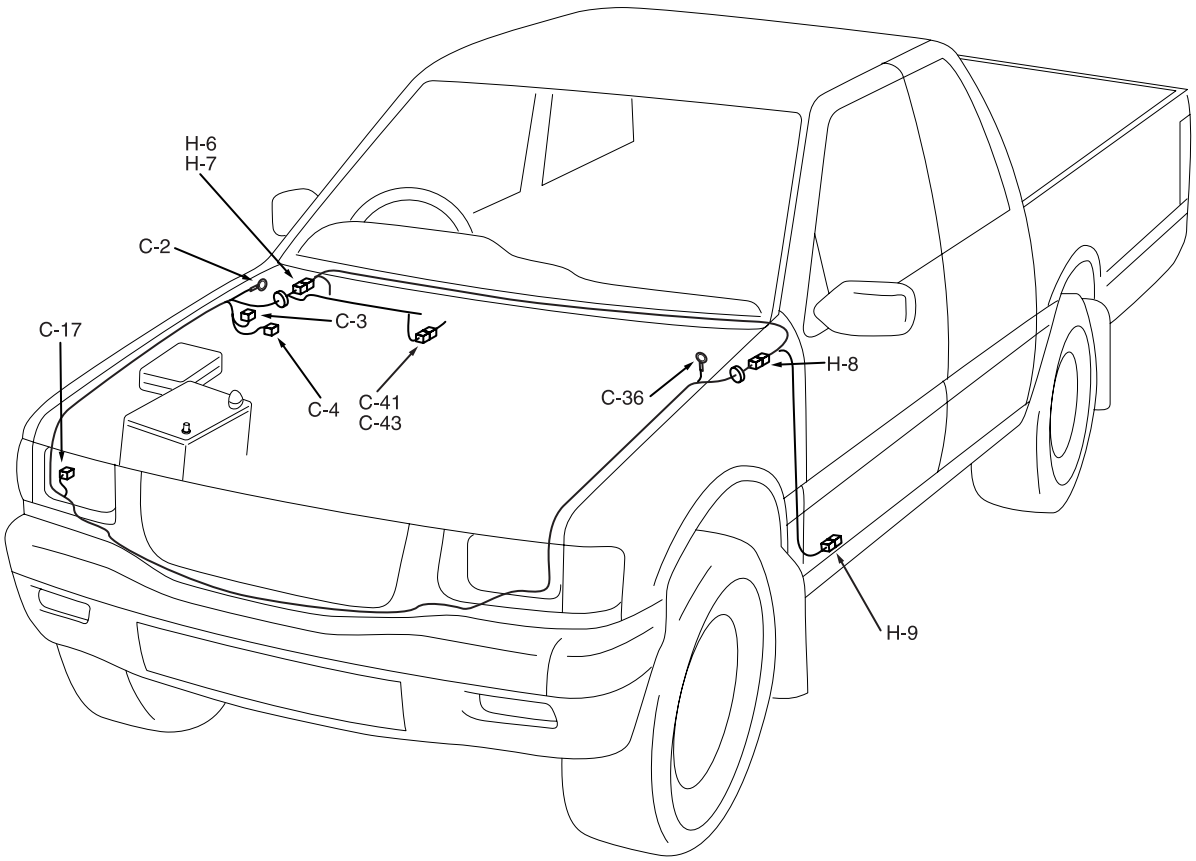
PARTS LOCATION (LHD EXCEPT EC)



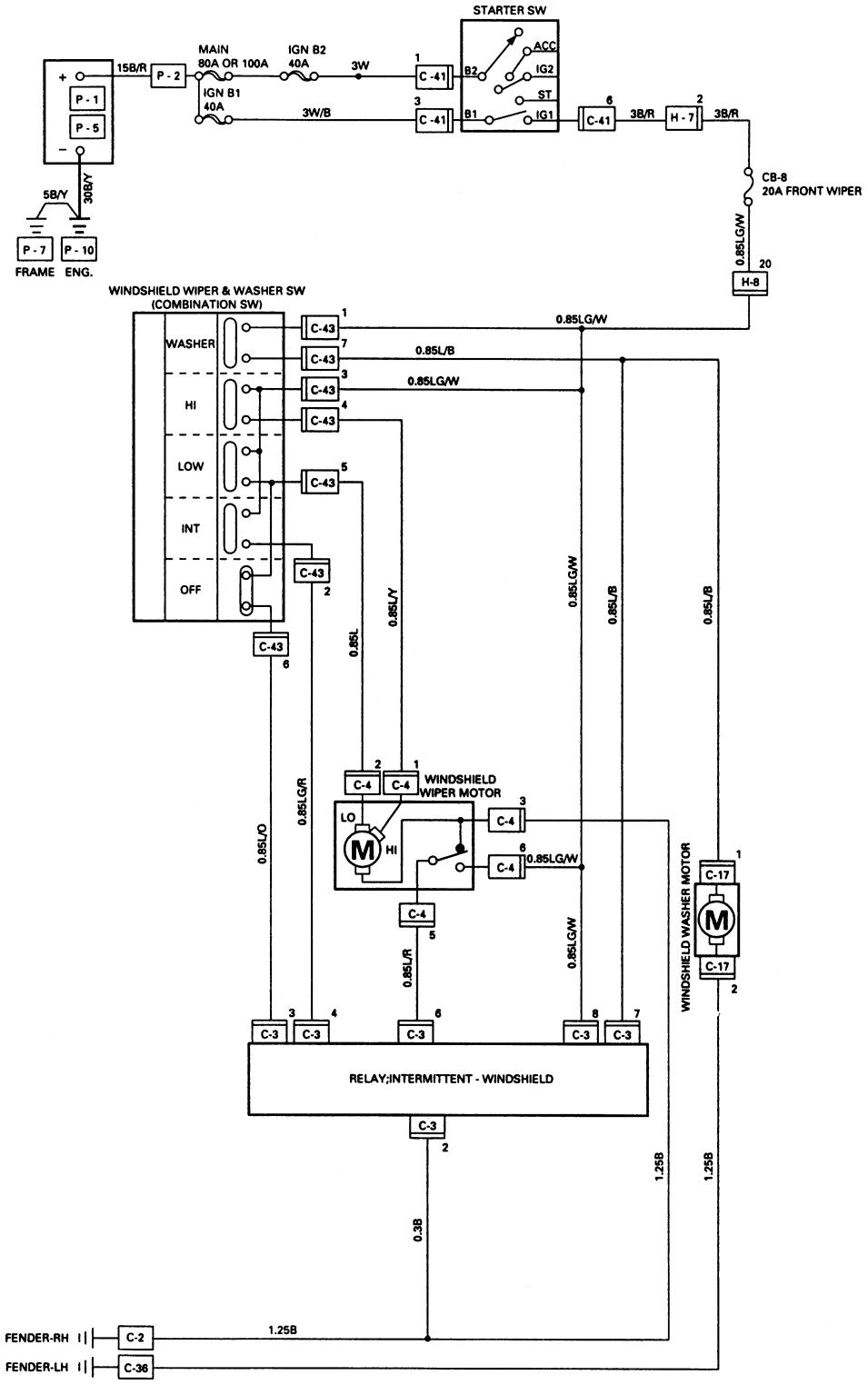
PARTS LOCATION (EC-LHD)



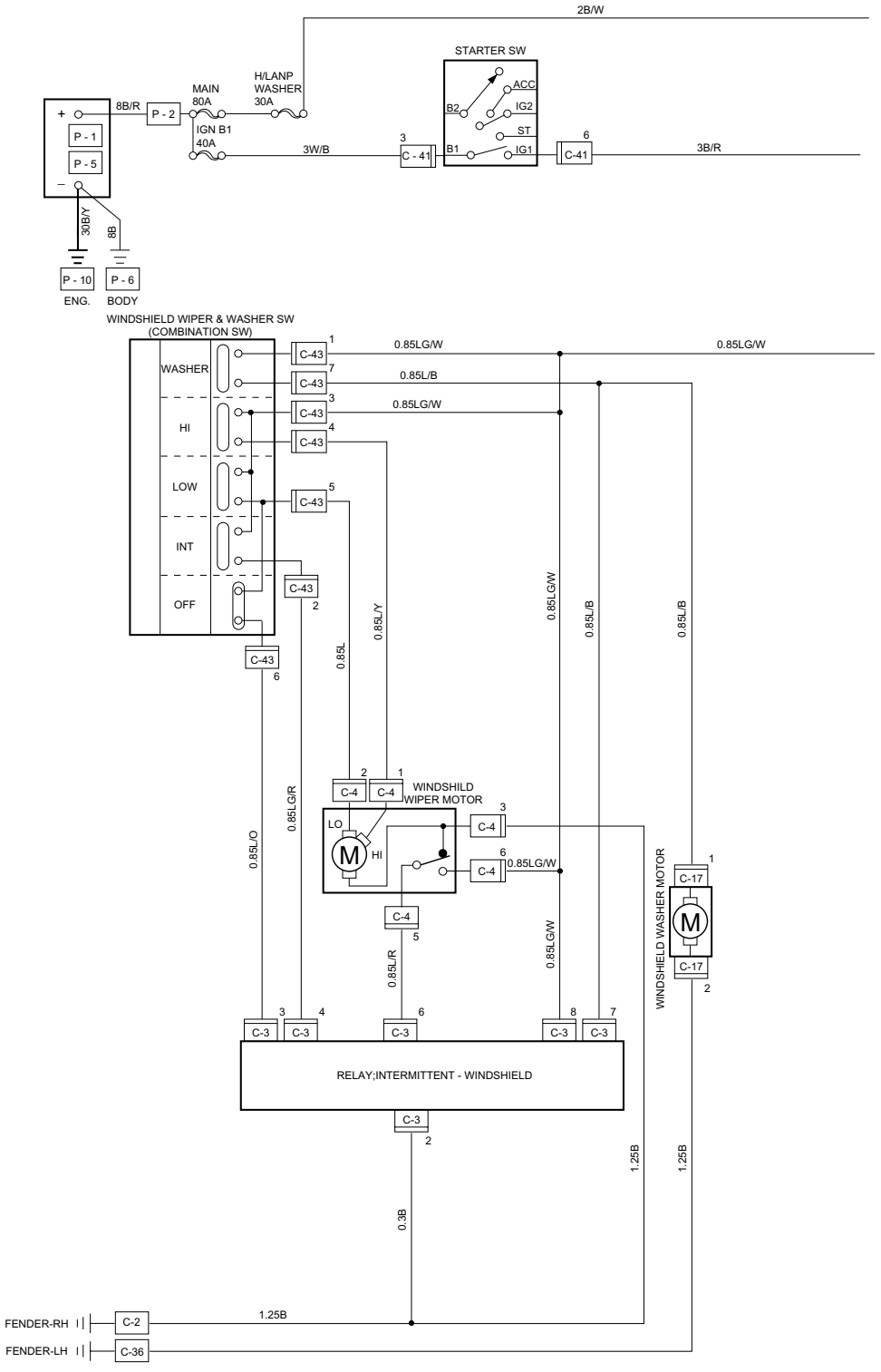
PARTS LOCATION (RHD)

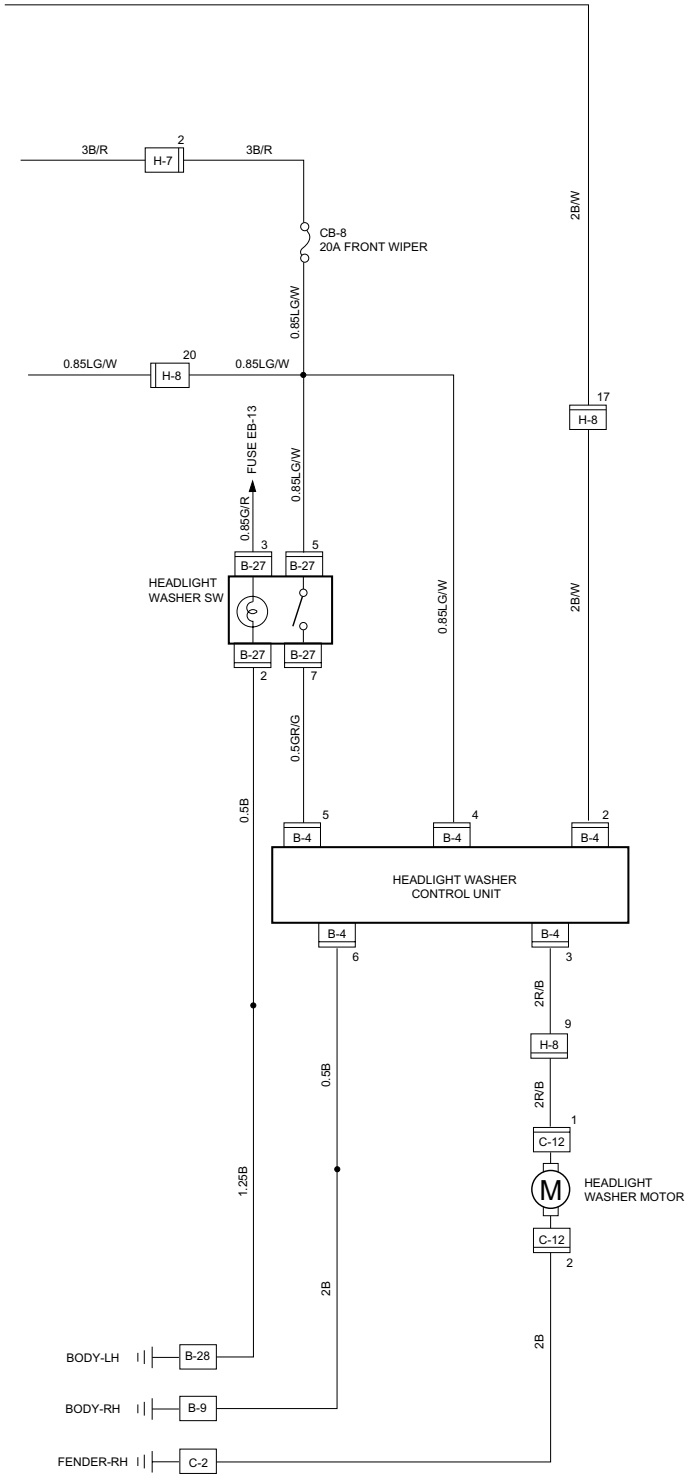


CIRCUIT DIAGRAM (LHD EXCEPT EC)

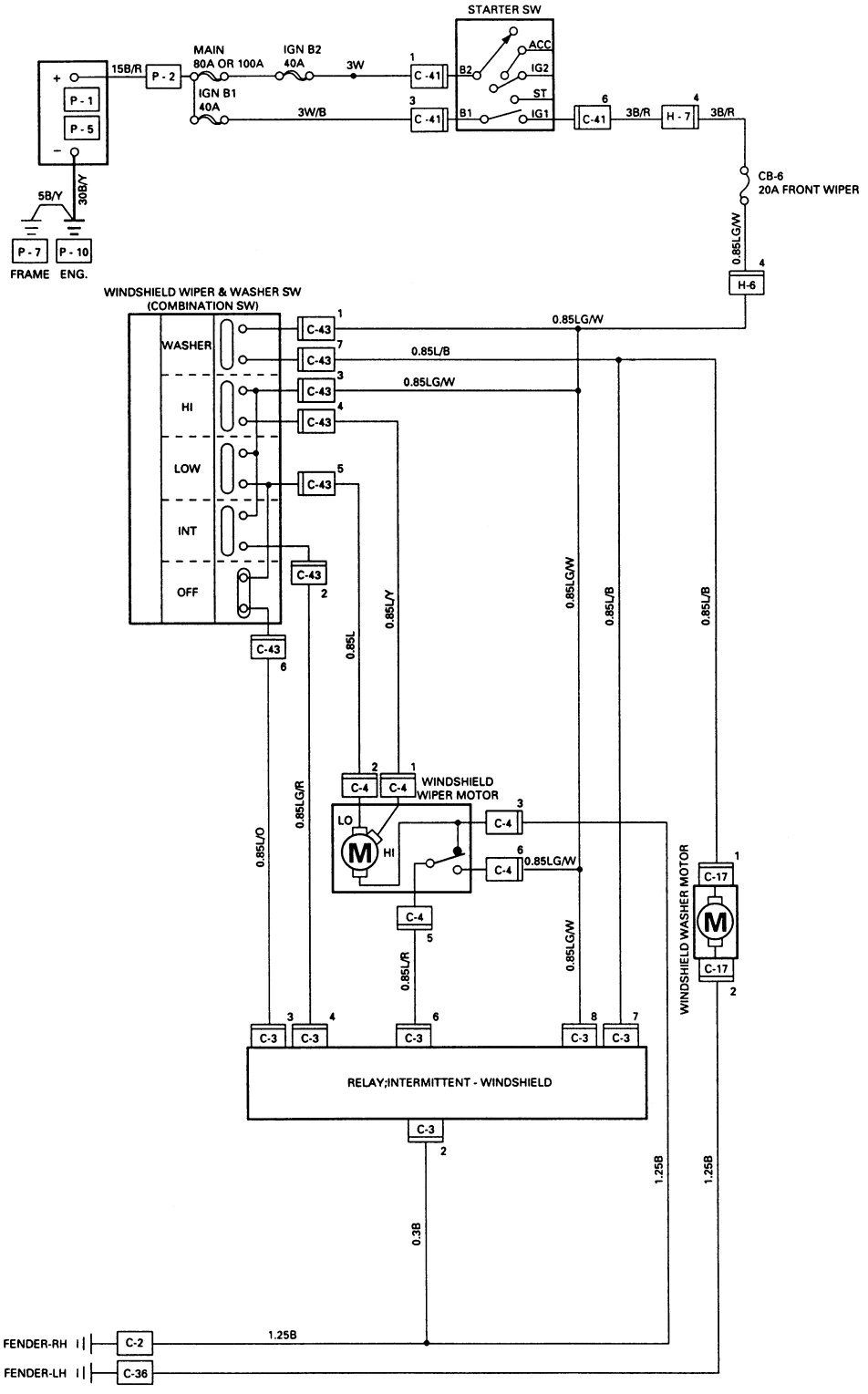


CIRCUIT DIAGRAM (EC-LHD)




3B/R
H-7
2
3B/R
CB-8
20A FRONT WIPER
0.85LG/W
0.85LG/W
H-8
20
0.85LG/W
2B/W
17
H-8
FUSE EB-13
0.85G/R
0.85LG/W
3
5
B-27
B-27
HEADLIGHT
WASHER SW
0.85LG/W
2B/W
B-27
B-27
2
7
0.5GR/G
0.5B
5
4
2
B-4
B-4
B-4
HEADLIGHT WASHER
CONTROL UNIT
B-4
B-4
6
3
2R/B
9
H-8
2R/B
0.5B
1
C-12
1.25B
M
HEADLIGHT
WASHER MOTOR
C-12
2
2B
2B
BODY-LH
B-28
BODY-RH
B-9
FENDER-RH
C-2

CIRCUIT DIAGRAM (RHD)



TROUBLESHOOTING

WINDSHIELD WIPER

1. Wiper dose not operate at any switch position

Checkpoint		Trouble Cause	Countermeasure
LHD: Fuse No. CB-8 (20A) RHD: Fuse No. CB-6 (20A)	NG	Poor fuse contact or blown	Reinstall or replace the fuse No. CB-8 (20A) (RHD: CB-6 (20A))
OK			
Voltage between 3 C-43 and the ground (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Continuity in the wiper & washer SW.	NG	SW. malfunction	Replace the wiper & washer SW.
OK			
Grounding point (C-2)	NG	Poor grounding point contact	Repair grounding point (C-2) contact
OK			
1. Wiper motor function when connecting the motor connector 2 C-4 to the battery (+) terminal, and 3 C-4 to the (-) terminal (Should the wiper motor rotate at a low speed) 2. Wiper motor function when connecting the motor connector 1 C-4 to the battery (+) terminal, 3 C-4 to the (-) terminal (Should the wiper motor rotate at a high speed)	NG	Wiper motor malfunction	Replace the wiper motor
OK			
Continuity between 3 C-4 and C-2	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

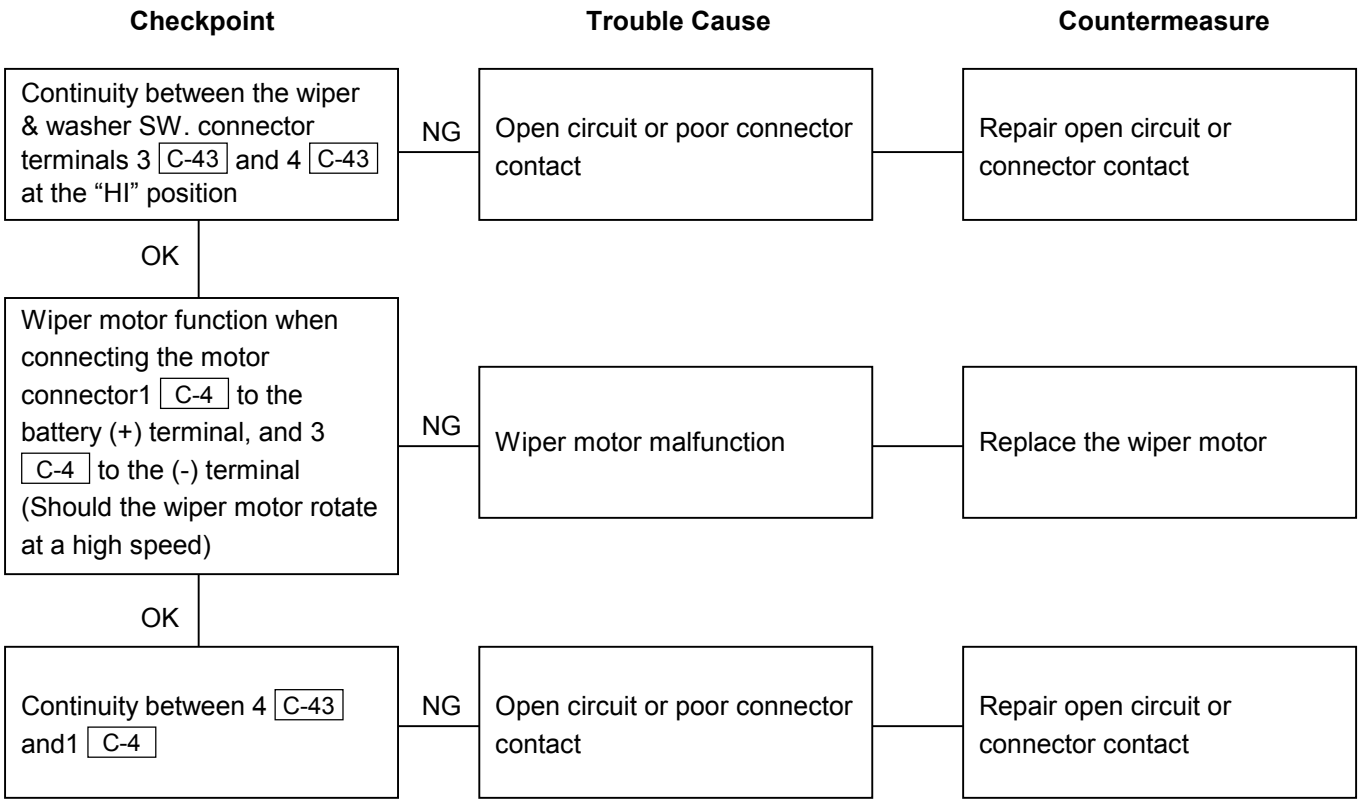
2. Wiper dose not operate at " INT " position

Checkpoint		Trouble Cause	Countermeasure
Continuity between the wiper & washer SW connector terminals 3 C-43 and 2 C-43 at the " INT " position	NG	SW. malfunction	Replace the wiper & washer SW.
OK			
Grounding point C-2	NG	Poor rounding point contact	Repair grounding point contact
OK			
Voltage between the intermittent relay harness side connector terminal 4 C-3 and the ground at the "INT" position (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Intermittent relay function	NG	Relay malfunction	Replace the intermittent relay

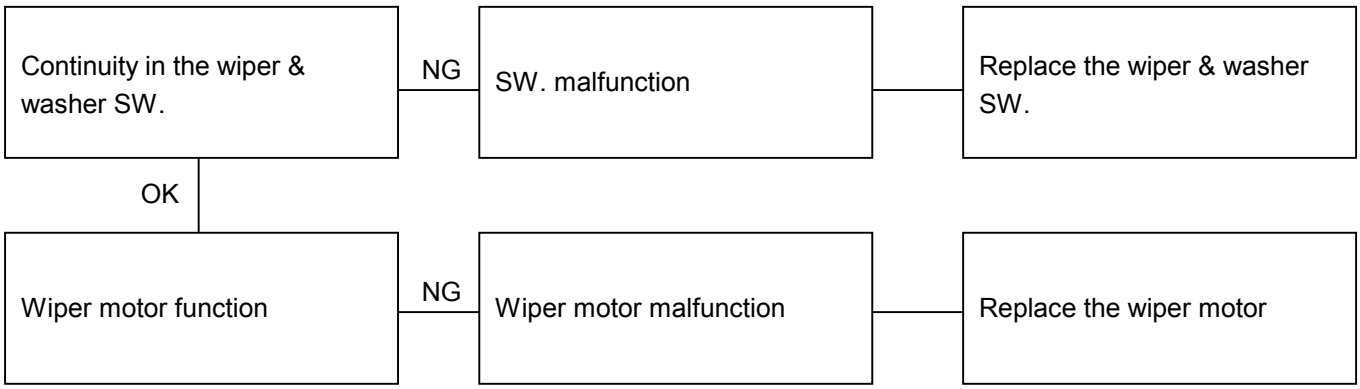
3. Wiper does not operate at "LO" position

Wiper motor function 1. Disconnect the wiper & washer SW. connector 2. Turn the starter SW. on 3. Short-circuit between the wiper & washer SW. harness side connector terminals. 3. C-43 and 5 C-43 4. Check to see if the wiper motor rotates at a low speed	NG	Wiper motor malfunction	Replace the wiper motor
OK			
Wiper & washer SW. function	NG	SW. malfunction	Replace the wiper & Washer SW.

4. Wiper does not operate at "HI" position



5. Rotation of the wiper motor does not stop



6. Auto-stop function of the wiper motor does not operate

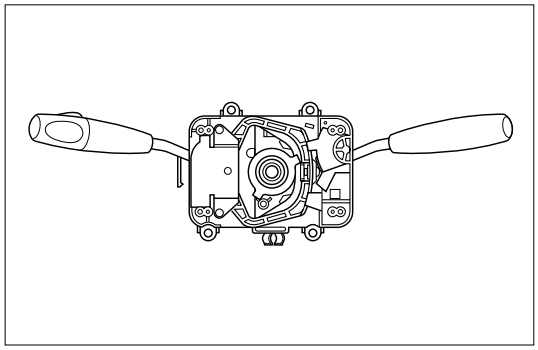
Checkpoint		Trouble Cause	Countermeasure
Continuity between the wiper & washer SW. connector terminals 5 C-43 and 6 C-43 at the "OFF" position	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Wiper motor function 1. Disconnect the wiper motor connector 2. Connect the motor connector 2 C-4 to the battery (+) terminal and 3 C-4 to the (-) terminal, and then change the connection of the battery (+) terminal to the connector 6 C-4 while the motor rotating at a low speed 3. Check to see if the wiper motor stops at the auto stop position when connecting the connector terminals 2 C-4 and 5 C-4 in this condition	NG	Wiper motor malfunction	Replace the wiper motor
OK			
Voltage between the wiper motor harness side connector terminal 6 C-4 and the ground (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair an open circuit or a poor connection of the connectors between the fuse No. CB-8 (20A) (RHD: CB-6 (20A)) and 6 C-4
OK			
Continuity between the intermittent relay harness side connector 6 C-3 and the wiper motor harness side connector 5 C-4	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Intermittent relay function	NG	Relay malfunction	Replace the intermittent relay

WASHER

1. Washer motor does not operate

Checkpoint		Trouble Cause	Countermeasure
LHD: Fuse No. CB-8 (20A) RHD: Fuse No. CB-6 (20A)	NG	Poor fuse contact or blown	Reinstall or replace the fuse No. CB-8 (20A) (RHD: CB-6 (20A))
OK			
Continuity between the wiper & washer SW. side connector terminals C-43 and 7 C-43 when the washer button is depressed	NG	SW. malfunction	Replace the wiper & washer SW.
OK			
Voltage between the wiper & washer SW. harness side connector terminal 1 C-43 and the ground (Should be battery voltage preset)	NG	Open circuit or poor connector contact	Repair or an open circuit or a poor connection of the connectors between the fuse No. CB-8 (20A) (RHD: CB-6 (20A))and 1 C-43
OK			
Voltage between the washer motor harness side connector terminal 1 C-17 and the ground when the washer button is depressed (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair or an open circuit or a poor connection of the connectors between 1 C-17 and 7 C-43
OK			
Grounding point (C-36)	NG	Poor grounding point contact	Repair grounding point (C-36) contact
OK			
Washer motor function when connecting the motor side connector 1 C-17 to the battery (+) terminal, and the connector 2 C-17 to the (-) terminal (Should the washer motor rotate)	NG	Motor malfunction	Replace the washer motor
OK			
Continuity between 2 C-17 and C-36	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

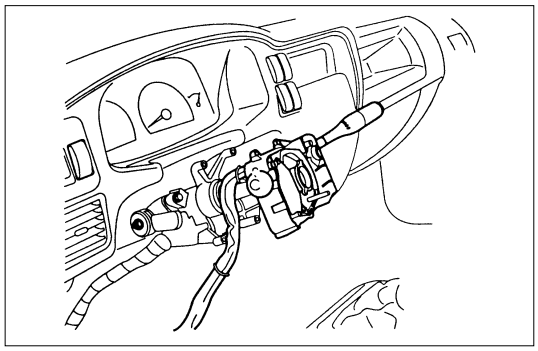
REMOVAL AND INSTALLATION



WIPER AND WASHER SWITCH

Removal

Refer to the removal steps of the LIGHTING SWITCH (COMBINATION SWITCH) in " LIGHTING " of this section.



Installation

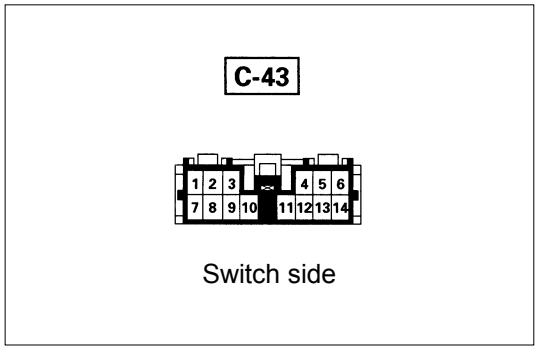
Follow the removal procedure in the reverse order to install the wiper and washer switch.

Pay close attention to the important points mentioned in the following paragraphs.

Connector

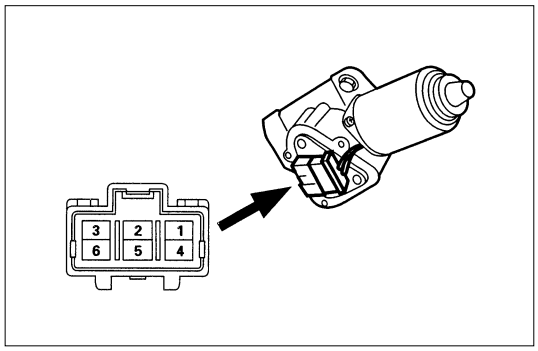
Be absolutely sure that the wiper and washer switch connector is securely connected.
This will prevent a poor contact and an open circuit.

INSPECTION AND REPAIR



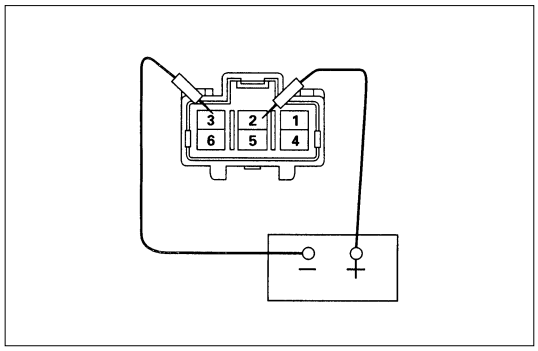
Control Switch Connections

Terminal No. / SW position	6	3	5	4	2	1	7
Mist		○	○				
Off	○		○				
INT	○		○				
		○			○		
Lo		○	○				
Hi		○		○			
Wash						○	○



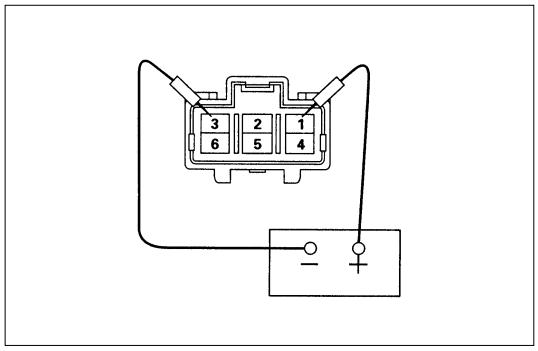
Wiper Motor Inspection

Connector



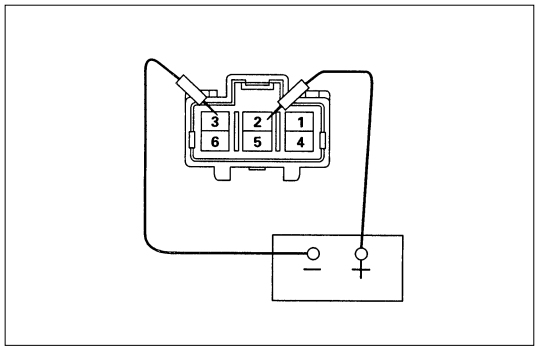
Low Speed Inspection

1. Clamp the wiper motor in a vise.
   The moving parts must be clear of the vise.
2. Connect the connector terminals to the battery.
   Refer to the illustration.
3. Check the wiper motor low speed operation.



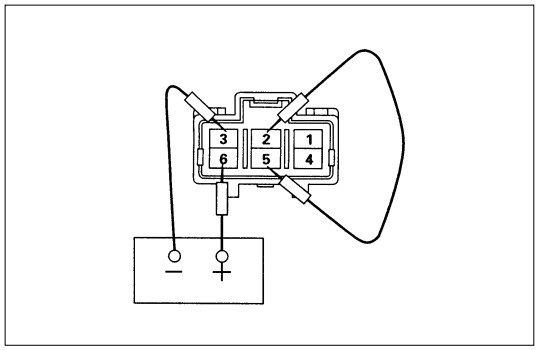
High Speed Inspection

1. Clamp the wiper motor in a vise.
   The moving parts must be clear of the vise.
2. Connect the connector terminals to the battery.
   Refer to the illustration.
3. Check the wiper motor high speed operation.

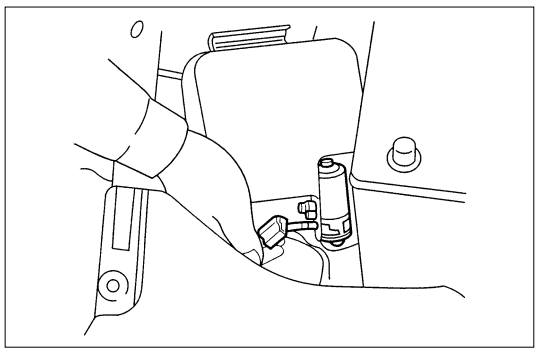


Auto-Stop Inspection

1. Clamp the wiper motor in a vise.
   The moving parts must be clear of the vise.
2. Connect the connector terminals to the battery.
   Refer to the illustration.
3. Check the wiper motor low speed operation.
4. Disconnect the positive battery terminal.
   This will stop the motor.

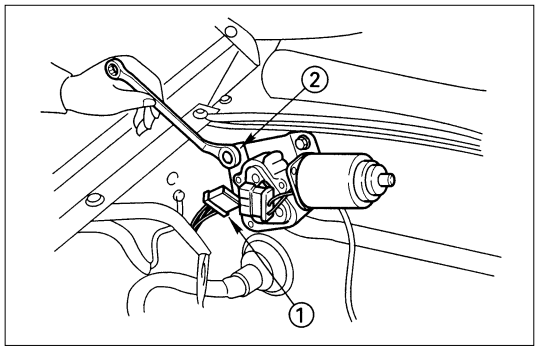


5. Connect the connector terminals No. 2 and No. 5 with a lead wire.
   Refer to the illustration.
6. Reconnect the positive battery terminal to connector terminal No. 6.
   This will restart the motor.
   Refer to the illustration.
7. Check the auto-stop operation.



Washer Motor Inspection

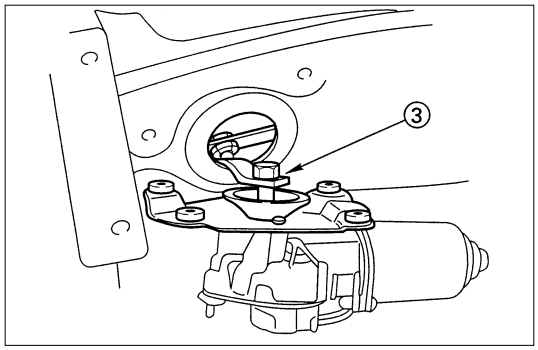
1. Fill the washer tank with washing solution.
2. Disconnect the motor connector.
3. Apply battery voltage to the washer motor connector.
4. Check the washer motor operation.



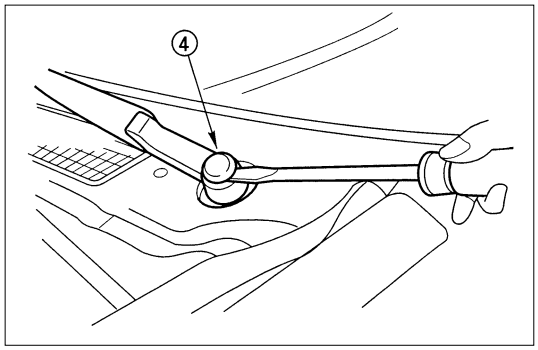
WIPER MOTOR AND LINKAGE

Removal

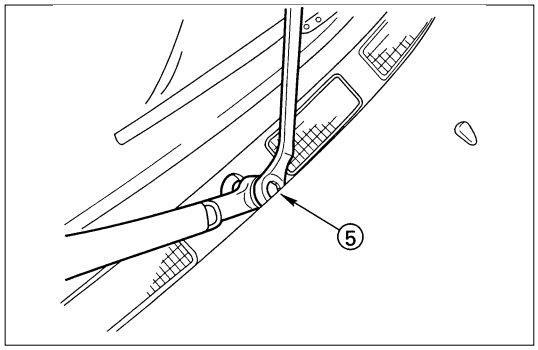
1. Disconnect the wiper motor connector ①.
2. Remove the wiper motor bracket screws ②.



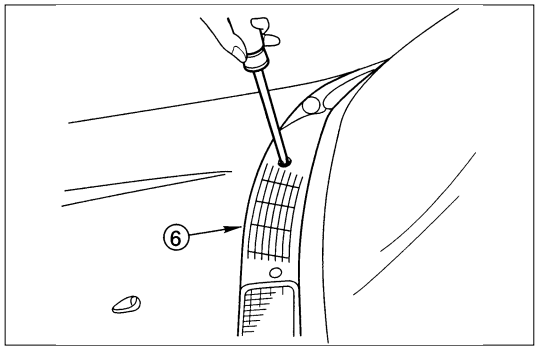
3. Disconnect the wiper motor from the wiper linkage at the crank arm ③.



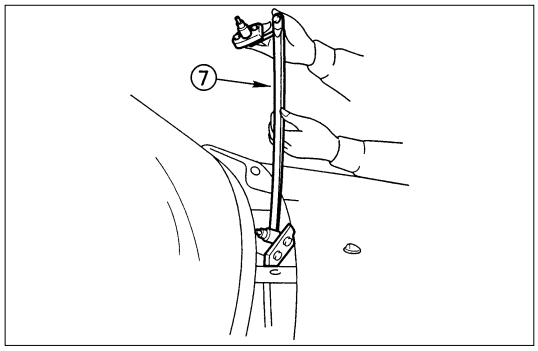
4. Disconnect the wiper arm nut cap ④.



5. Remove the wiper arm nut ⑤.
6. Remove the wiper arm with blade.



7. Remove the vent cowl cover ⑥.



8. Remove the wiper linkage ⑦ from the access hole.

Installation

Follow the removal procedure in the reverse order to install the wiper motor and linkage.

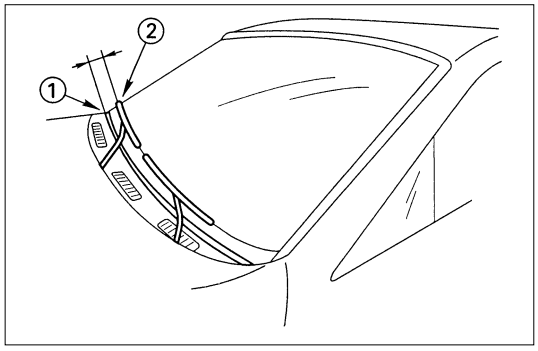
Pay close attention to the important points mentioned in the following paragraphs.

Wiper Linkage

Take care not to scratch the painted surfaces of the body when installing the wiper linkage to the body.

In case crank arm of wiper motor is removed, confirm the position of auto stop prior to reinstall the crank arm to the wiper motor.

Crank Arm Nut Torque	N·m (kgf·m/lb·ft)
13.7 ± 2.0 (1.4 ± 0.2/10 ± 1.4)	



Wiper Blade Position

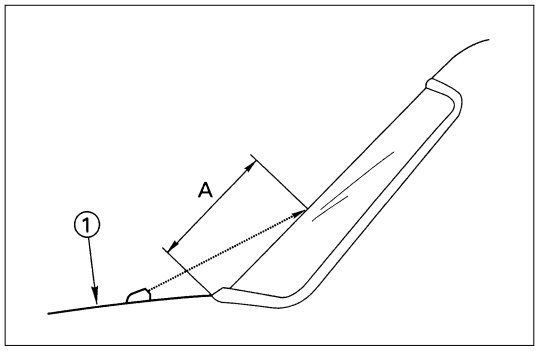
Confirm the auto stop position of wiper motor prior to the installation of the wiper blade and arm.

The distance between the vent cowl cover rubber seal ① and the wiper blade edge ② is about 45 mm(1.8 in).

Wiper Arm Nut

Tighten the wiper arm nut to the specified torque.

Wiper Arm Nut Torque	N·m (kgf·m/lb·ft)
13.7 ± 2.0 (1.4 ± 0.2/10 ± 1.4)	



Windshield Washer Spray

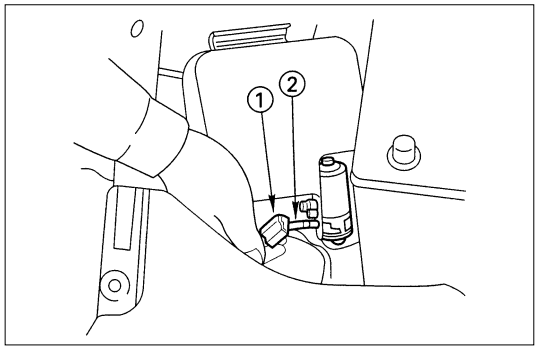
Be sure that the engine hood ① is completely closed before checking the windshield washer spray adjustment.

Windshield Washer Spray Position mm(in)

Connector

Be absolutely sure that the wiper motor connector is securely connected.
This will prevent a poor contact and an open circuit.

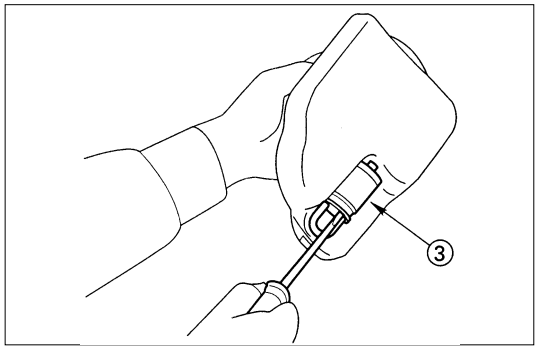
Note:
Windshield wiper arm and blade assembly configurations are different for the right-hand and left-hand side of the vehicle.
Be careful not to confuse the right-hand and left-hand side assemblies.



WASHER TANK MOTOR

Removal

1. Remove the washer tank bolts.
2. Disconnect the connector ①.
3. Disconnect the water hose ②.



4. Remove the washer tank motor ③.

Installation

Follow the removal procedure in the reverse order to install the washer tank motor.

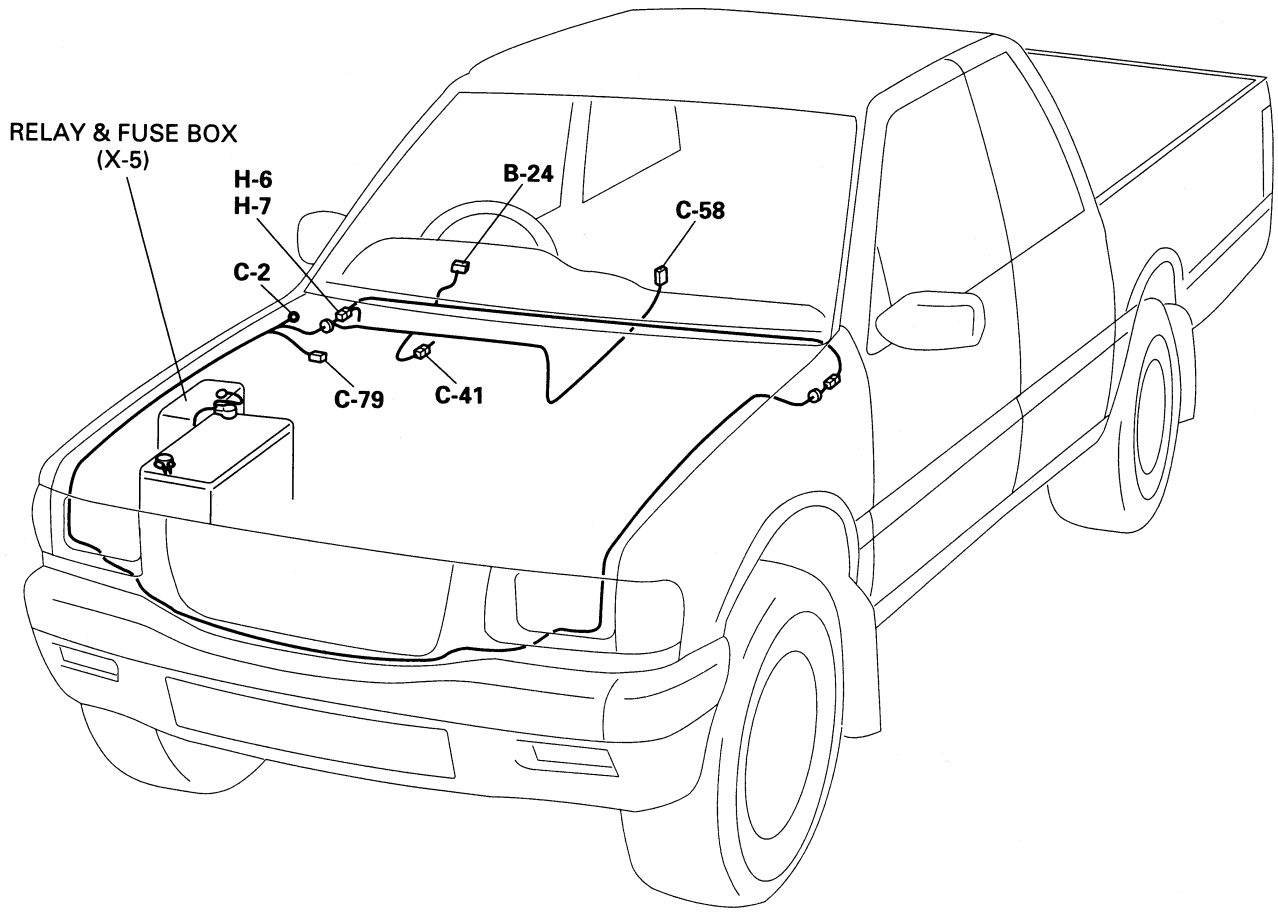
Pay close attention to the important points mentioned in the following paragraphs.

Connector

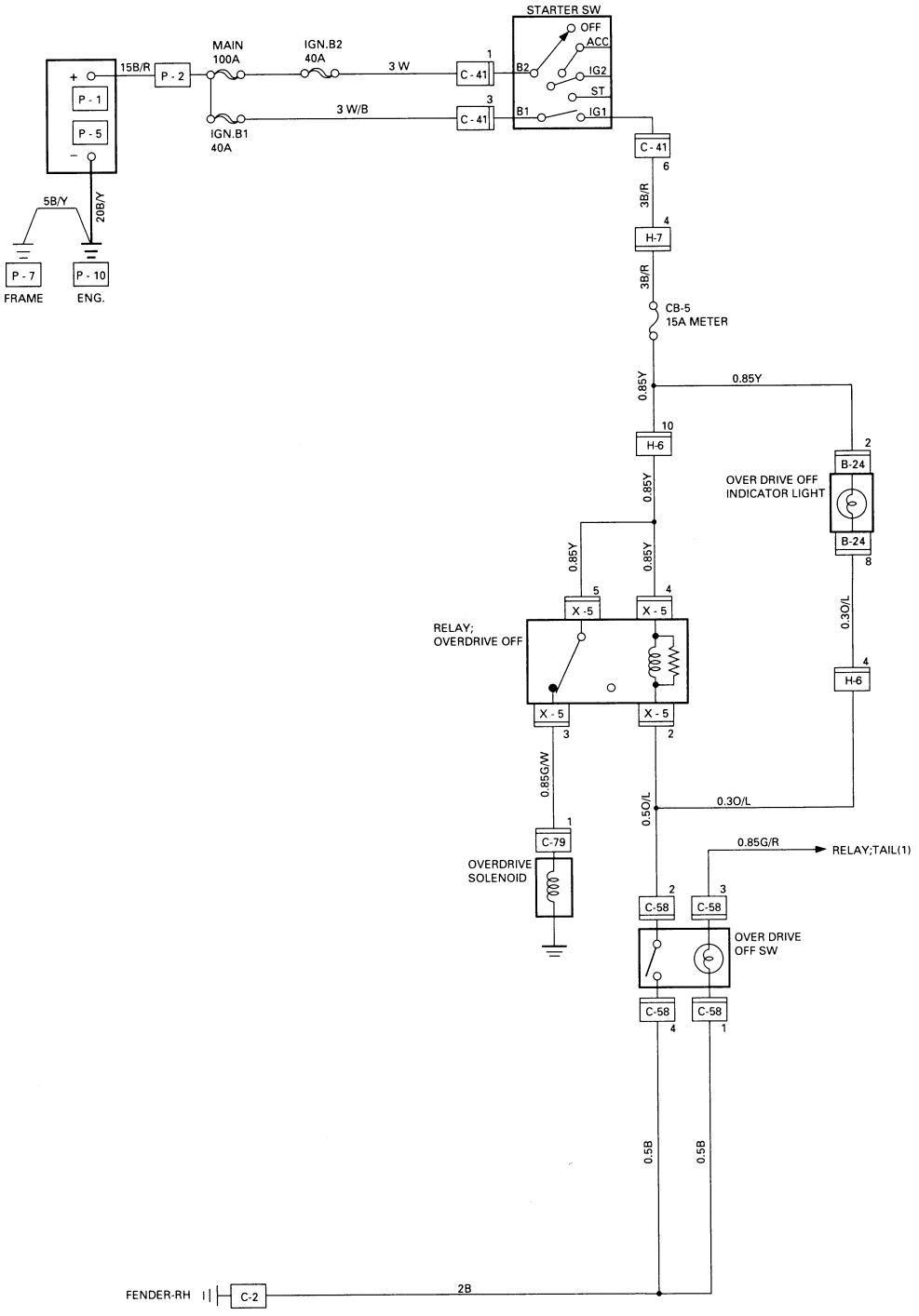
Be absolutely sure that the washer tank motor connector is securely connected.
This will prevent a poor contact and an open circuit.

OVERDRIVE OFF (A/T)

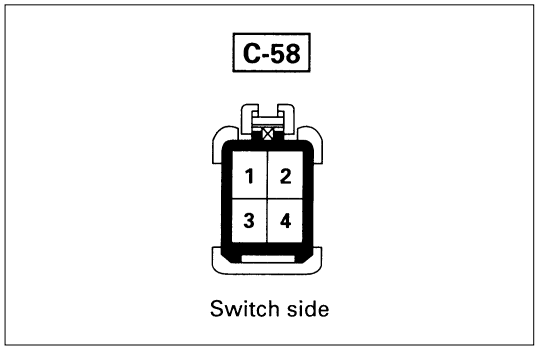
PARTS LOCATION



CIRCUIT DIAGRAM



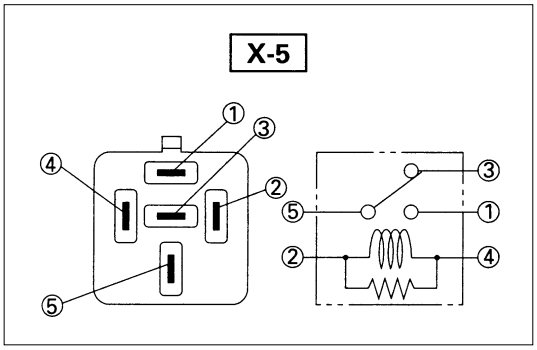
INSPECTION AND REPAIR



OVERDRIVE OFF SWITCH

Overdrive Off Switch Connections

Terminal No. / SW position	2	4	1	3
ON	○	○		
OFF				



OVERDRIVE OFF RELAY

Check continuity between the relay terminals.

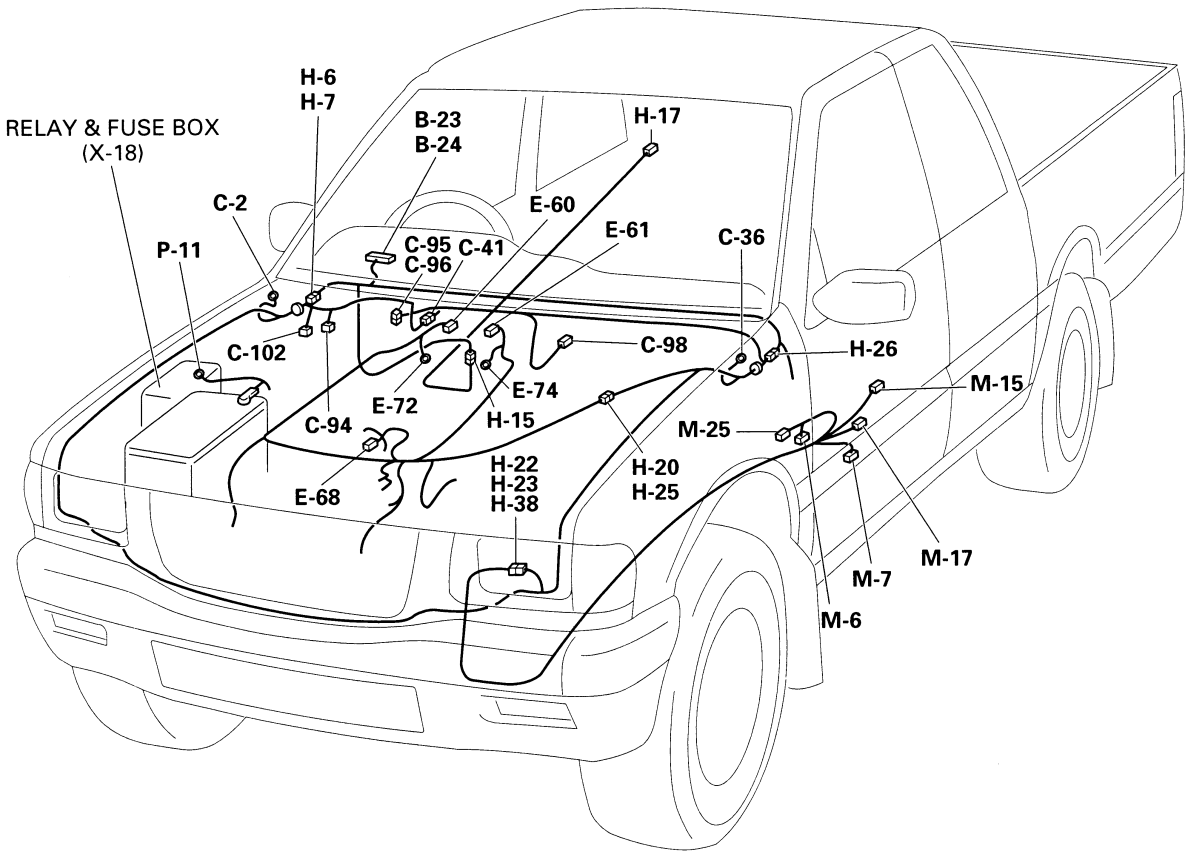
③ - ⑤..... Continuity

(When battery voltage is applied between ② and ④)

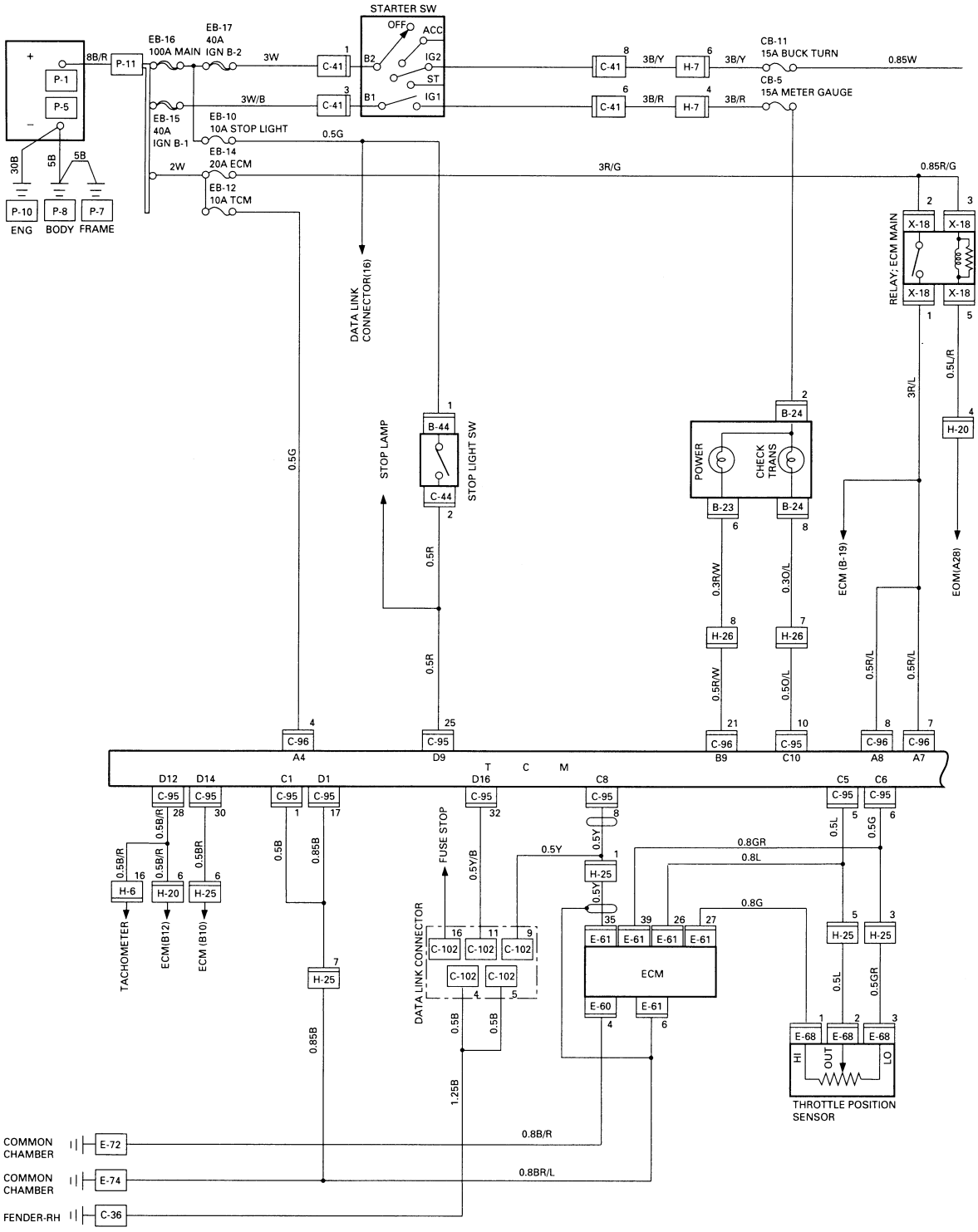
③ - ⑤..... No continuity

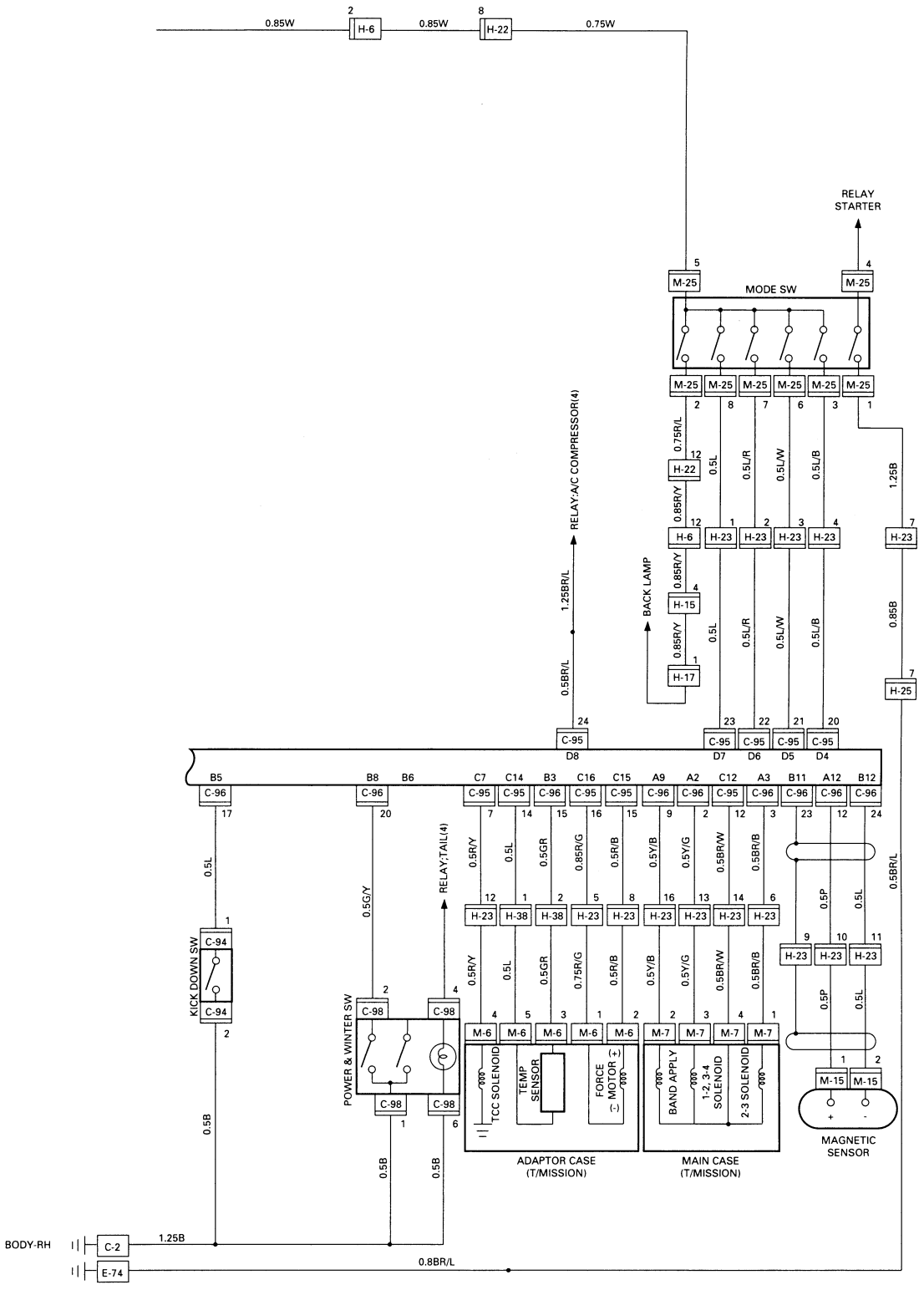
TRANSMISSION CONTROL MODULE (TCM)

PARTS LOCATION (RHD)



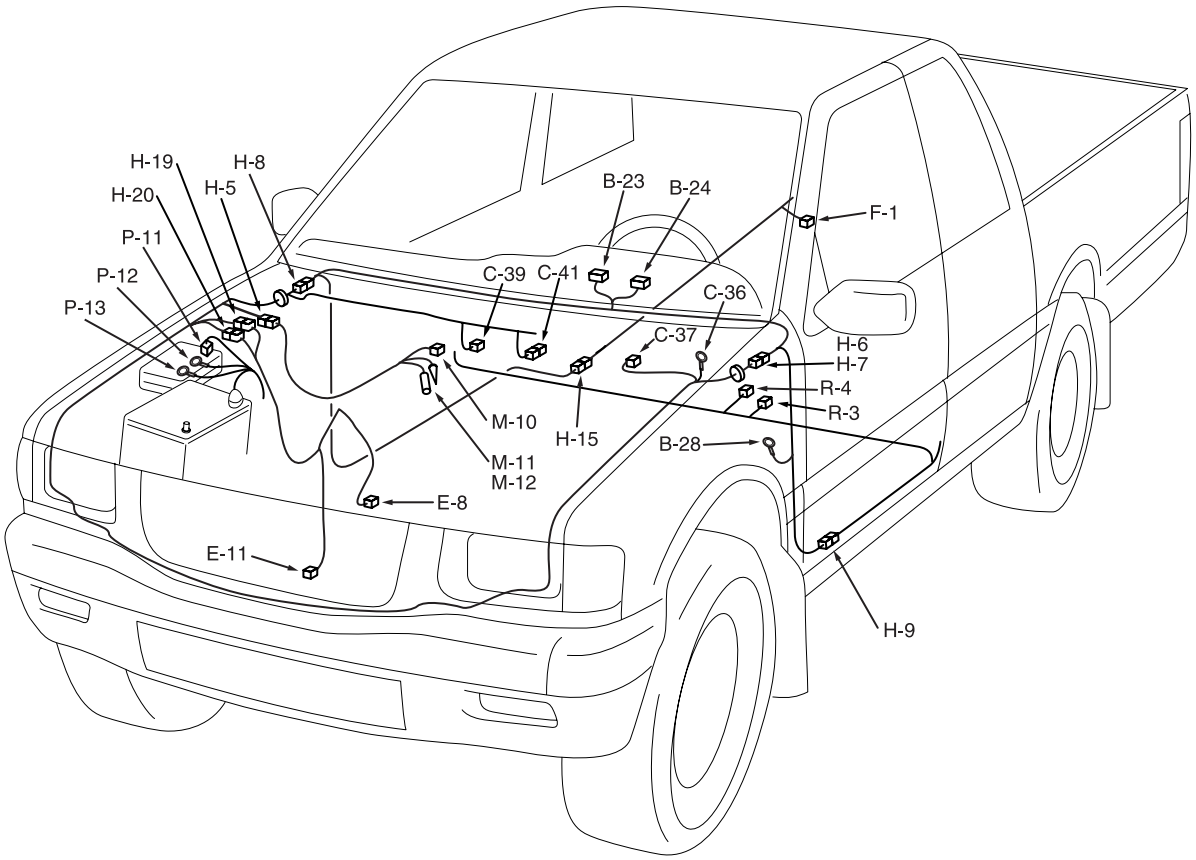
CIRCUIT DIAGRAM (6VD1-W/TCM)



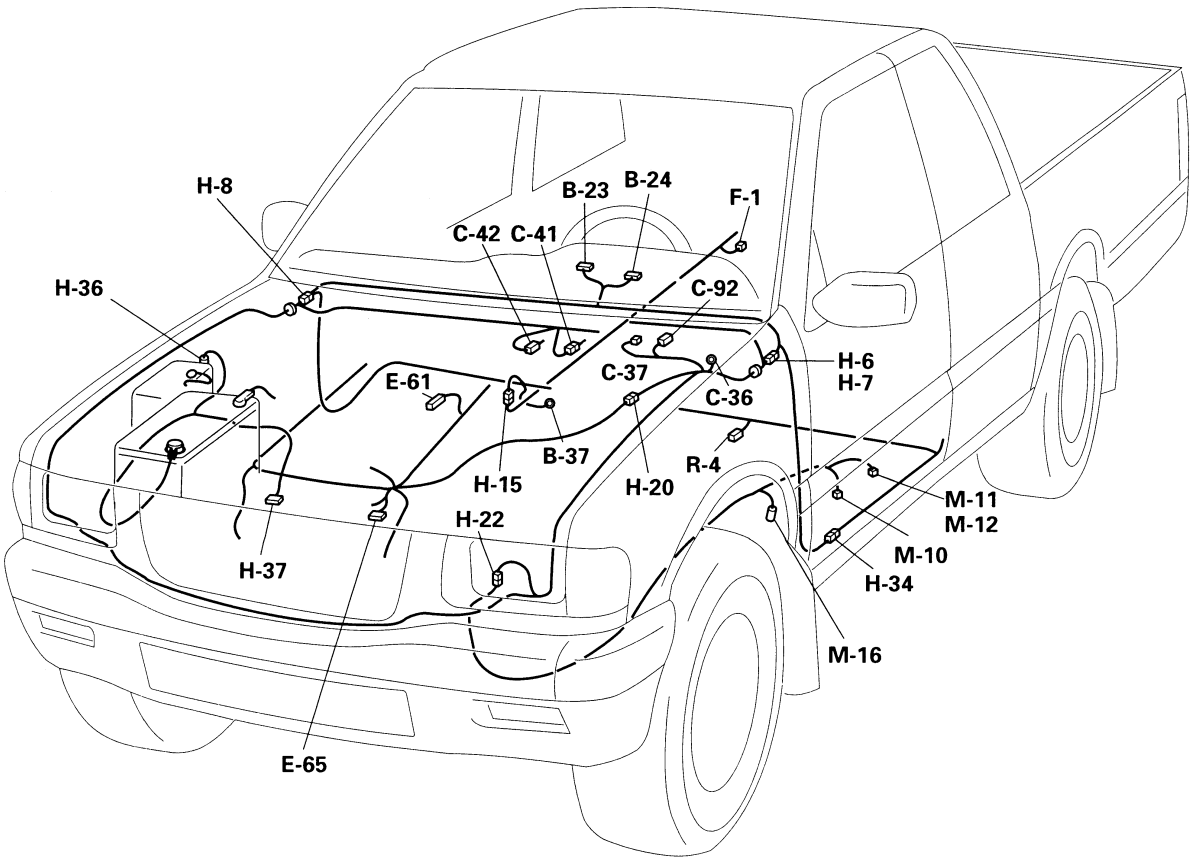

0.85W
H-6
0.85W
H-22
0.75W
RELAY STARTER
M-25
MODE SW
M-25
RELAY-A/C COMPRESSOR(4)
BACK LAMP
0.75R/L
0.5L
0.5L/R
0.5L/W
0.5L/B
1.25B
0.85R/Y
H-22
H-6
H-23
H-15
H-17
0.85B
H-25
1.25BR/L
0.5BR/L
C-95
D8
D7
D6
D5
D4
B5
B8
B6
C7
C14
B3
C16
C15
A9
A2
C12
A3
B11
A12
B12
C-96
C-95
RELAY-TAIL(4)
0.5G/Y
0.5R/Y
0.5GR
0.85R/G
0.5R/B
0.5Y/B
0.5Y/G
0.5BR/W
0.5BR/B
0.5P
H-38
KICK DOWN SW
C-94
POWER & WINTER SW
C-98
0.75R/G
M-6
M-7
TCC SOLENOID
TEMP SENSOR
FORCE MOTOR
(+)
(-)
BAND APPLY
1-2, 3-4 SOLENOID
2-3 SOLENOID
M-15
MAGNETIC SENSOR
ADAPTOR CASE (T/MISSION)
MAIN CASE (T/MISSION)
BODY-RH
C-2
E-74
1.25B
0.8BR/L
0.5B

METER, WARNING LIGHT AND INDICATOR LIGHT

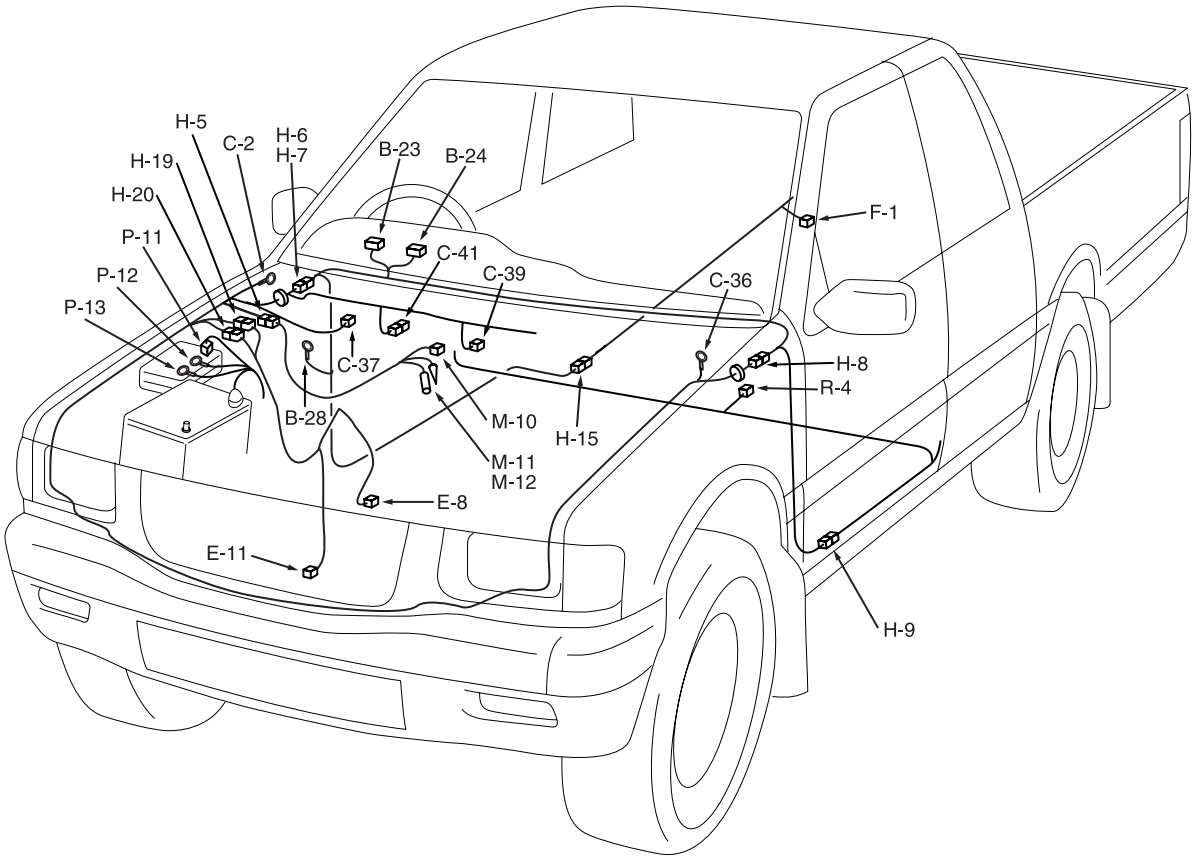
PARTS LOCATION (LHD EXCEPT EC)



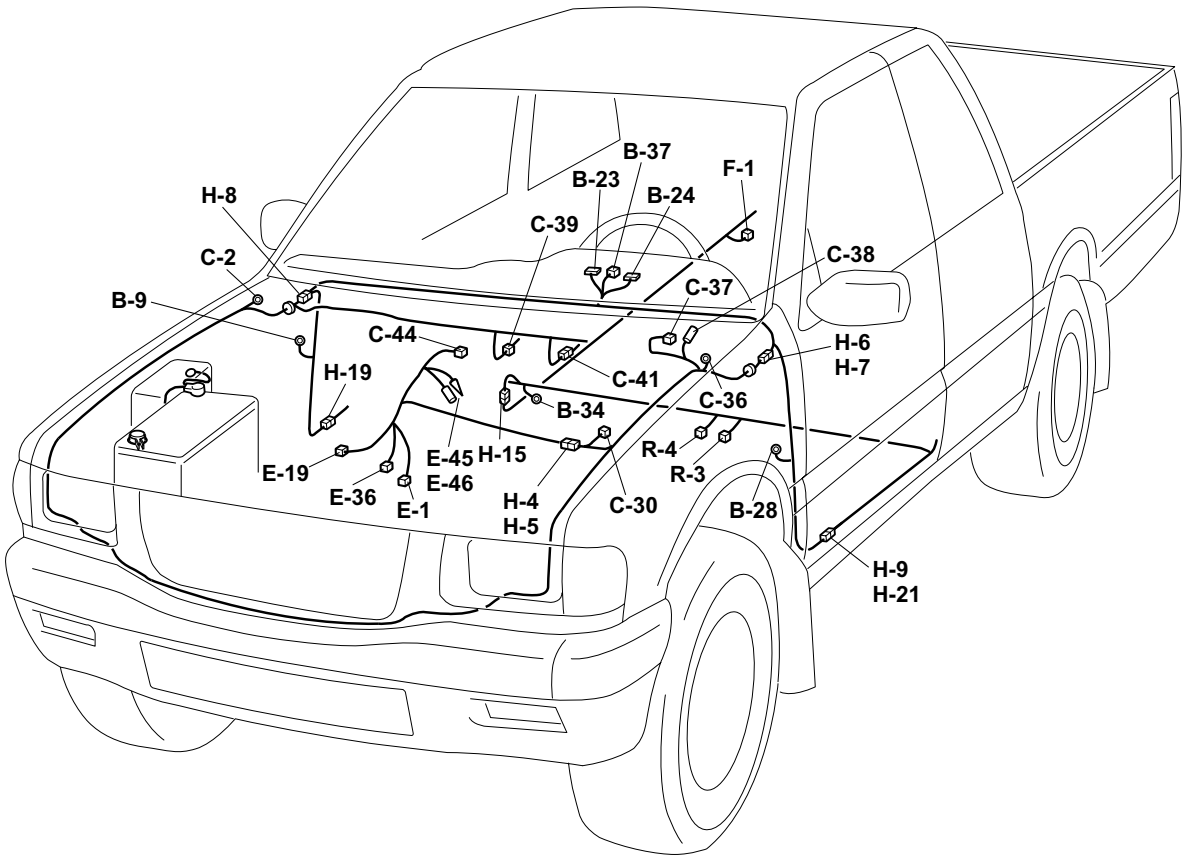
PARTS LOCATION (6VD1 GASOLINE ENGINE-LHD)



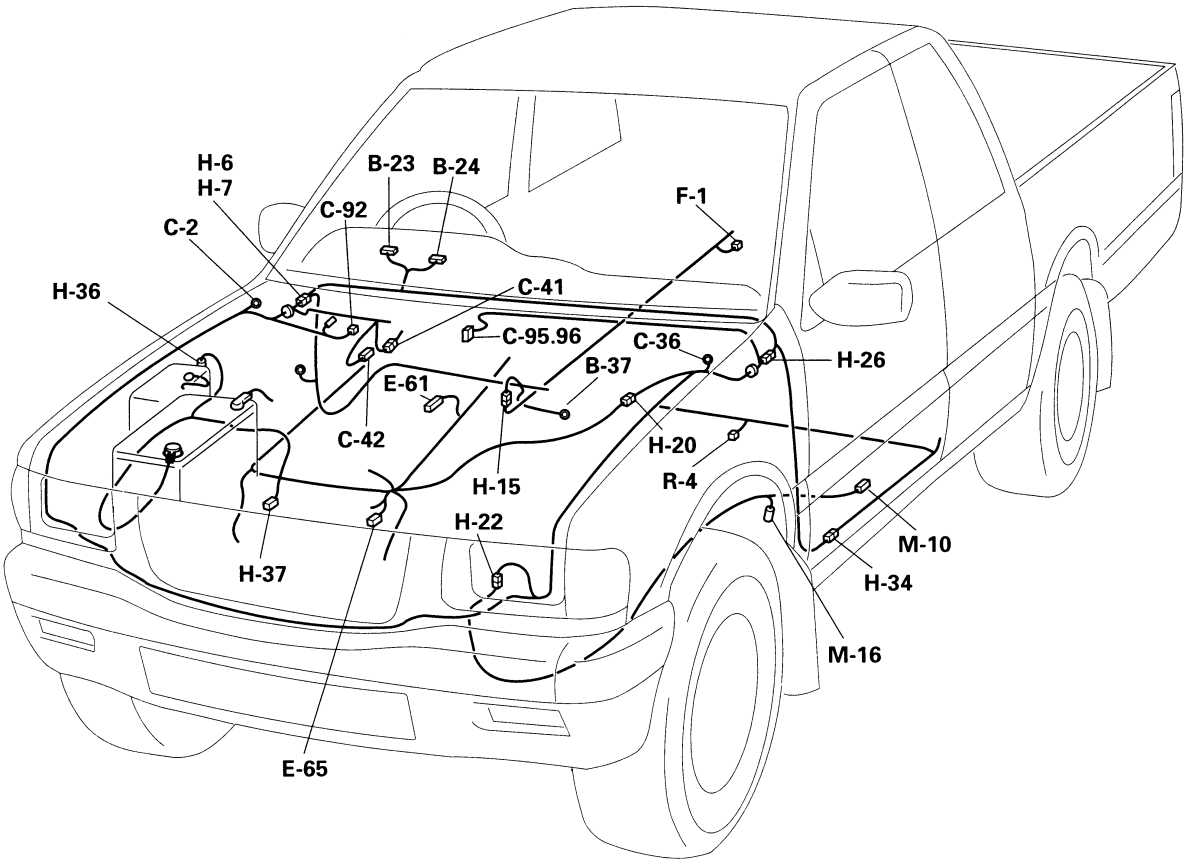
PARTS LOCATION (RHD EXCEPT UK)



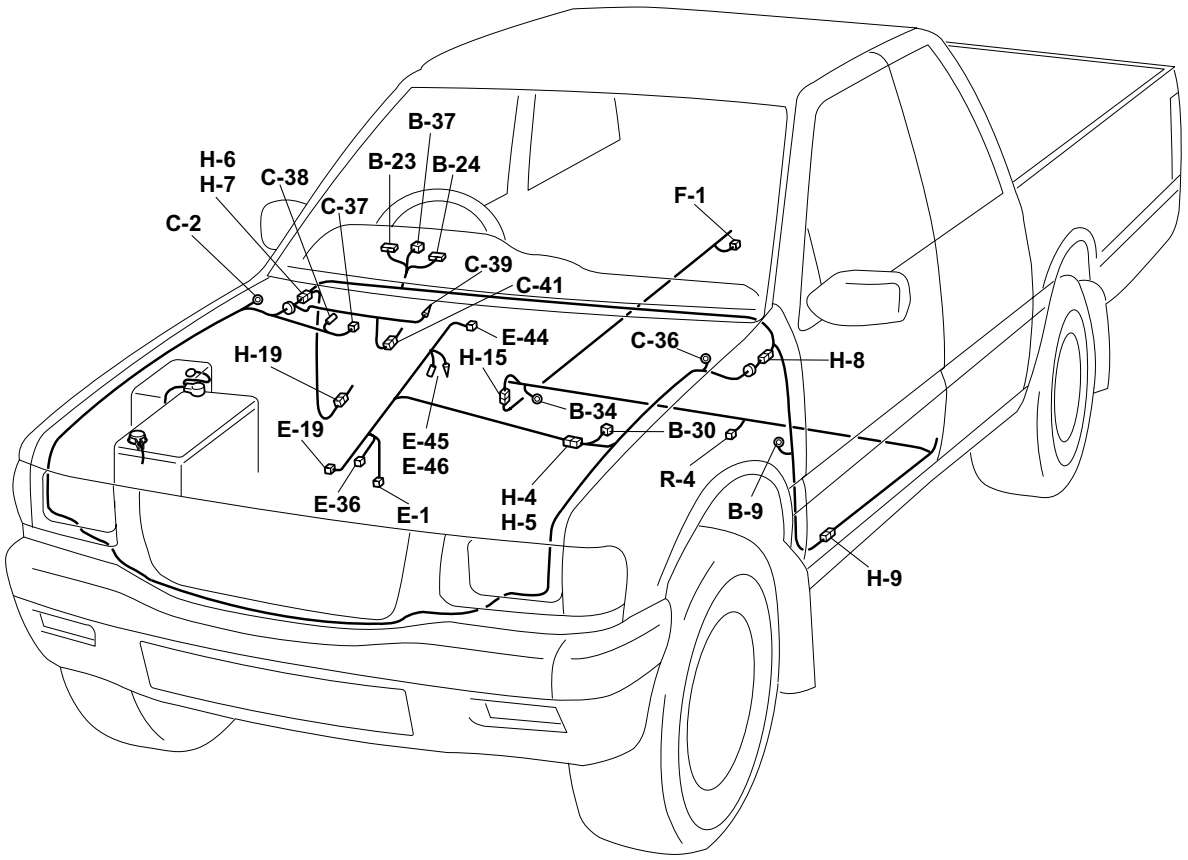
PARTS LOCATION (EC-LHD)



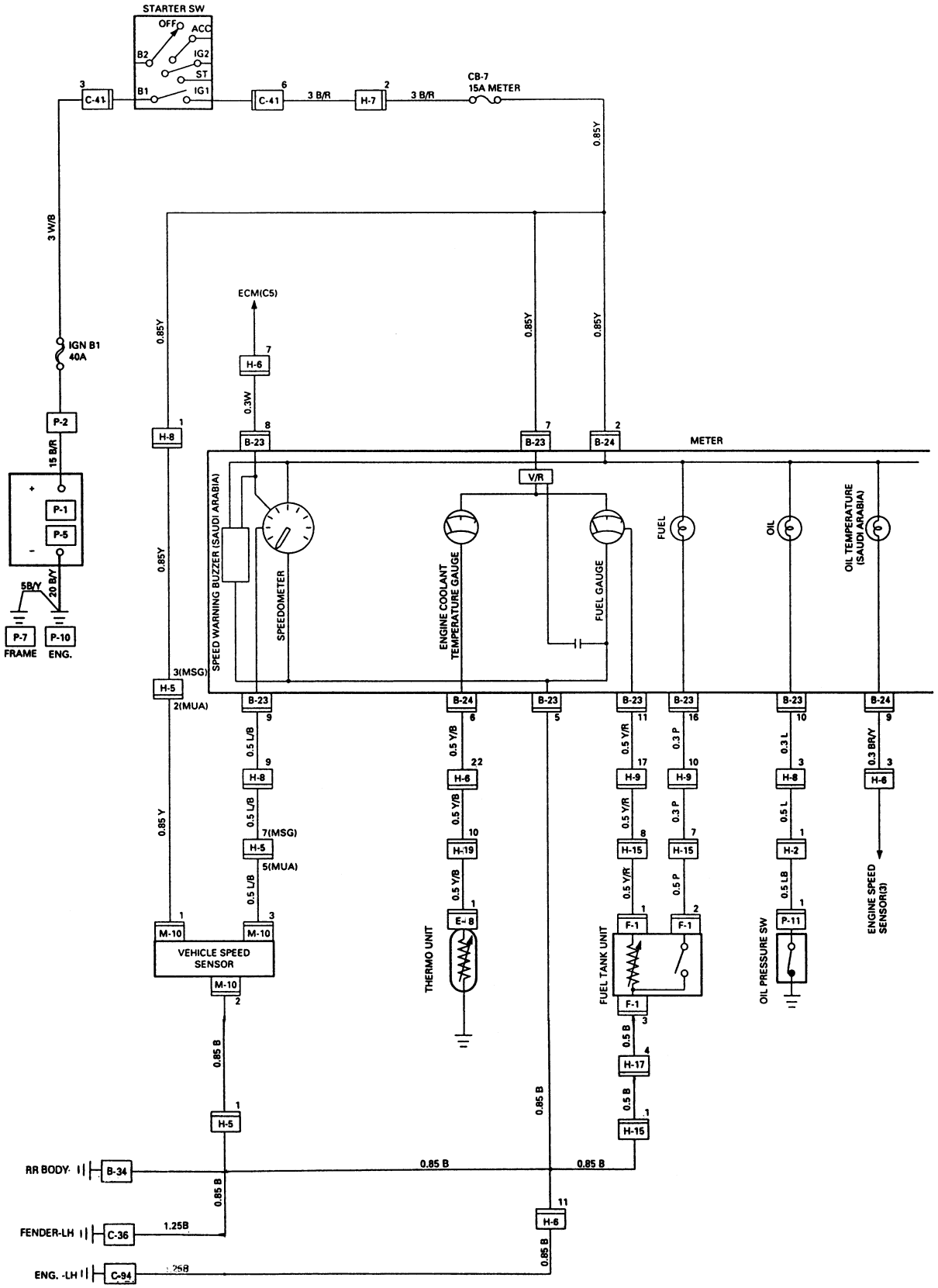
PARTS LOCATION (6VD1 GASOLINE ENGINE-RHD)

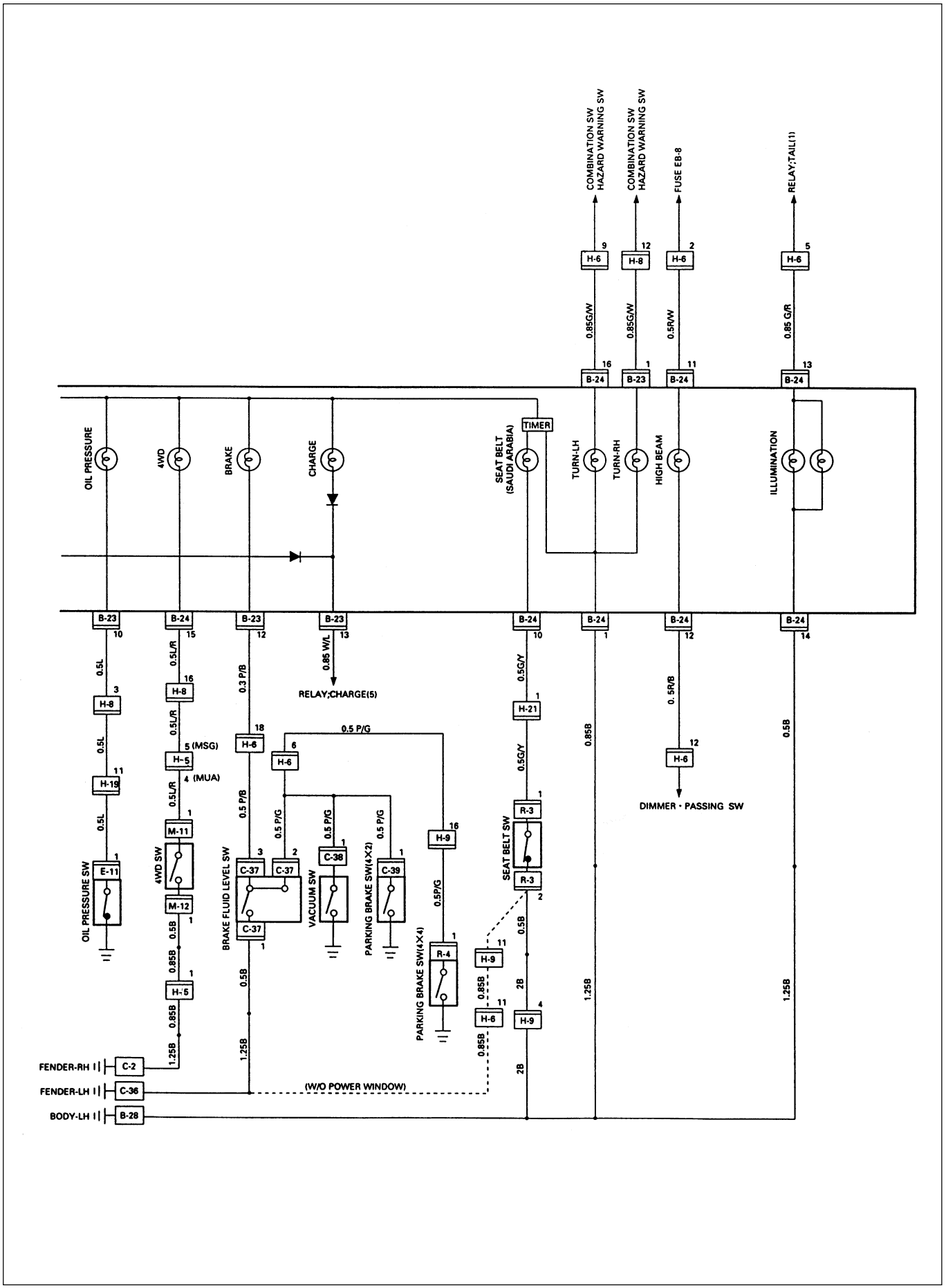


PARTS LOCATION (UK)

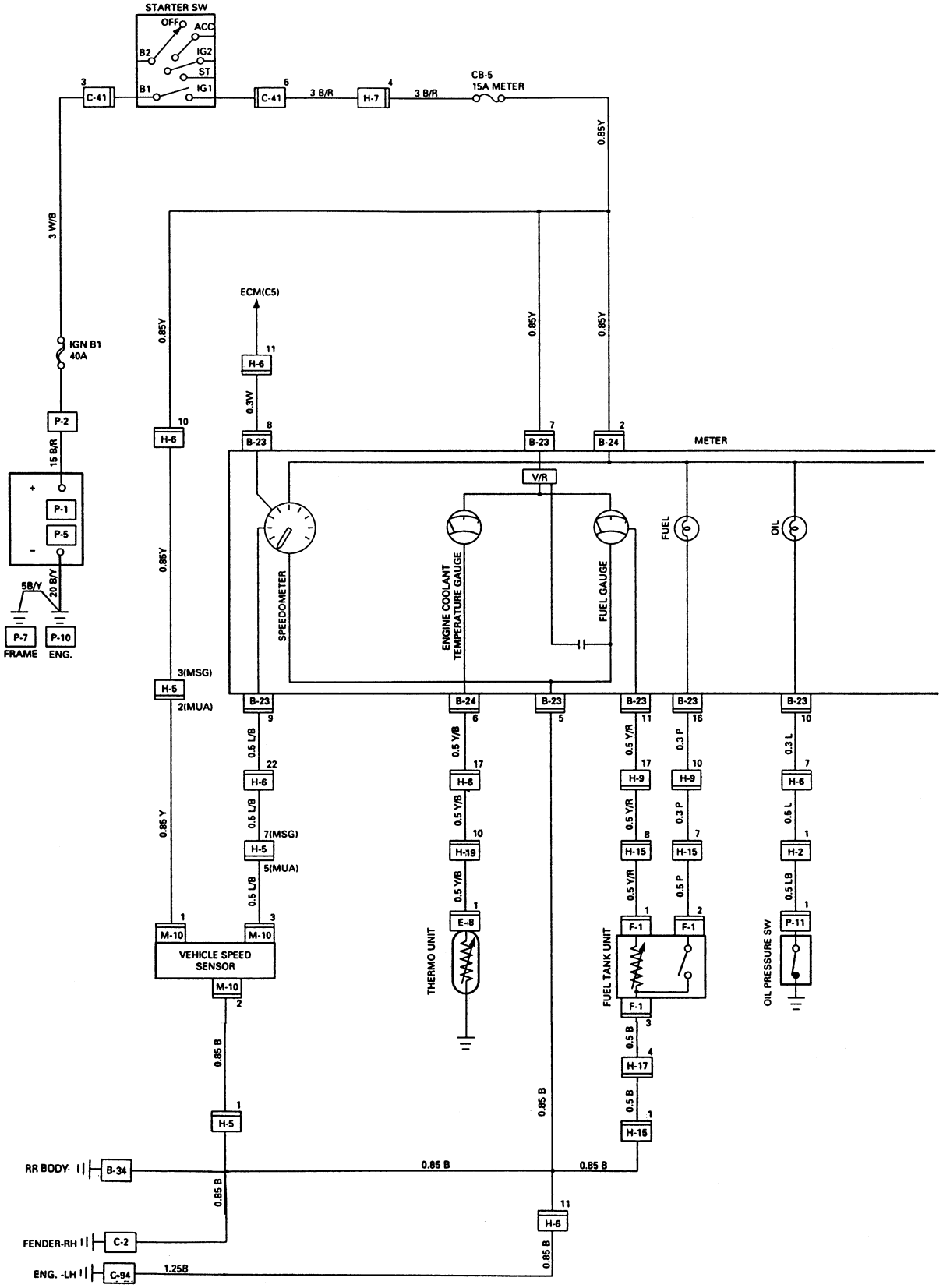


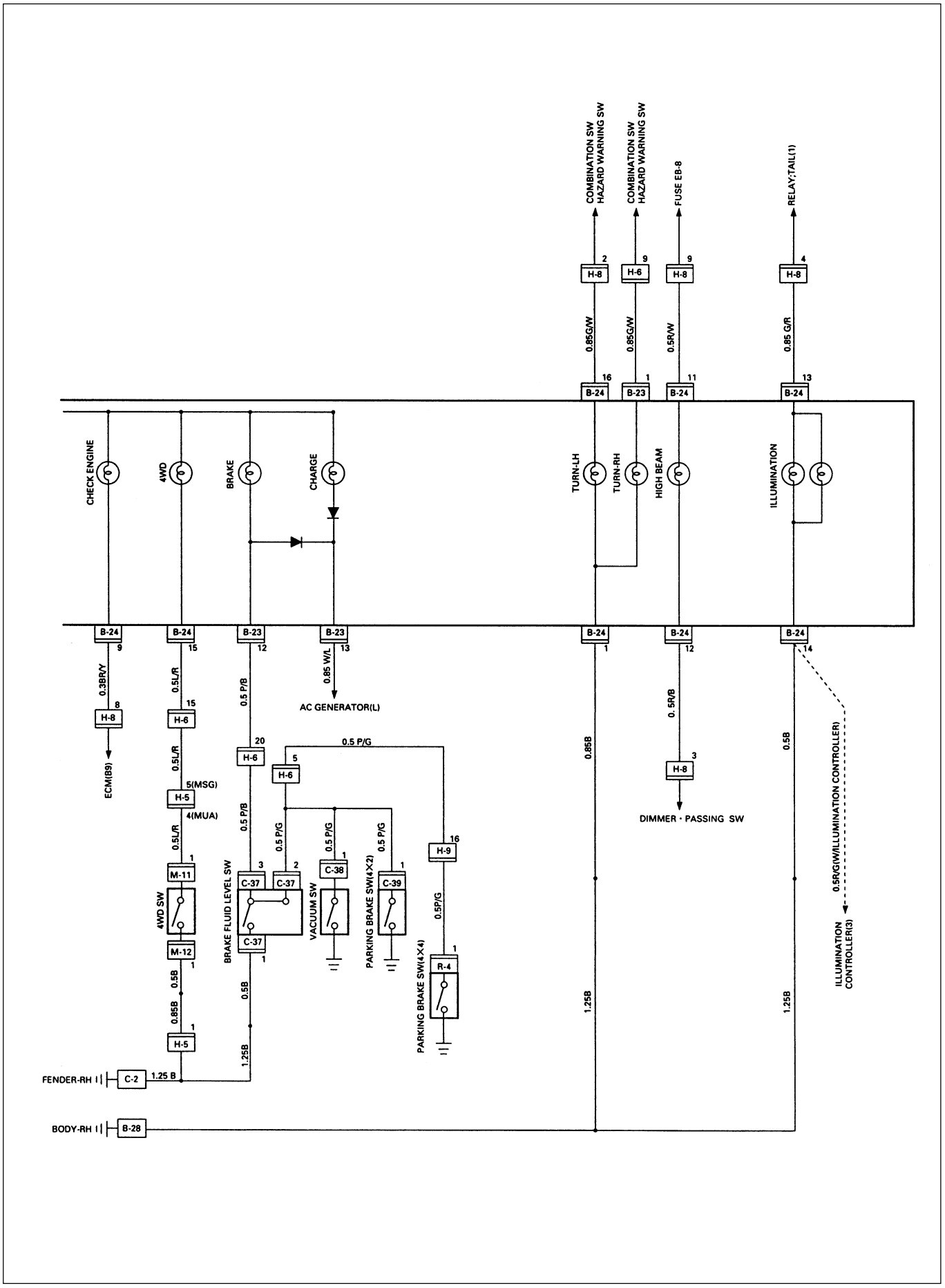
CIRCUIT DIAGRAM (W/O TACHOMETER-LHD EXCEPT EC)



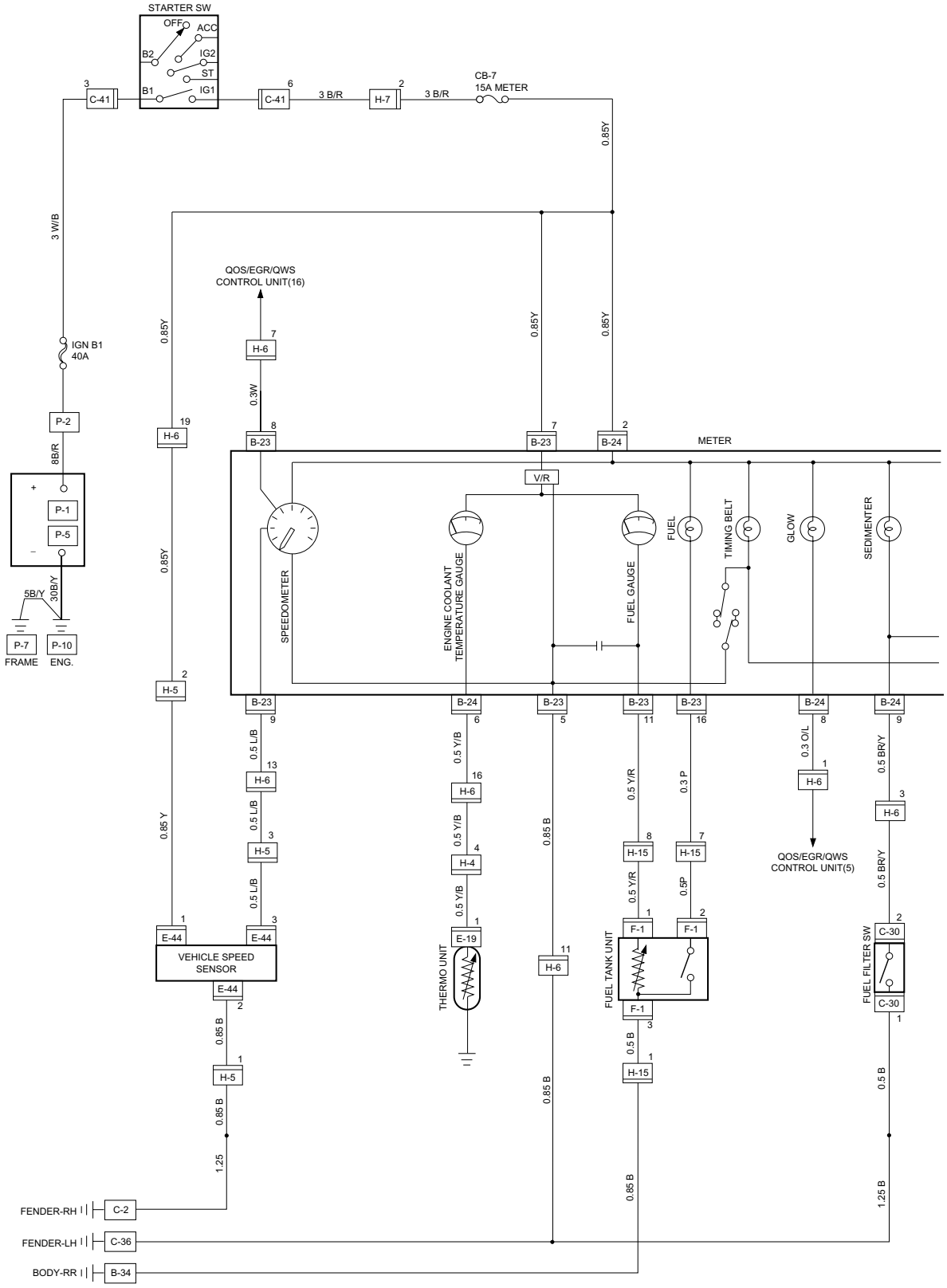

COMBINATION SW HAZARD WARNING SW
COMBINATION SW HAZARD WARNING SW
FUSE EB-8
RELAY;TAIL(1)
OIL PRESSURE
4WD
BRAKE
CHARGE
SEAT BELT (SAUDI ARABIA)
TIMER
TURN-LH
TURN-RH
HIGH BEAM
ILLUMINATION
RELAY;CHARGE(5)
DIMMER · PASSING SW
OIL PRESSURE SW
4WD SW
BRAKE FLUID LEVEL SW
VACUUM SW
PARKING BRAKE SW(4X2)
PARKING BRAKE SW(4X4)
SEAT BELT SW
(MSG)
(MUA)
(W/O POWER WINDOW)
FENDER-RH
FENDER-LH
BODY-LH

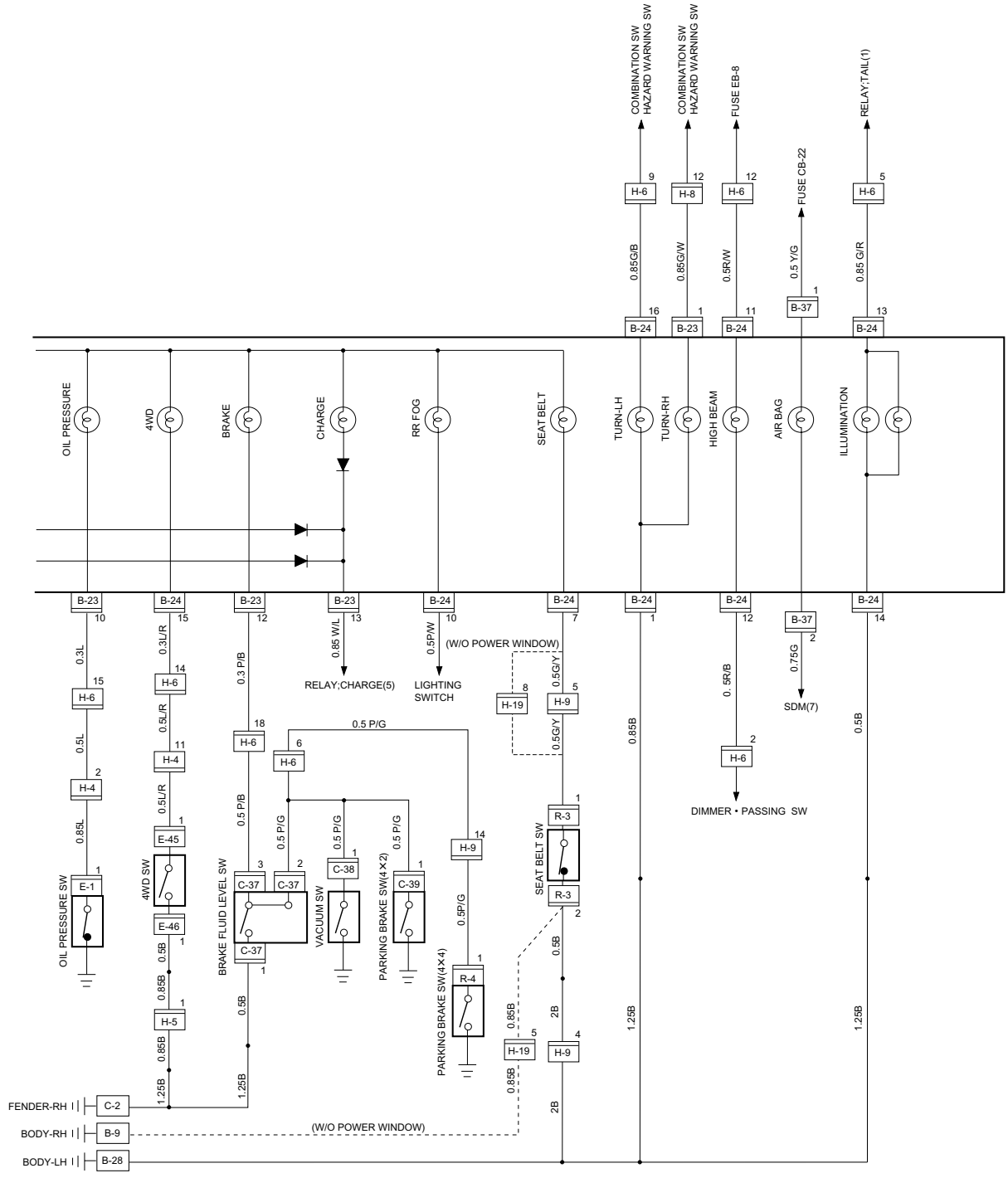
CIRCUIT DIAGRAM (W/O TACHOMETER-RHD EXCEPT UK)



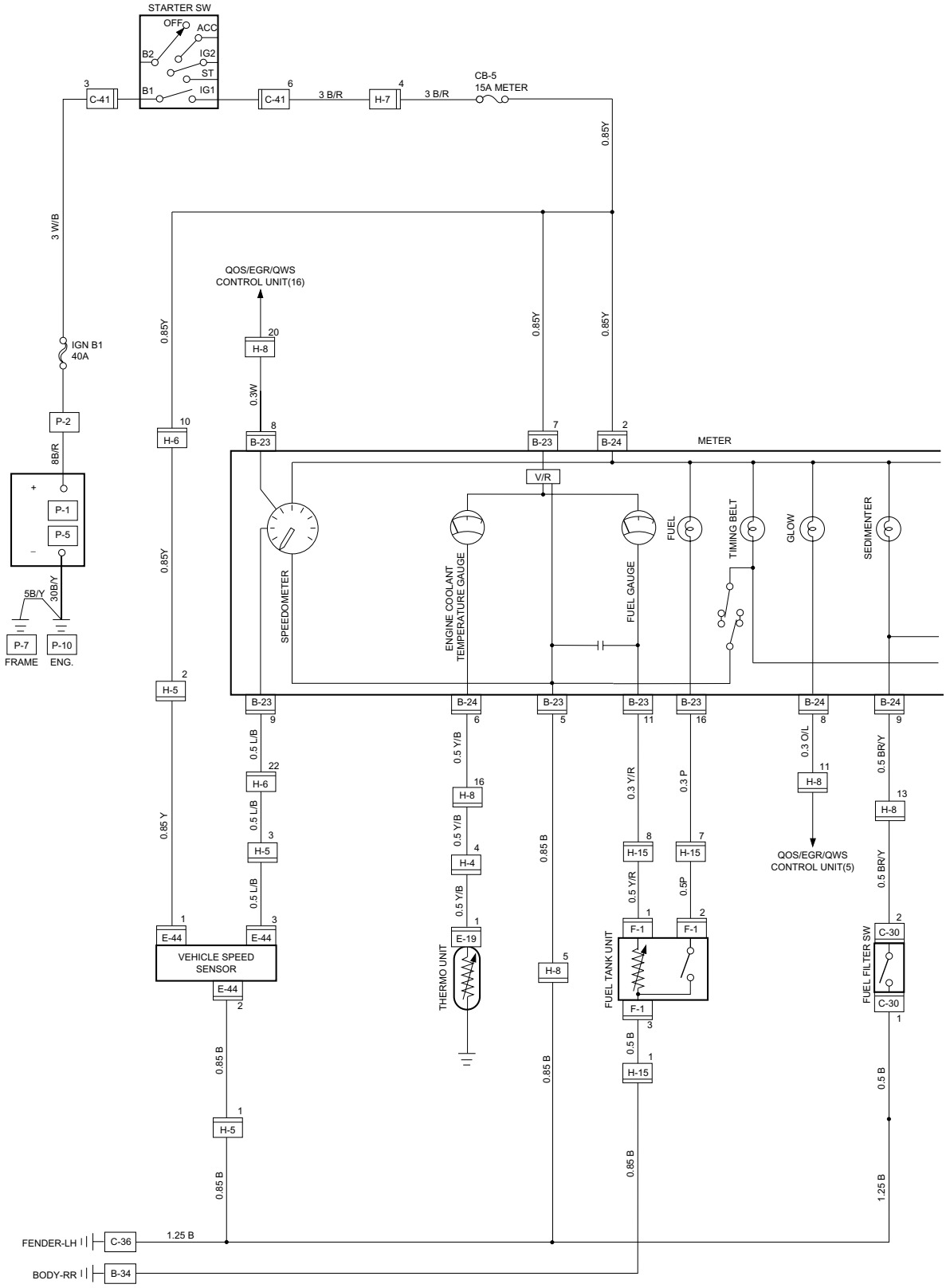

COMBINATION SW HAZARD WARNING SW
COMBINATION SW HAZARD WARNING SW
FUSE EB-8
RELAY;TAIL(1)
H-8 2
H-6 9
H-8 9
H-8 4
0.85G/W
0.85G/W
0.5R/W
0.85 G/R
B-24 16
B-23 1
B-24 11
B-24 13
CHECK ENGINE
4WD
BRAKE
CHARGE
TURN-LH
TURN-RH
HIGH BEAM
ILLUMINATION
B-24 9
B-24 15
B-23 12
B-23 13
B-24 1
B-24 12
B-24 14
0.3BR/Y
0.5L/R
0.5 P/B
0.85 W/L
AC GENERATOR(L)
0.85B
0.5R/B
0.5B
H-8 8
H-6 15
H-6 20
H-6 5
H-8 3
ECM(B9)
0.5L/R
0.5 P/G
DIMMER · PASSING SW
0.5R/G(W/ILLUMINATION CONTROLLER)
5(MSG)
H-5
4(MUA)
0.5L/R
0.5 P/B
0.5 P/G
0.5 P/G
0.5 P/G
H-9 16
M-11 1
C-37 3
C-37 2
C-38 1
C-39 1
4WD SW
BRAKE FLUID LEVEL SW
VACUUM SW
PARKING BRAKE SW(4X2)
0.5P/G
M-12 1
C-37 1
R-4 1
ILLUMINATION CONTROLLER(3)
0.5B
0.85B
0.5B
1.25B
1.25B
H-5 1
PARKING BRAKE SW(4X4)
FENDER-RH
C-2
1.25 B
BODY-RH
B-28

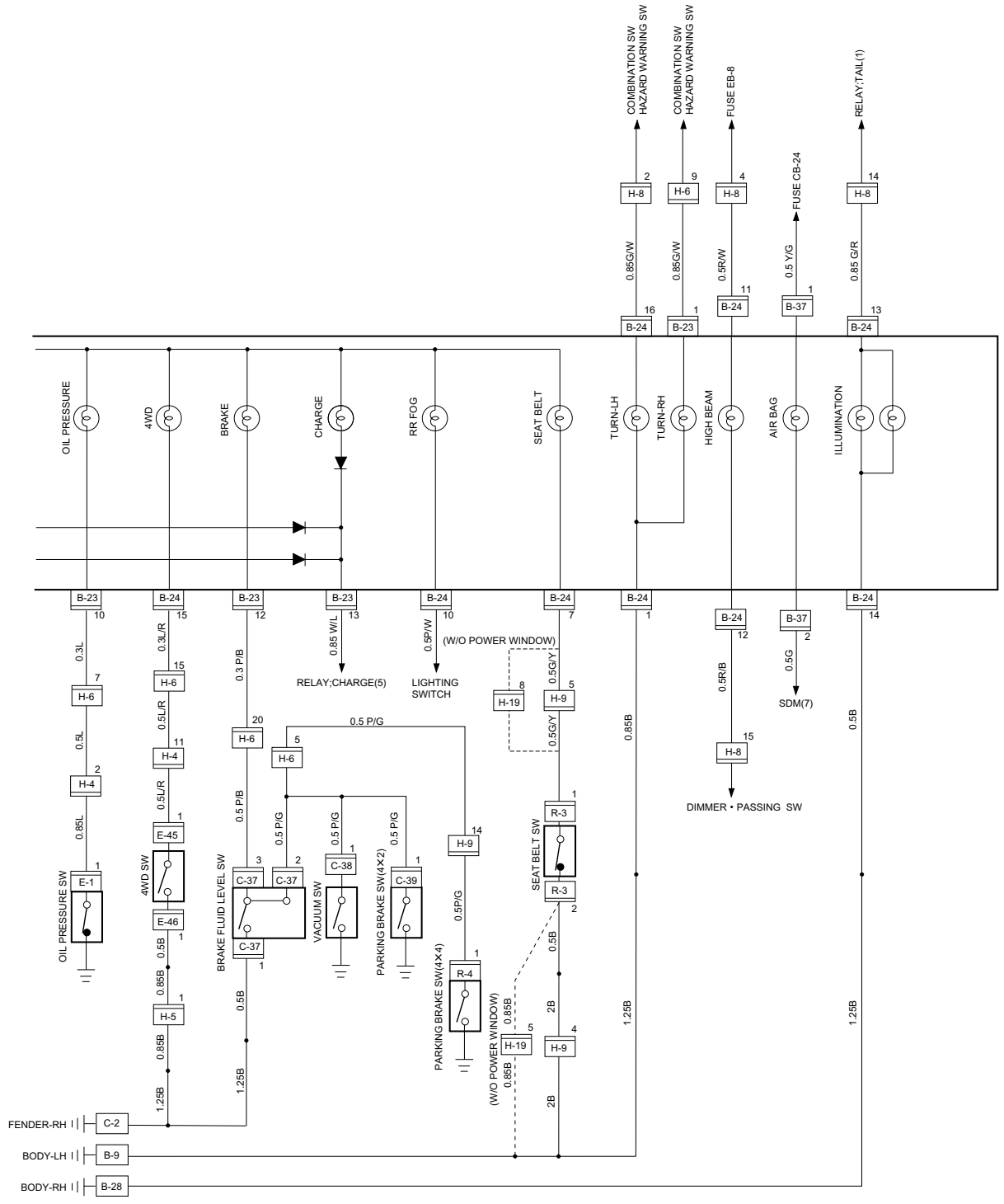
CIRCUIT DIAGRAM (W/O TACHOMETER-EC-LHD)



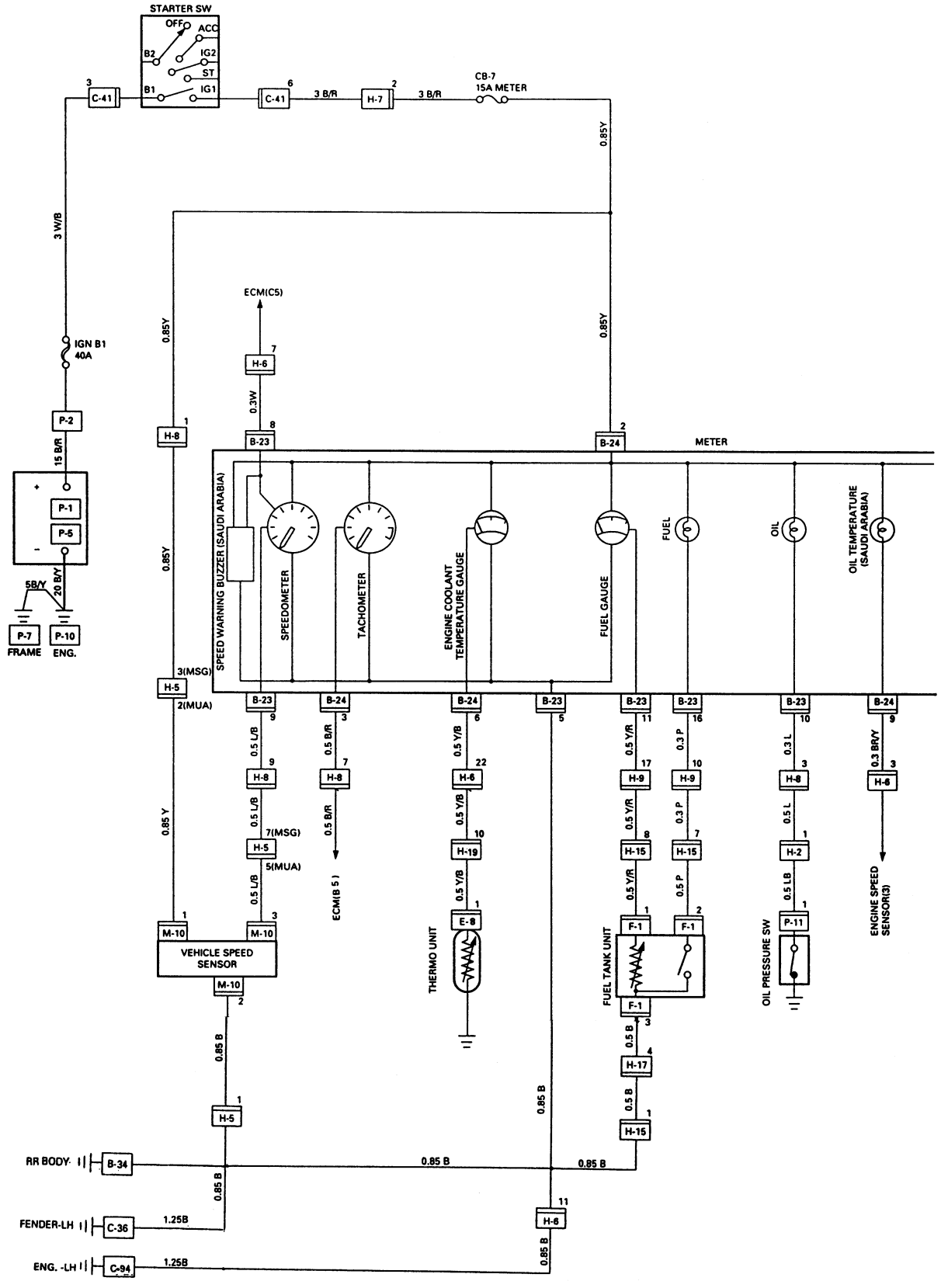

COMBINATION SW HAZARD WARNING SW
COMBINATION SW HAZARD WARNING SW
FUSE EB-8
FUSE CB-22
RELAY;TAIL(1)
OIL PRESSURE
4WD
BRAKE
CHARGE
RR FOG
SEAT BELT
TURN-LH
TURN-RH
HIGH BEAM
AIR BAG
ILLUMINATION
0.85G/B
0.85G/W
0.5R/W
0.5 Y/G
0.85 G/R
B-24
B-23
B-37
0.85 W/L
0.5P/W
RELAY;CHARGE(5)
LIGHTING SWITCH
(W/O POWER WINDOW)
0.5G/Y
0.5G/Y
0.75G
SDM(7)
0. 5R/B
DIMMER • PASSING SW
0.85B
0.5B
1.25B
0.3L
0.3L/R
0.3 P/B
0.5L
0.5L/R
0.5 P/B
0.5 P/G
0.85L
0.5B
0.85B
0.85B
1.25B
2B
0.5P/G
OIL PRESSURE SW
4WD SW
BRAKE FLUID LEVEL SW
VACUUM SW
PARKING BRAKE SW(4×2)
PARKING BRAKE SW(4×4)
SEAT BELT SW
E-1
E-45
E-46
C-37
C-38
C-39
H-4
H-5
H-6
H-9
H-19
R-3
R-4
FENDER-RH
BODY-RH
BODY-LH
C-2
B-9
B-28
(W/O POWER WINDOW)

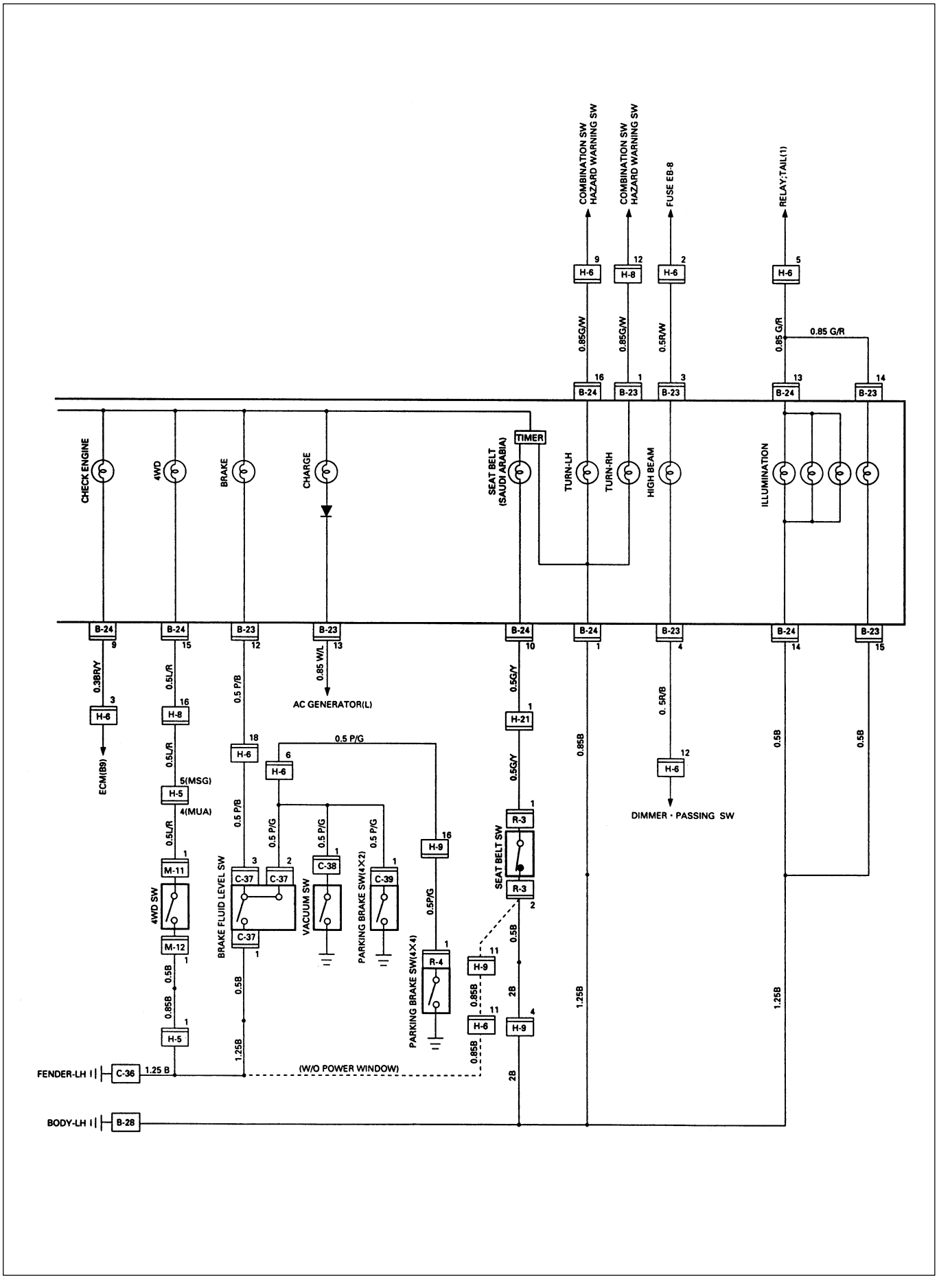
CIRCUIT DIAGRAM (W/O TACHOMETER-UK)



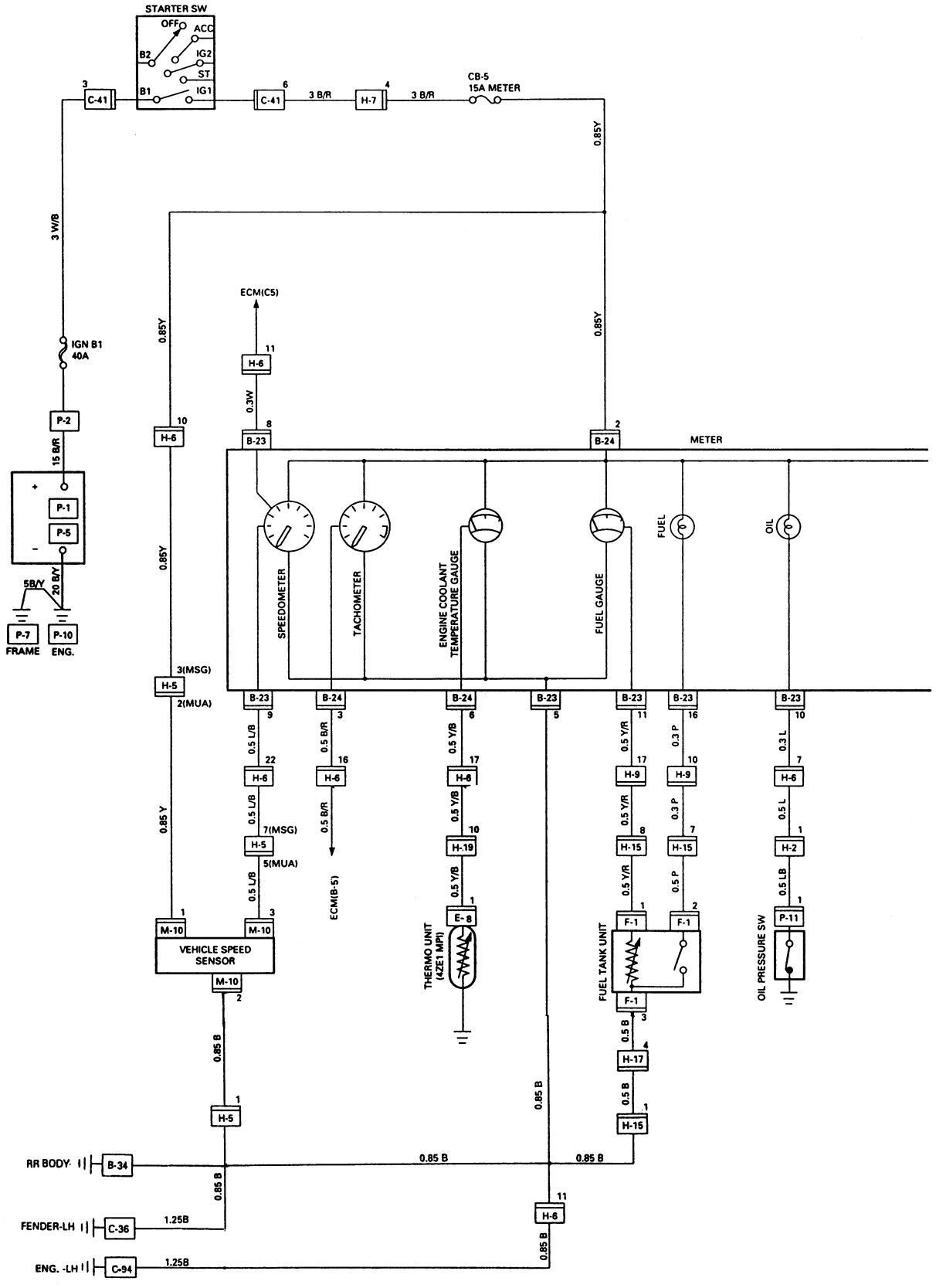

COMBINATION SW HAZARD WARNING SW
COMBINATION SW HAZARD WARNING SW
FUSE EB-8
FUSE CB-24
RELAY;TAIL(1)
OIL PRESSURE
4WD
BRAKE
CHARGE
RR FOG
SEAT BELT
TURN-LH
TURN-RH
HIGH BEAM
AIR BAG
ILLUMINATION
(W/O POWER WINDOW)
RELAY;CHARGE(5)
LIGHTING SWITCH
SDM(7)
DIMMER • PASSING SW
OIL PRESSURE SW
4WD SW
BRAKE FLUID LEVEL SW
VACUUM SW
PARKING BRAKE SW(4×2)
PARKING BRAKE SW(4×4)
SEAT BELT SW
(W/O POWER WINDOW)
FENDER-RH
BODY-LH
BODY-RH

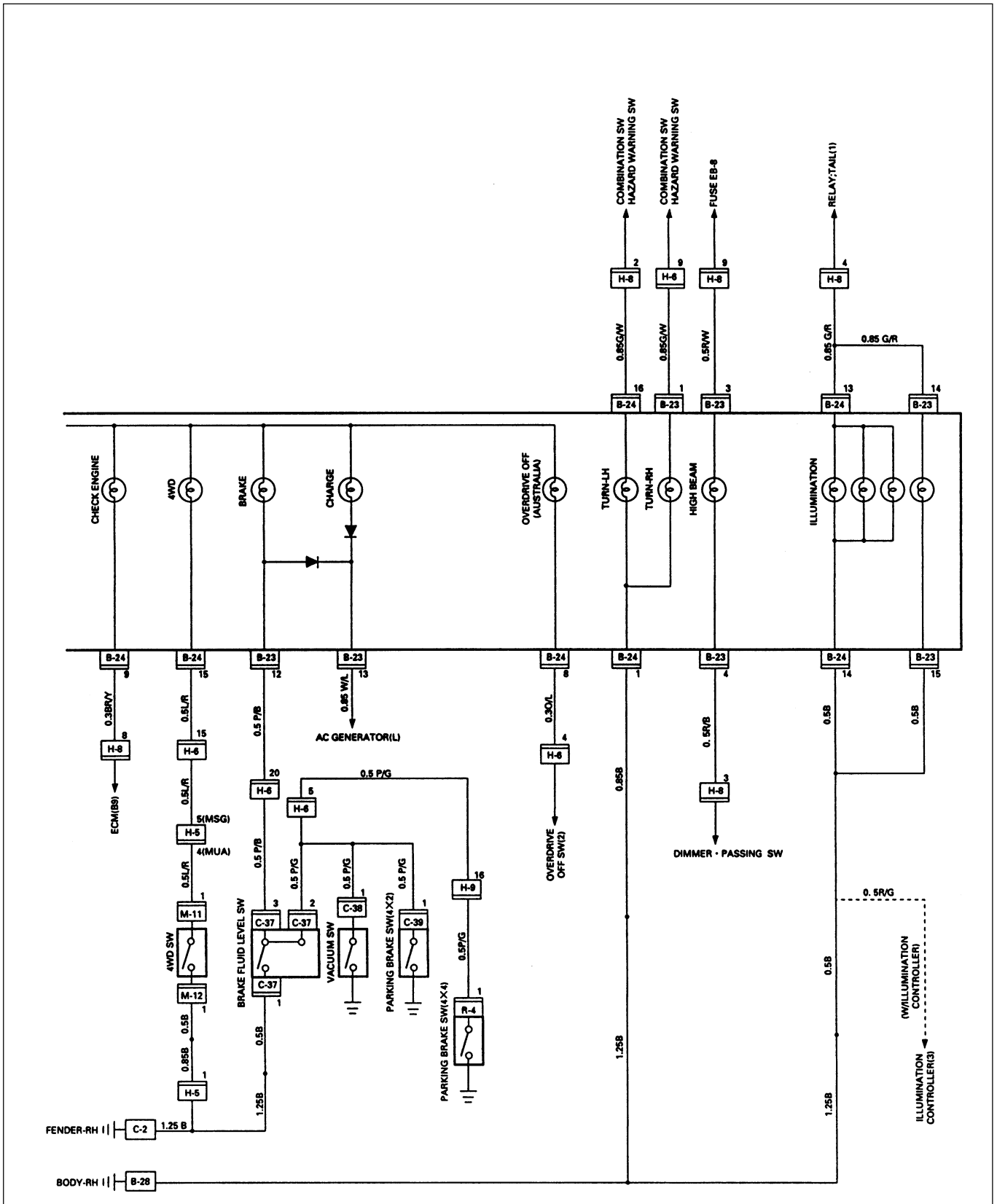
CIRCUIT DIAGRAM (W/ TACHOMETER -LHD EXCEPT EC)



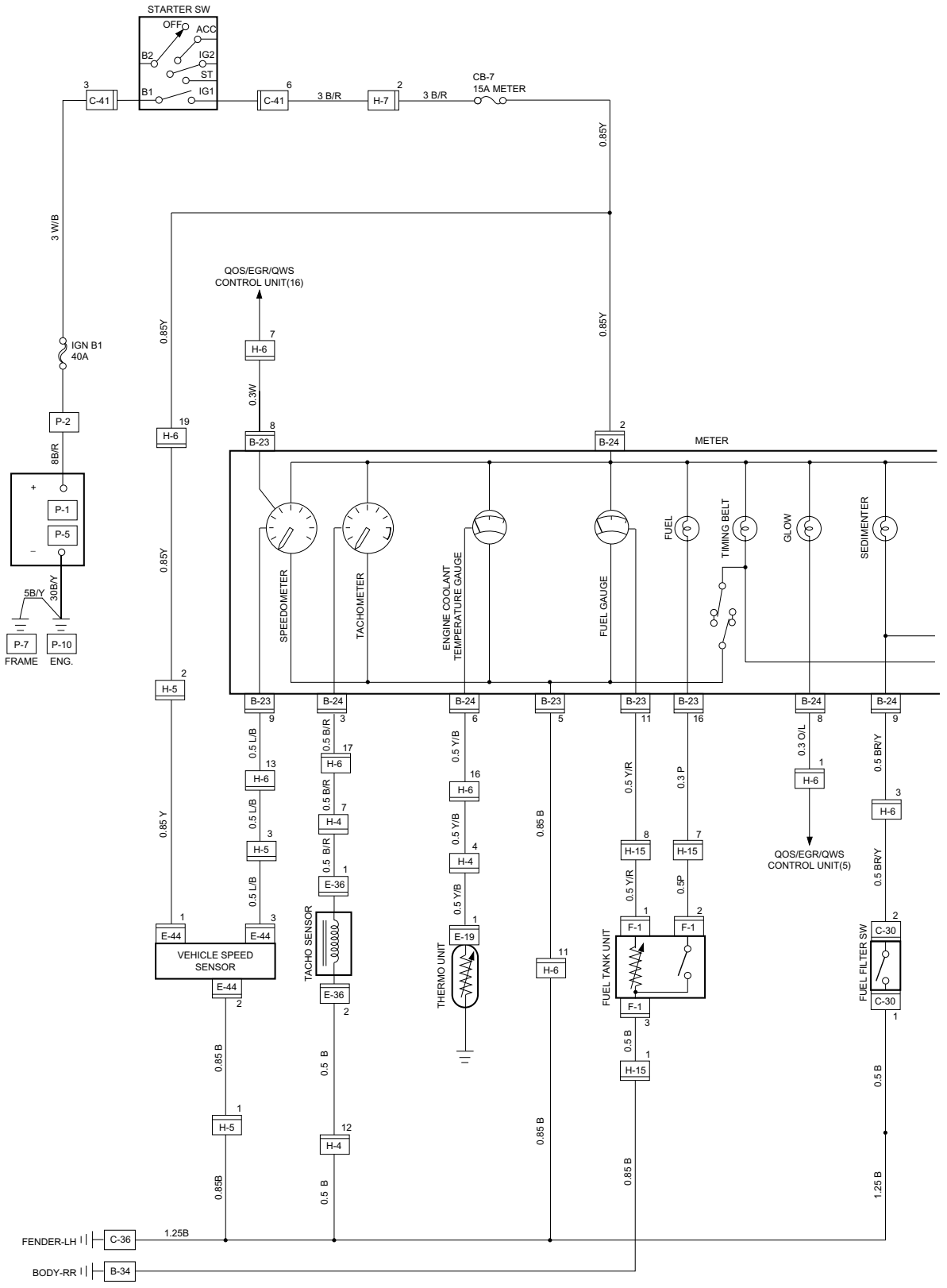

COMBINATION SW HAZARD WARNING SW
COMBINATION SW HAZARD WARNING SW
FUSE EB-8
RELAY;TAIL(1)
CHECK ENGINE
4WD
BRAKE
CHARGE
SEAT BELT (SAUDI ARABIA)
TIMER
TURN-LH
TURN-RH
HIGH BEAM
ILLUMINATION
AC GENERATOR(L)
ECM(B9)
DIMMER · PASSING SW
4WD SW
BRAKE FLUID LEVEL SW
VACUUM SW
PARKING BRAKE SW(4×2)
PARKING BRAKE SW(4×4)
SEAT BELT SW
(W/O POWER WINDOW)
FENDER-LH
BODY-LH
0.85G/W
0.85G/W
0.5R/W
0.85 G/R
0.85 G/R
0.3BR/Y
0.5L/R
0.5L/R
0.5L/R
0.5L/R
0.5 P/B
0.5 P/B
0.5 P/G
0.5 P/G
0.5 P/G
0.5 P/G
0.5P/G
0.85 W/L
0.5G/Y
0.5G/Y
0. 5R/B
0.85B
0.5B
0.5B
0.5B
0.85B
0.85B
1.25B
1.25B
1.25B
2B
2B
1.25 B

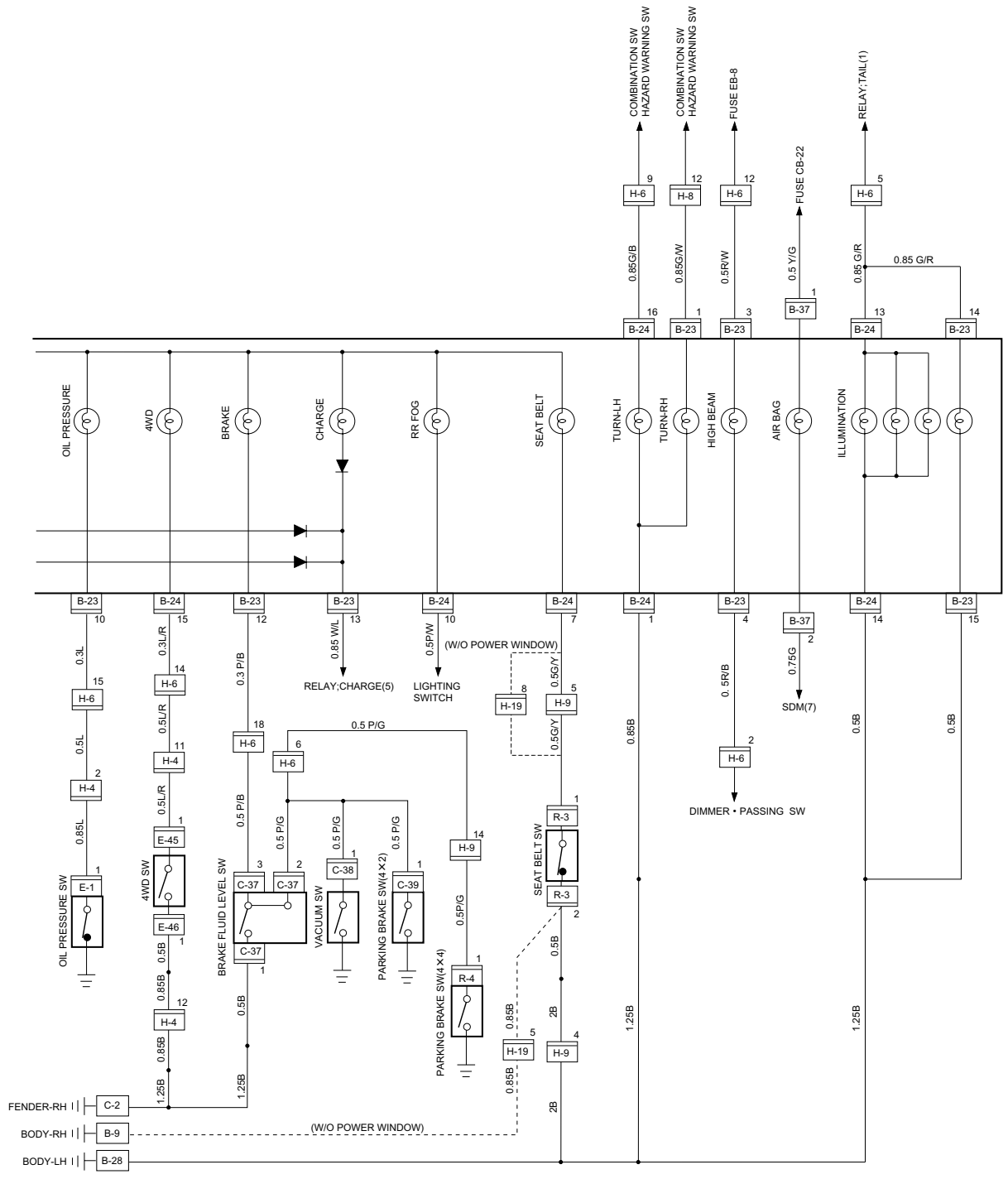
CIRCUIT DIAGRAM (W/ TACHOMETER-RHD EXCEPT UK)



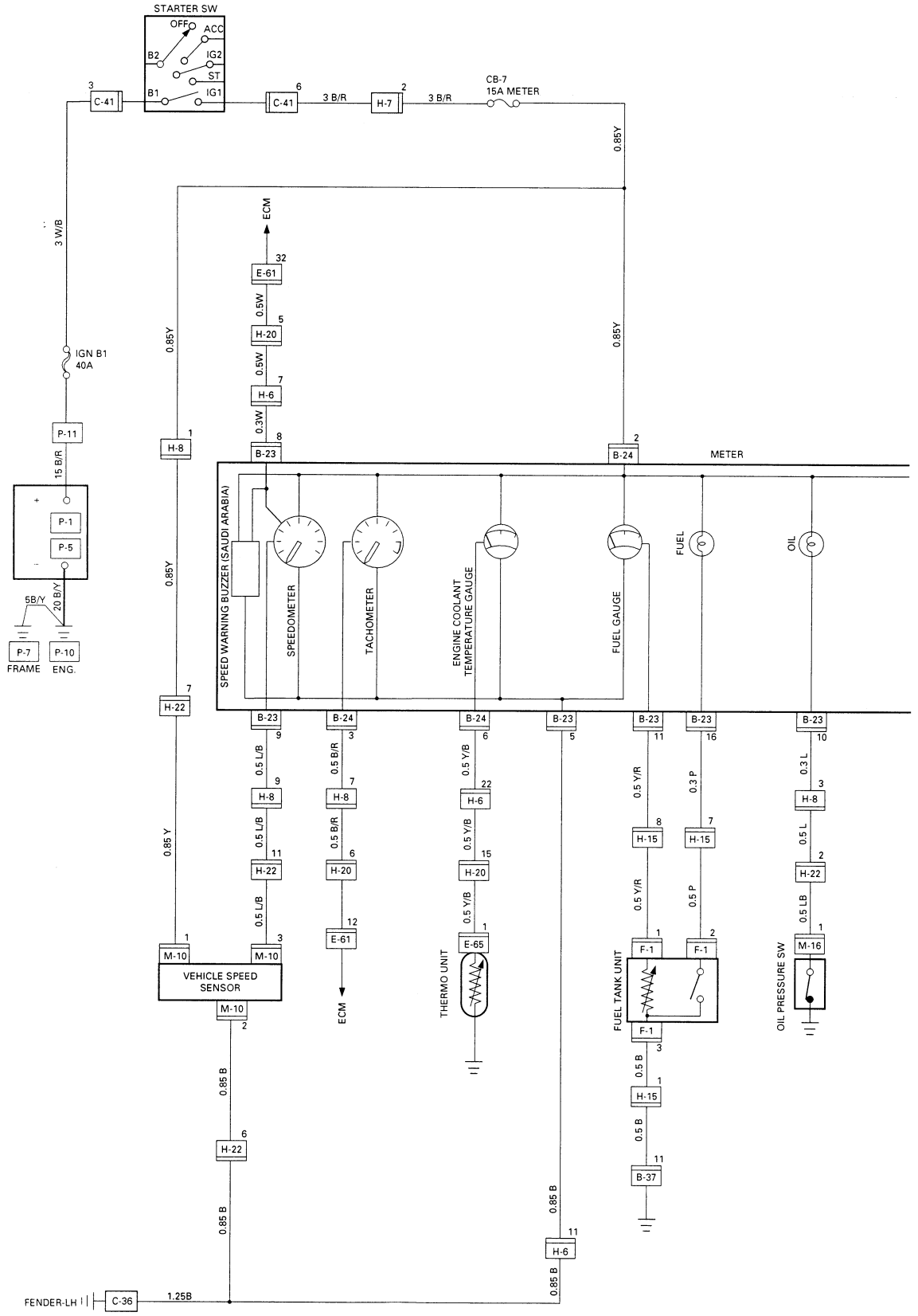

COMBINATION SW HAZARD WARNING SW
COMBINATION SW HAZARD WARNING SW
FUSE EB-8
RELAY;TAIL(1)
CHECK ENGINE
4WD
BRAKE
CHARGE
OVERDRIVE OFF (AUSTRALIA)
TURN-LH
TURN-RH
HIGH BEAM
ILLUMINATION
AC GENERATOR(L)
ECM(89)
5(MSG)
4(MUA)
4WD SW
BRAKE FLUID LEVEL SW
VACUUM SW
PARKING BRAKE SW(4X2)
PARKING BRAKE SW(4X4)
OVERDRIVE OFF SW(2)
DIMMER · PASSING SW
(W/ILLUMINATION CONTROLLER)
ILLUMINATION CONTROLLER(3)
FENDER-RH
BODY-RH
0.85G/W
0.5R/W
0.85 G/R
0.3BR/Y
0.5L/R
0.5 P/B
0.85 W/L
0.3O/L
0.5 P/G
0.5R/B
0.5B
0.85B
1.25B
0.5R/G
1.25 B

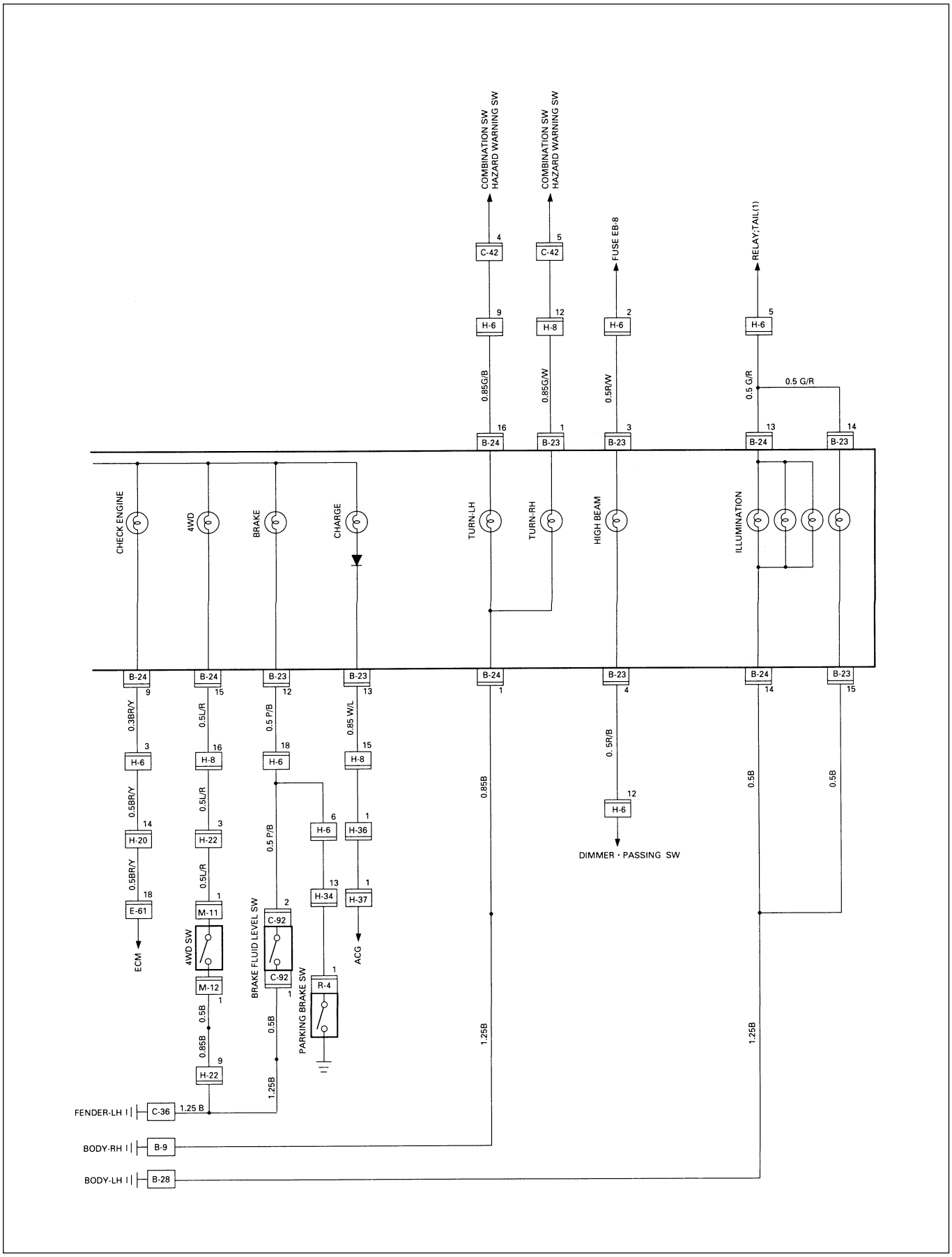
CIRCUIT DIAGRAM (W/ TACHOMETER-EC-LHD)



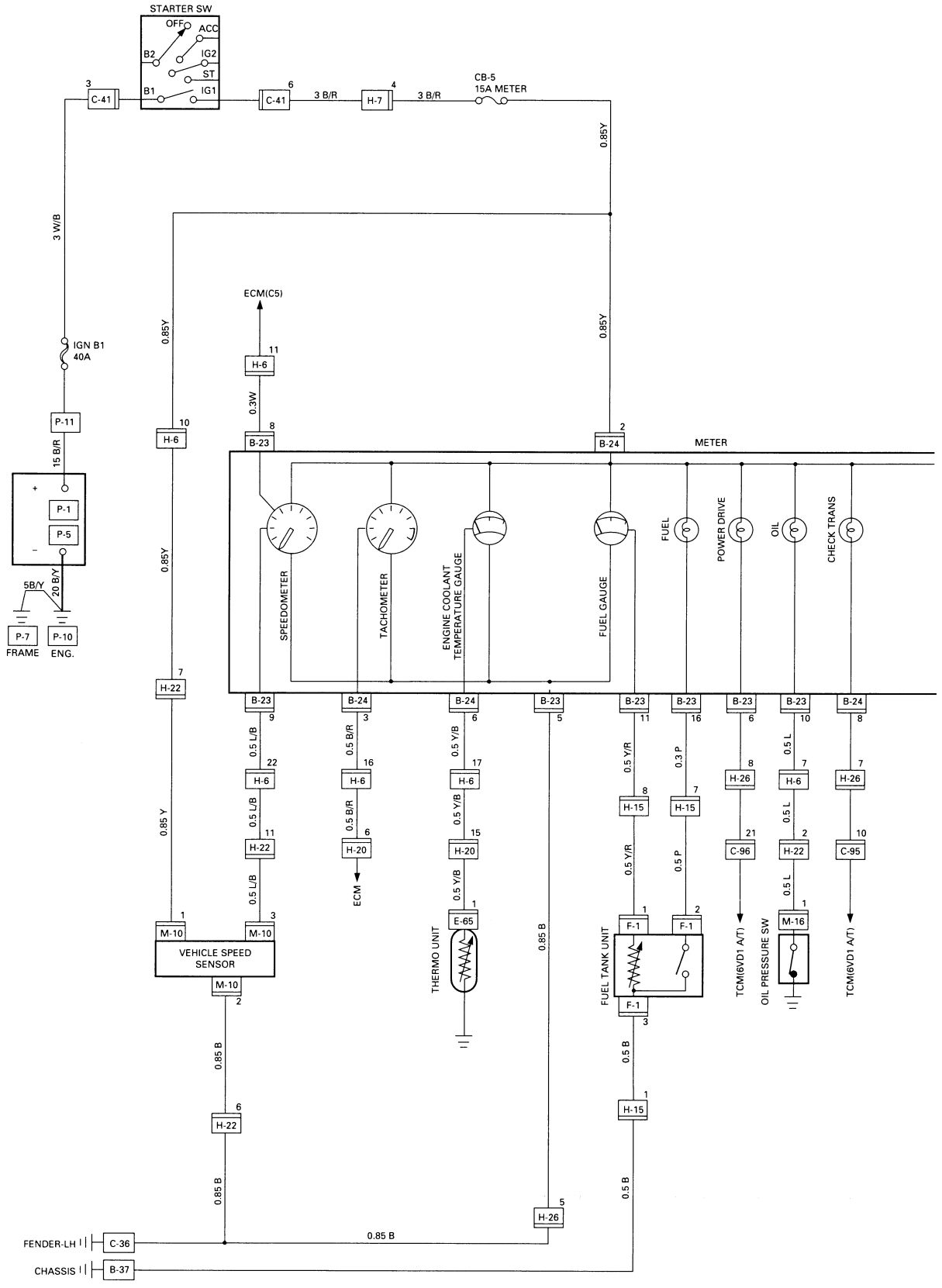

COMBINATION SW HAZARD WARNING SW
COMBINATION SW HAZARD WARNING SW
FUSE EB-8
FUSE CB-22
RELAY;TAIL(1)
0.85G/B
0.85G/W
0.5R/W
0.5 Y/G
0.85 G/R
0.85 G/R
OIL PRESSURE
4WD
BRAKE
CHARGE
RR FOG
SEAT BELT
TURN-LH
TURN-RH
HIGH BEAM
AIR BAG
ILLUMINATION
0.3L
0.3L/R
0.3 P/B
0.85 W/L
0.5P/W
(W/O POWER WINDOW)
0.5G/Y
0.5G/Y
0.5L
0.5L/R
0.5 P/B
0.5 P/G
0.5 P/G
0.5 P/G
0.5 P/G
0.5P/G
0.85L
0.5L/R
0.5B
0.85B
0.85B
0.85B
1.25B
1.25B
0.85B
0.5B
2B
2B
0.85B
1.25B
0.5B
0.5B
0.75G
0. 5R/B
RELAY;CHARGE(5)
LIGHTING SWITCH
SDM(7)
DIMMER • PASSING SW
OIL PRESSURE SW
4WD SW
BRAKE FLUID LEVEL SW
VACUUM SW
PARKING BRAKE SW(4×2)
PARKING BRAKE SW(4×4)
SEAT BELT SW
FENDER-RH
BODY-RH
BODY-LH
(W/O POWER WINDOW)

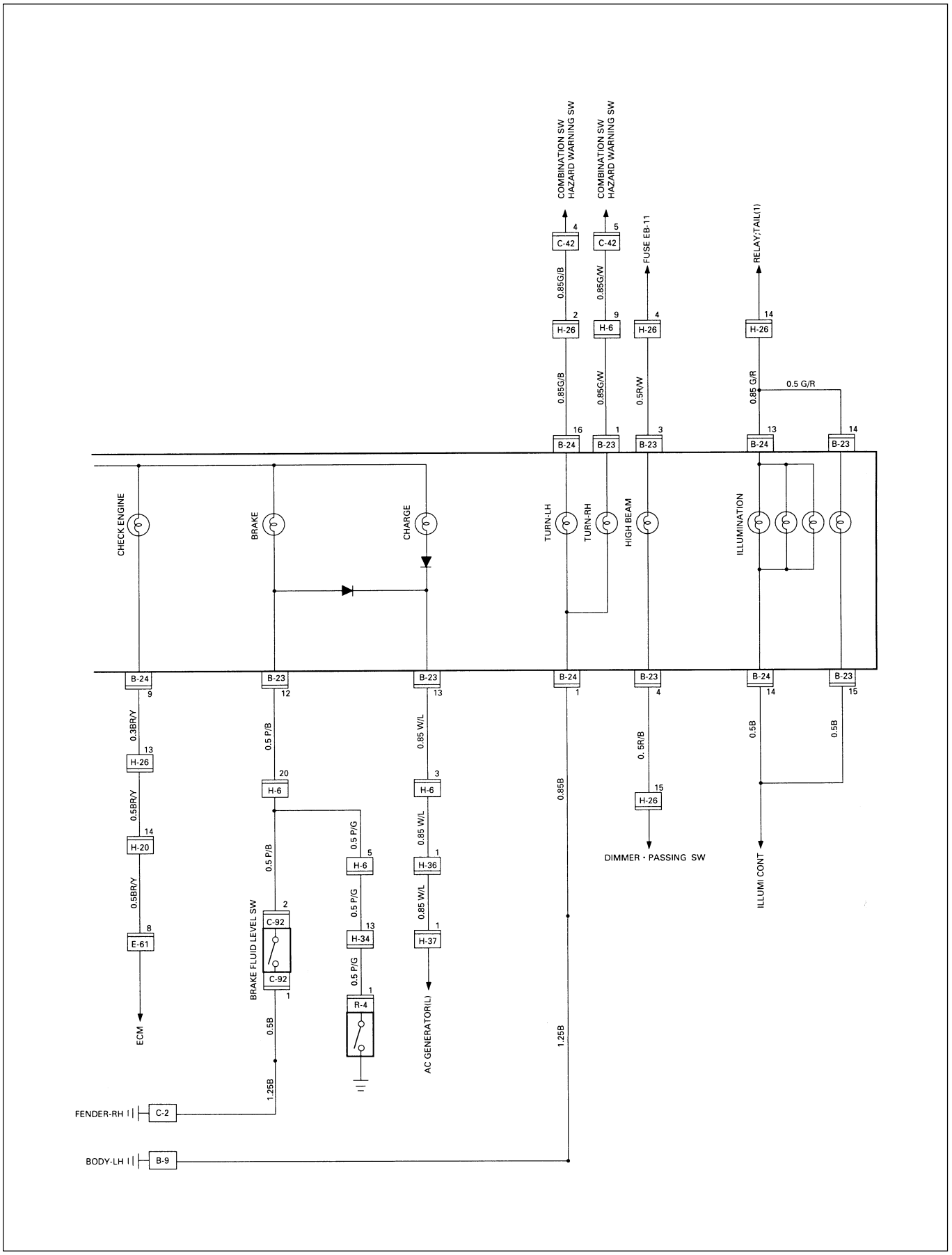
CIRCUIT DIAGRAM (W/ TACHOMETER-GASOLINE ENGINE 6VD1-LHD)



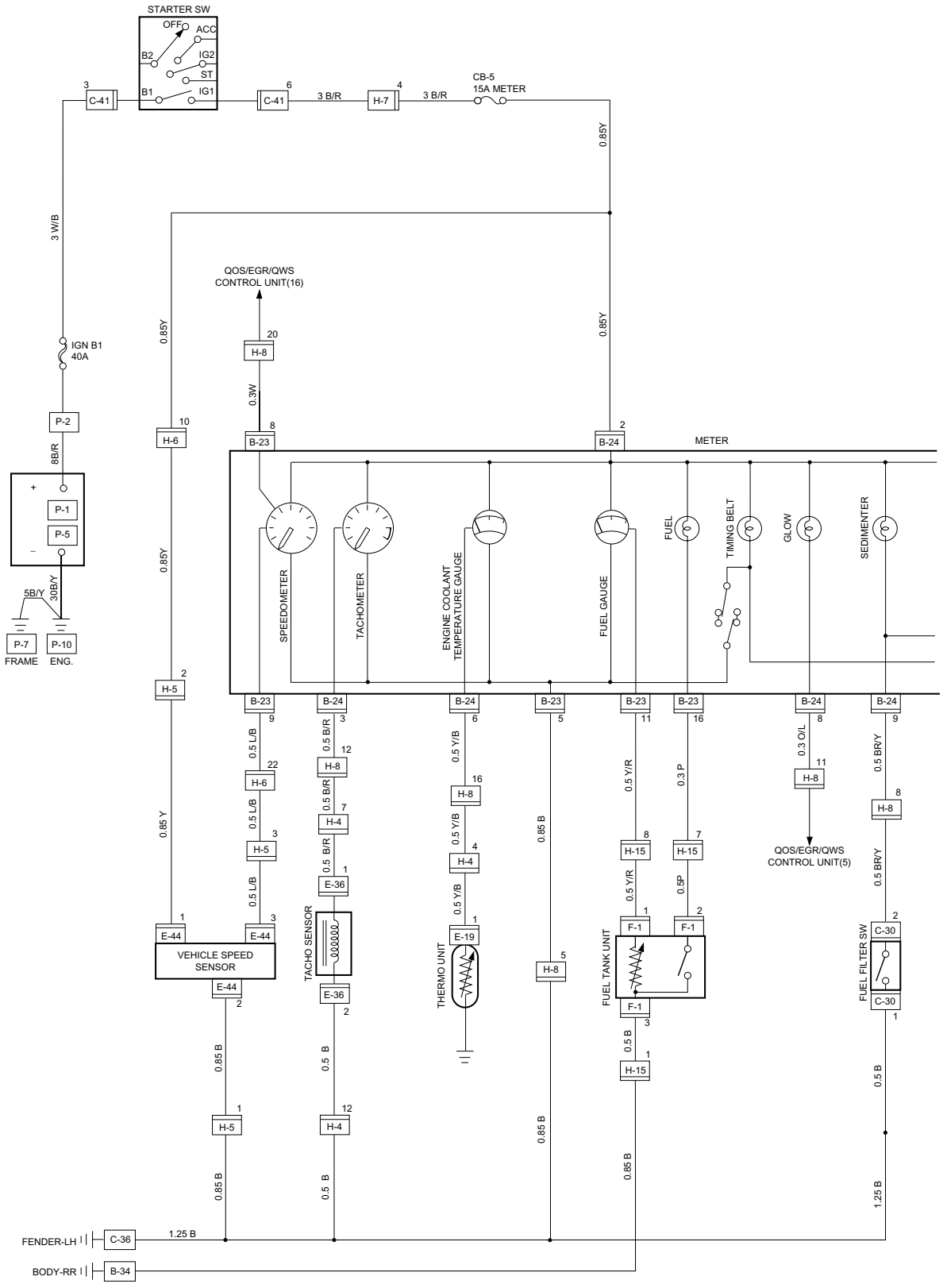

COMBINATION SW HAZARD WARNING SW
COMBINATION SW HAZARD WARNING SW
FUSE EB-8
RELAY;TAIL(1)
C-42
H-6
H-8
B-24
B-23
0.85G/B
0.85G/W
0.5R/W
0.5 G/R
0.5 G/R
CHECK ENGINE
4WD
BRAKE
CHARGE
TURN-LH
TURN-RH
HIGH BEAM
ILLUMINATION
0.3BR/Y
0.5BR/Y
0.5BR/Y
0.5L/R
0.5L/R
0.5L/R
0.5 P/B
0.5 P/B
0.85 W/L
0. 5R/B
0.85B
0.5B
0.5B
1.25B
1.25B
1.25B
H-20
H-22
H-36
E-61
M-11
M-12
C-92
R-4
H-37
H-34
ECM
4WD SW
BRAKE FLUID LEVEL SW
PARKING BRAKE SW
ACG
DIMMER · PASSING SW
FENDER-LH
BODY-RH
BODY-LH
C-36
B-9
B-28
1.25 B

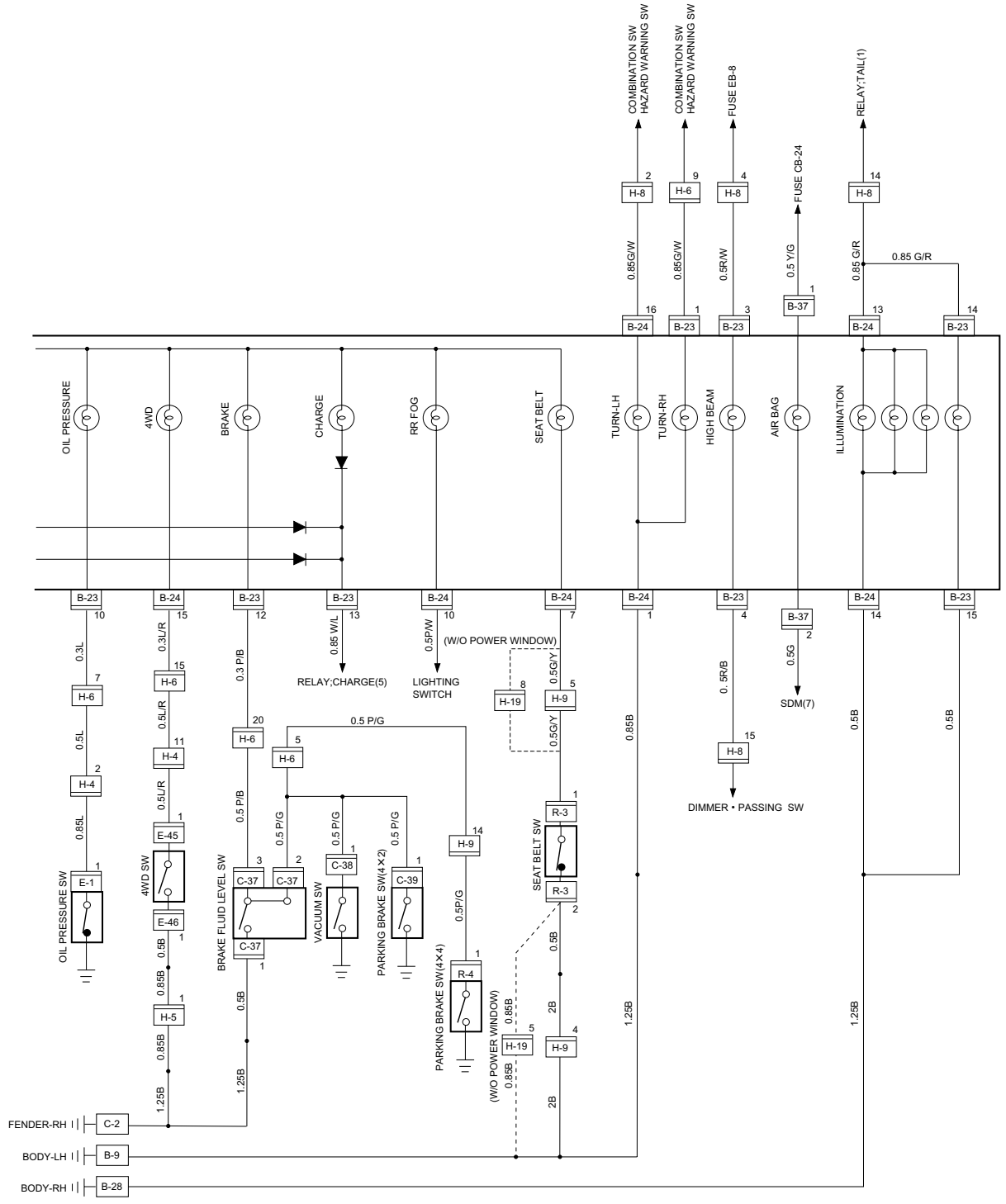
CIRCUIT DIAGRAM (W/ TACHOMETER-GASOLINE ENGINE 6VD1-RHD)




COMBINATION SW HAZARD WARNING SW
COMBINATION SW HAZARD WARNING SW
FUSE EB-11
RELAY;TAIL(1)
C-42
C-42
H-26
H-6
H-26
H-26
B-24
B-23
B-23
B-24
B-23
0.85G/B
0.85G/W
0.5R/W
0.85 G/R
0.5 G/R
CHECK ENGINE
BRAKE
CHARGE
TURN-LH
TURN-RH
HIGH BEAM
ILLUMINATION
B-24
B-23
B-23
B-24
B-23
B-24
B-23
0.3BR/Y
0.5P/B
0.85 W/L
0.95B
0.5R/B
0.5B
0.5B
H-26
H-6
H-6
H-26
H-26
0.5BR/Y
0.5P/B
0.5P/G
0.85 W/L
H-20
H-6
H-36
0.5BR/Y
0.5P/G
0.85 W/L
E-61
C-92
H-34
H-37
0.5P/G
C-92
R-4
ECM
BRAKE FLUID LEVEL SW
AC GENERATOR(L)
DIMMER · PASSING SW
ILLUMI CONT
0.5B
1.25B
1.25B
FENDER-RH
C-2
BODY-LH
B-9

CIRCUIT DIAGRAM (W/ TACHOMETER-UK)




COMBINATION SW HAZARD WARNING SW
COMBINATION SW HAZARD WARNING SW
FUSE EB-8
FUSE CB-24
RELAY;TAIL(1)
OIL PRESSURE
4WD
BRAKE
CHARGE
RR FOG
SEAT BELT
TURN-LH
TURN-RH
HIGH BEAM
AIR BAG
ILLUMINATION
0.85G/W
0.85G/W
0.5R/W
0.5 Y/G
0.85 G/R
0.85 G/R
B-24
B-23
B-37
H-8
H-6
H-4
H-5
H-19
H-9
E-1
E-45
E-46
C-37
C-38
C-39
R-3
R-4
0.3L
0.5L
0.85L
0.3L/R
0.5L/R
0.5L/R
0.5B
0.85B
1.25B
0.3 P/B
0.5 P/B
0.5 P/G
0.85 W/L
0.5P/W
0.5P/G
0.5G/Y
0.5G/Y
0.85B
0.5G
0. 5R/B
0.5B
1.25B
2B
RELAY;CHARGE(5)
LIGHTING SWITCH
(W/O POWER WINDOW)
SDM(7)
DIMMER • PASSING SW
OIL PRESSURE SW
4WD SW
BRAKE FLUID LEVEL SW
VACUUM SW
PARKING BRAKE SW(4×2)
PARKING BRAKE SW(4×4)
SEAT BELT SW
FENDER-RH
BODY-LH
BODY-RH
C-2
B-9
B-28

TROUBLES HOOTING

SPEEDOMETER

1. Speedometer and odometer do not function

Checkpoint		Trouble Cause	Countermeasure
Check the vehicle speed sensor output (4 pulses/1 rotation)	NG	Vehicle speed sensor malfunction	Replace the vehicle speed sensor
OK			
Continuity between the vehicle speed sensor and the meter, or the fuse (LHD: CB-7 (15A)/RHD: CB-5 (15A)) and the ground	NG	Open circuit or poor connector contact	Repair an open circuit in the circuit or a poor connection at the connectors
OK			
Use a meter tester to check the speedometer function	NG	Speedometer malfunction	Replace the speedometer

2. Speedometer needle fluctuates (May be wide fluctuation)

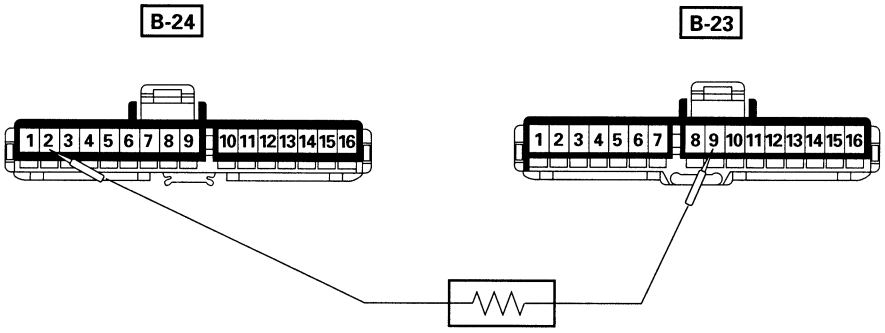
Check the speed sensor output by using the oscilloscope	NG	Vehicle speed sensor malfunction, or open circuit or poor connector contact	Replace the vehicle speed sensor, or repair an open circuit in the circuit or a connectors
OK			
Use a meter tester to check the speedometer function	NG	Speedometer malfunction	Replace the speedometer

3. Speedometer needle jumps erratically

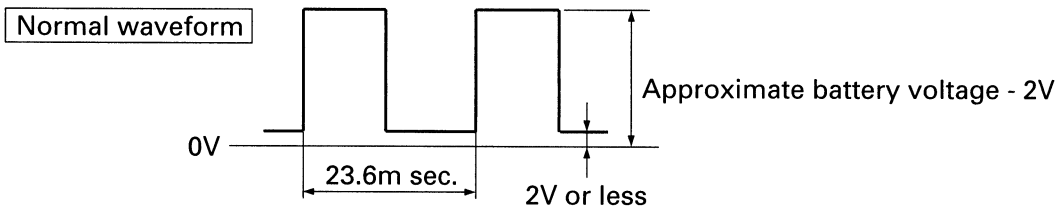
Checkpoint		Trouble Cause	Countermeasure
Check the vehicle speed sensor output by using the oscilloscope	NG	Vehicle speed sensor malfunction, or open circuit or poor connector contact	Replace the vehicle speed sensor, or repair an open circuit in the circuit or a poor connection at the connectors
OK			
Use meter tester to check the speedometer function	NG	Speedometer malfunction	Replace the speedometer

Inspection of a waveform by oscilloscope

1. Connect a resistance of 1.3 to 5k ohm (1.4W or more) between the harness side connectors 2 B-24 and 9 B-23 of the meter.



2. Install a speedometer tester.
2. Turn on the starter SW.
3. Check the waveform at the time when the vehicle speed is at 60km/h.



4. Trip odometer does not reset

Check at other kilometer figures given by meter tester (Reset should be made to zero kilometer)	NG	Faulty reset mechanism or worn gear	Replace the speedometer

TACHOMETER

1. Tachometer does not function when engine is running

Checkpoint		Trouble Cause	Countermeasure
Pulse between connector B-24 and the ground when engine is running (Should be pulse present)	NG	Tacho sensor malfunction, or open circuit or poor connector contact	Replace the tacho sensor, or repair open circuit or connector contact
OK			
Tachometer function	NG	Tachometer malfunction	Replace the tachometer

2. Meter needle fluctuates (May be wide fluctuation)

Use a meter tester to check the tachometer function	NG	Tachometer malfunction	Replace the tachometer

TEMPERATURE GAUGE AND THERMO UNIT

1. No temperature indicates at all

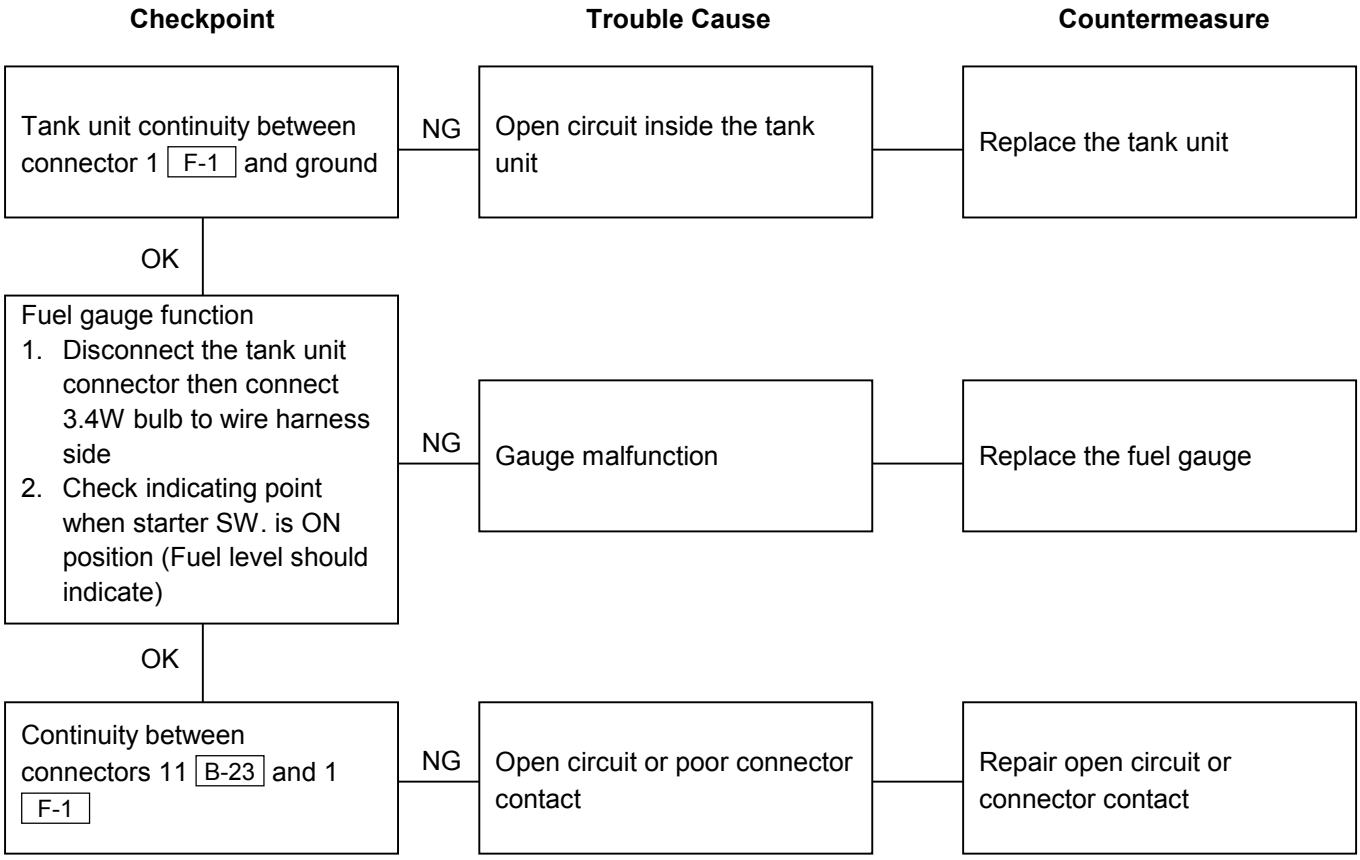
Checkpoint		Trouble Cause	Countermeasure
Thermo unit continuity between connector E-8 and the ground	NG	Thermo unit malfunction	Replace the thermo unit
OK			
Gauge function 1. Disconnect the unit connector then connect 3.4W bulb to wire harness side with ground 2. Check indicating point when starter SW. is ON position (Temperature should indicate)	NG	Gauge malfunction	Replace the temperature gauge
OK			
Continuity between 1 E-8 and 6 B-24	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

2. Temperature gauge incorrect readings in all ranges

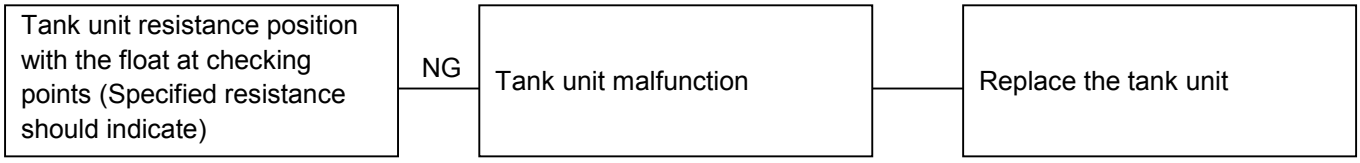
Thermo unit resistance between connector 1 E-8 and the ground when disconnecting the connector (Specified resistance should indicate)	NG	Thermo unit malfunction	Replace the thermo unit

FUEL GAUGE AND FUEL TANK UNIT

1. No fuel level indicates at all



2. Fuel gauge gives incorrect readings in all ranges



WARNING AND INCIDATOR LIGHT

1. When the parking brake lever is pulled, the indicator light does not light up

Checkpoint		Trouble Cause	Countermeasure
Brake indicator light bulb continuity	NG	Bulb burned out or loose contact	Replace or reinstall the bulb
OK			
Parking brake SW. installation position and function	NG	Incorrect SW. adjustment or poor SW. point contact	Adjust or replace the parking brake SW.
OK			
Continuity between the parking brake SW. connector 1 C-39 (4×4: 1 R-4) and 12 B-23	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Continuity between the parking brake SW. connector 1 C-39 (4×4: 1 R-4) and the ground when the parking brake is operated	NG	Parking brake SW. malfunction	Replace the parking brake SW.

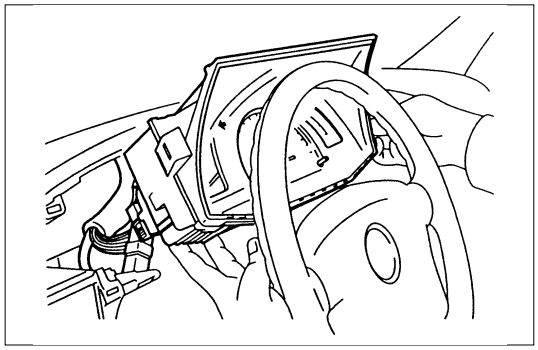
2. Even when the parking brake lever is pulled, the indicator light does not go off

Checkpoint		Trouble Cause	Countermeasure
Parking brake SW. installation position and function	NG	Incorrect the parking brake SW. adjustment or brake SW. faulty	Adjust the SW. installation position or replace the parking brake SW.
OK			
Check to see if the indicator light goes off when the parking brake SW. connector 1 C-39 (4×4: 1 R-4) is disconnected	NG	Brake fluid level SW. or vacuum SW. faulty or short circuit	Replace the brake fluid level SW., or vacuum SW., or repair a short circuit between the parking brake SW. connector 1 C-39 (4×4: 1 R-4) and 12 B-23 or the brake fluid level SW. connector 3 C-37 and 12 B-23 , or the vacuum SW. connector 1 C-38 and B-23

3. Oil pressure warning light does not go off while engine is running

Engine oil pressure	NG	Refer to ENGINE Section	Refer to ENGINE Section
OK			
Check to see the warning light goes off when the oil pressure SW. connector 1 P-11 is disconnected	NG	Short circuit	Repair a short circuit between 1 P-11 and 10 B-23
OK			
Continuity between the oil pressure SW. connector 1 P-11 and the body ground when the engine is operating	NG	Oil pressure unit (or oil pressure SW) faulty	Replace the oil pressure unit (or the oil pressure SW.)

REMOVAL AND INSTALLATION



METER ASSEMBLY

Removal

1. **Instrument Panel Driver Lower Cover**
   - Refer to the removal steps of “INSTRUMENT PANEL” in Section 10 “CAB”.
2. **Lower Cluster Assembly**
   - Refer to the removal steps of “INSTRUMENT PANEL” in Section 10 “CAB”.
3. **Instrument Panel Cluster Assembly**
   - Refer to the removal steps of “INSTRUMENT PANEL” in Section 10 “CAB”
4. **Meter Assembly**
   - Remove four screws of the meter assembly.
   - Disconnect the meter connectors.

Installation

Follow the removal procedure in the reverse order to install the meter.

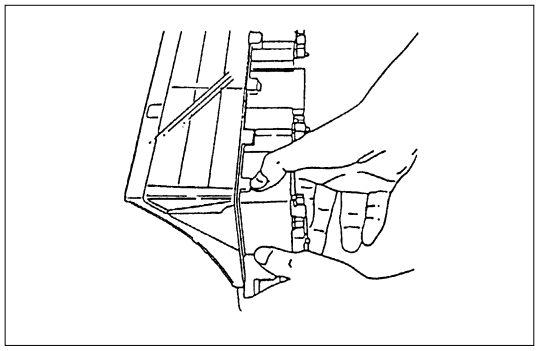
Pay close attention to the important points mentioned in the following paragraphs.

Connector

Be absolutely sure that the meter connectors are securely connected.
This will prevent a poor contact and an open circuit.

Wire Harness

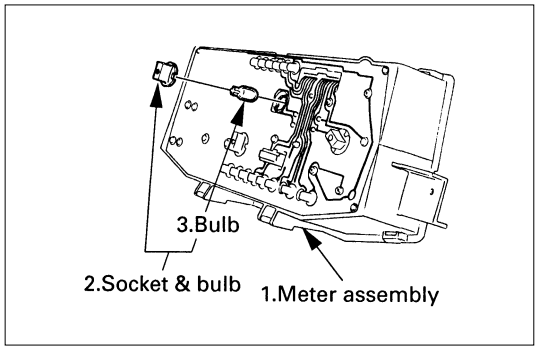
Do not pinch the wire harness between the cluster and the meter hood during the meter assembly installation procedure. Wire damage will result.



METERS AND GAUGES

Installation

To Install, follow the removal steps in the reverse order.



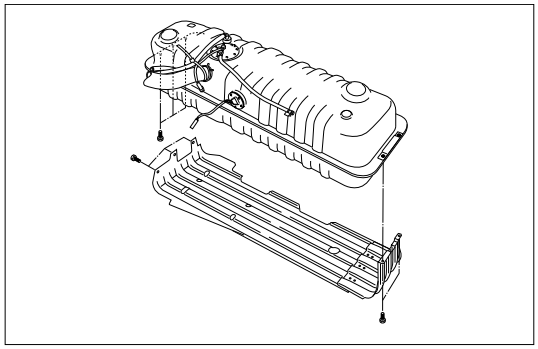
WARNING LIGHT BULB, INDICATOR LIGHT BULB AND ILLUMINATION LIGHT BULB

Removal

Turn the bulb socket counterclockwise and pull the bulb out.

Installation

To Install, follow the removal steps in the reverse order.

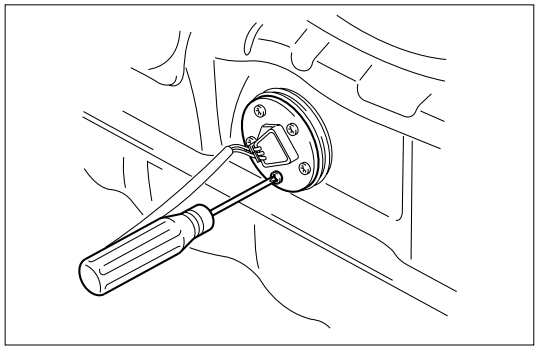


FUEL TANK UNIT

Removal

Dismount the fuel tank first, then remove the fuel tank unit.

1. Disconnect the fuel tank unit connector.
2. Loosen the screws.



3. Remove the fuel tank unit from the fuel tank.

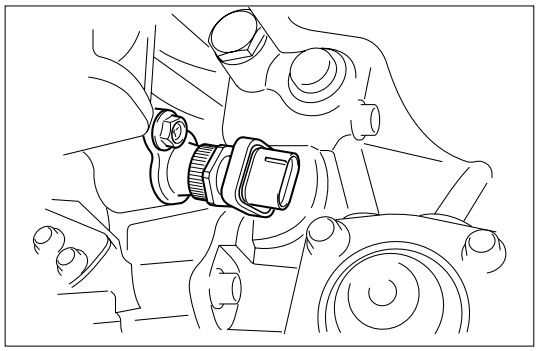
Installation

Rubber Seal

Be absolutely sure that the fuel tank unit rubber seal is correctly seated.

Connector

Be absolutely sure that the fuel tank unit connector is securely connected.
This will prevent a poor contact and an open circuit.



VEHICLE SPEED SENSOR (INSTALLED ON THE TRANSMISSION)

Removal

1. Disconnect the connector.
2. Remove the vehicle speed sensor body by rotating it.

Installation

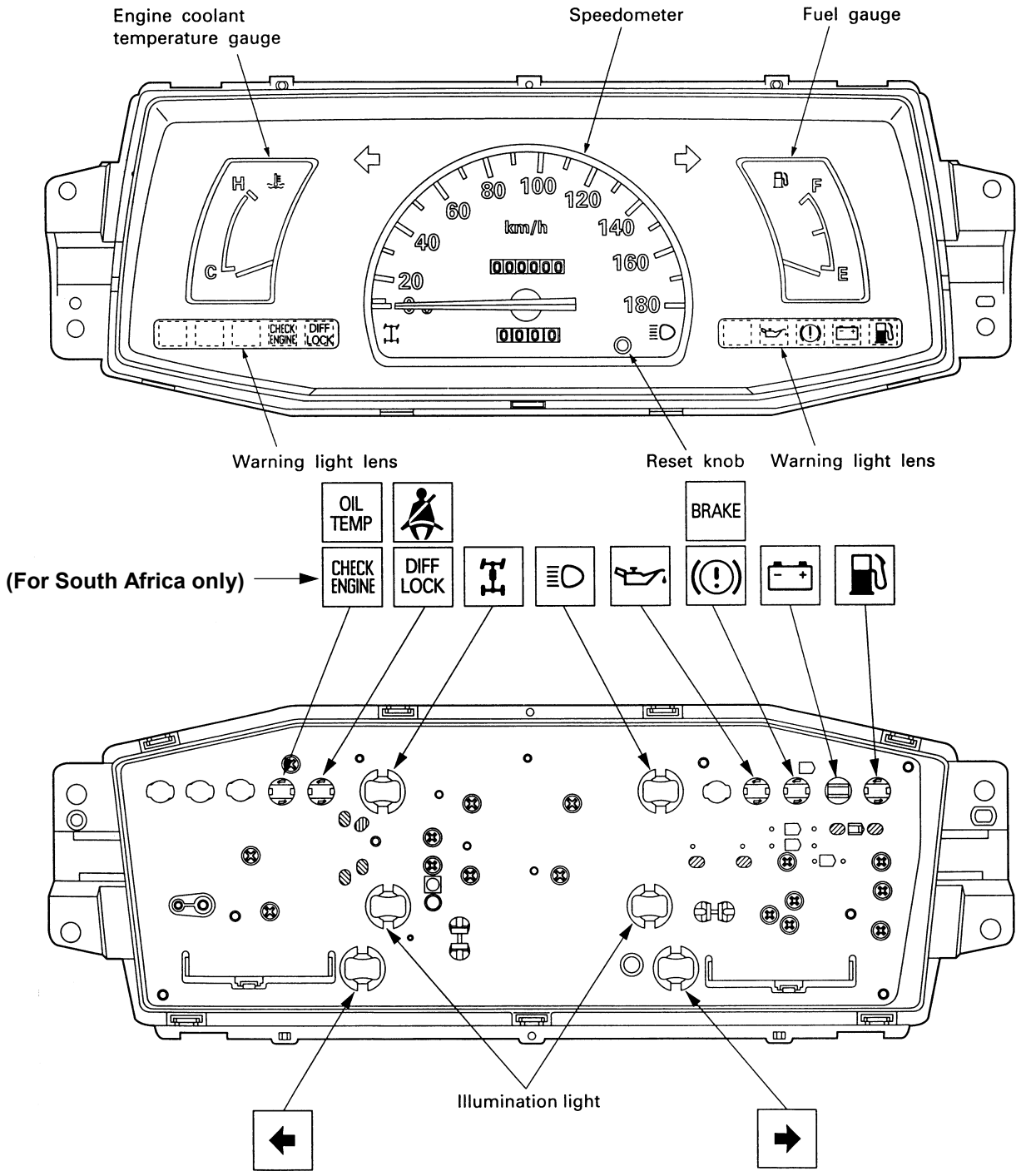
To Install, follow the removal steps in the reverse order, noting the following point.
Tighten the vehicle speed sensor to the specified torque.

Vehicle Speed Sensor Tightening Torque	N·m (kgf·m/lb.ft)
	25 ± 4.9 (2.5 ± 0.5/18 ± 3.6)

INSPECTION AND REPAIR

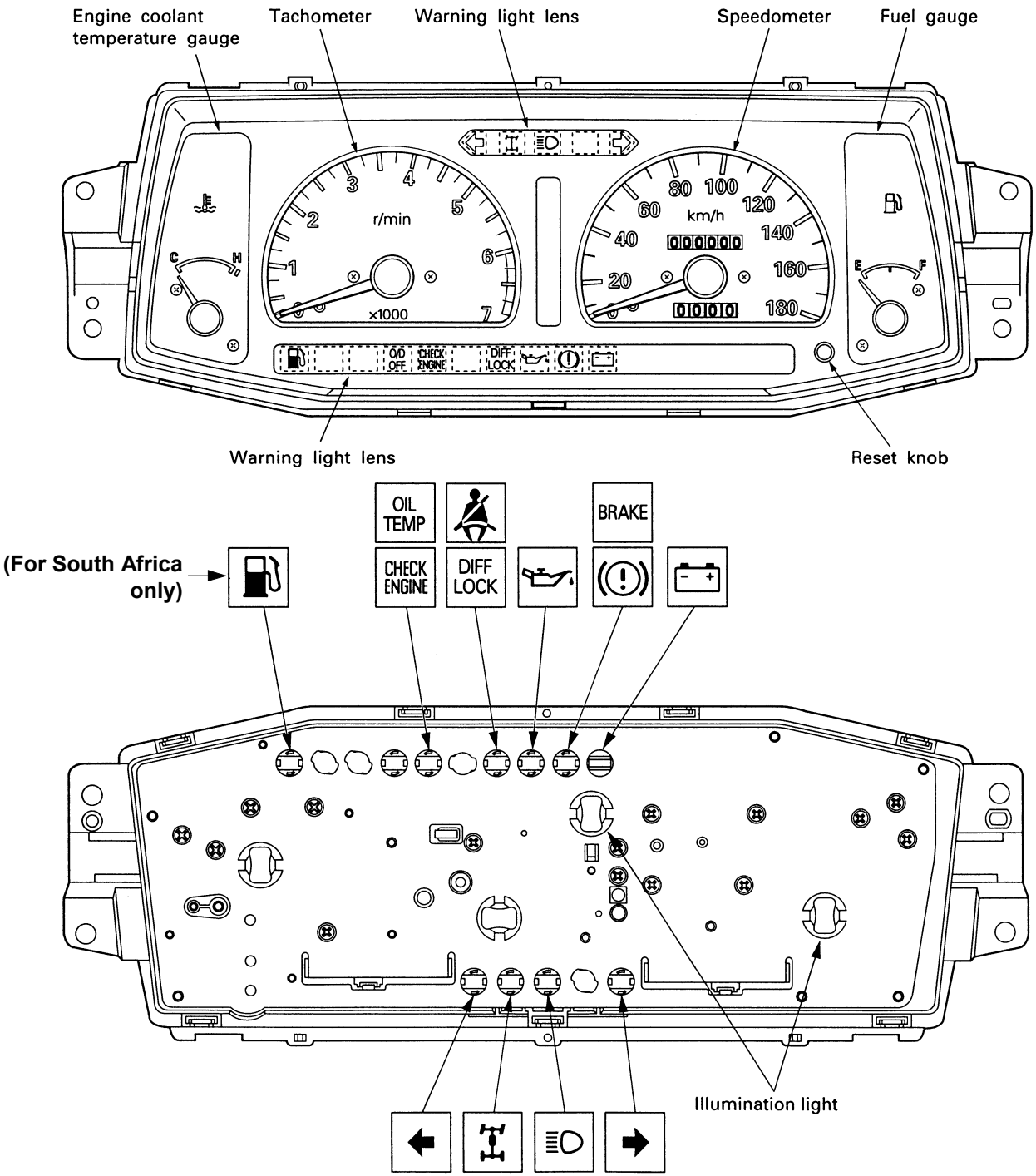
Warning, indicator and illumination light position
W/O tachometer

(This illustration is based on the Km/h meter)

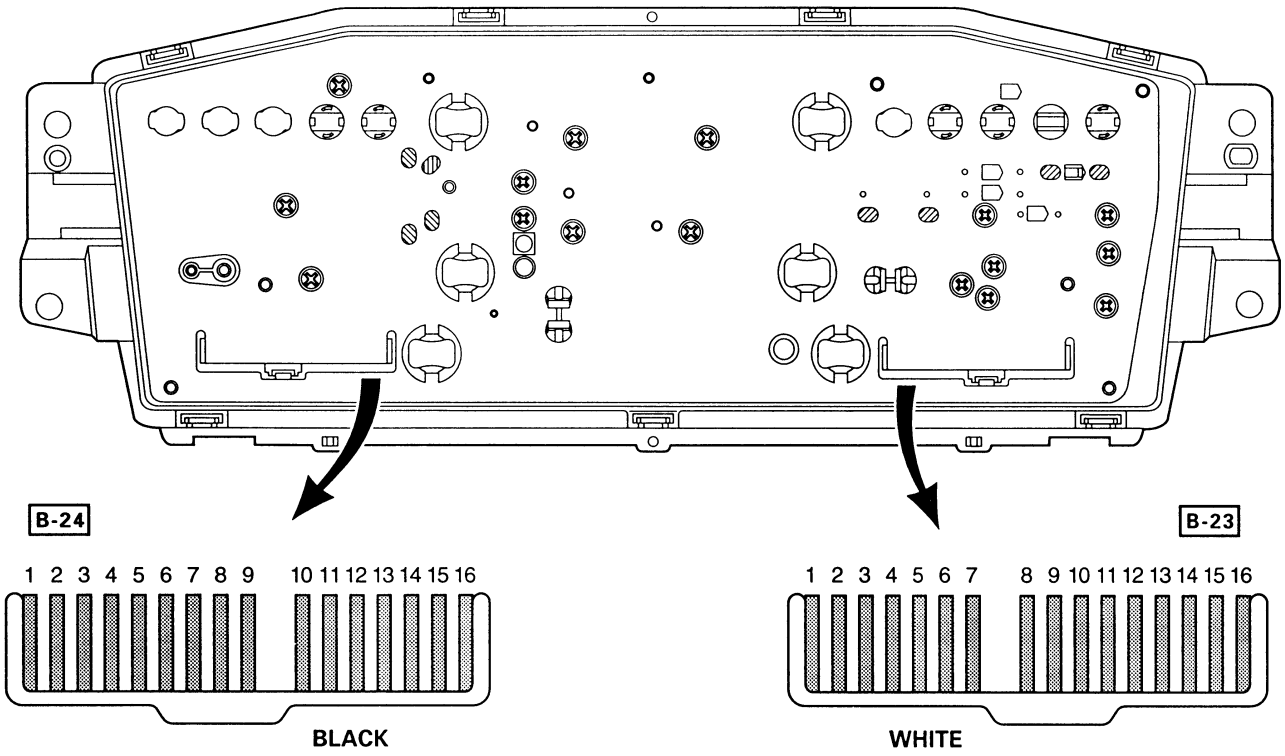


W/ Tachometer

(This illustration is based on the Km/h meter)



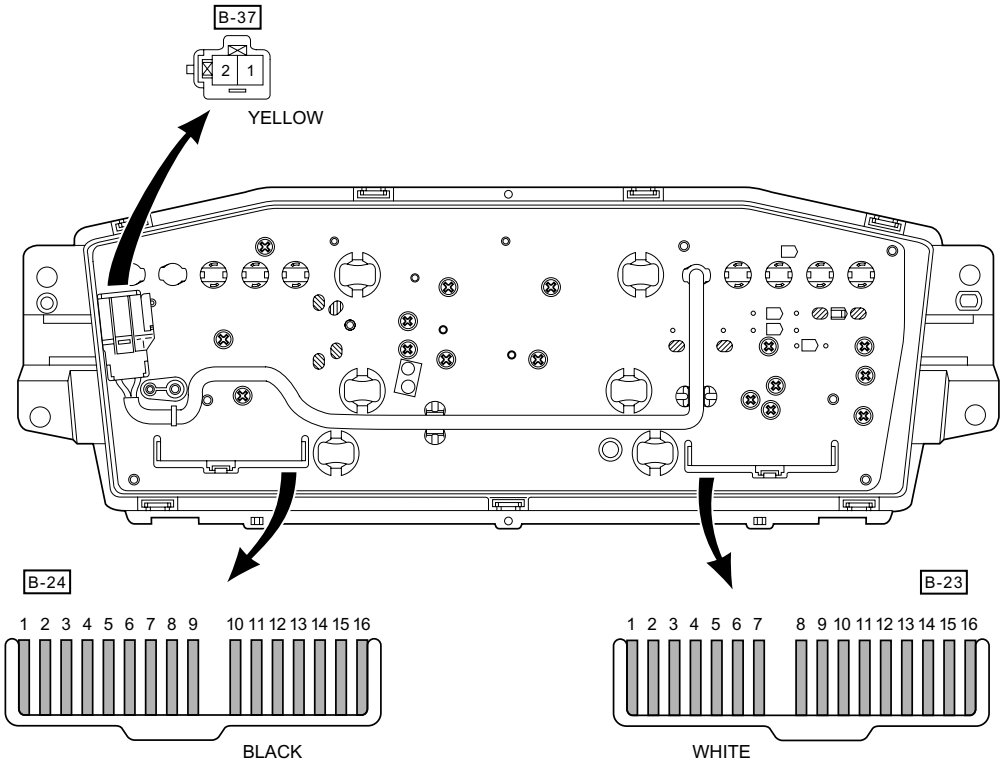
Meter connector pin arrangement
W/O Tachometer-1



Connector No. / Terminal No.	B-24
1	Ground
2	Ignition
3	-
4	-
5	-
6	Engine coolant temperature gauge
7	-
8	-
9	Check engine warning light
10	Diff. lock indicator light (South Africa only)
11	High-beam indicator light (+)
12	High-beam indicator light (-)
13	Illumination light (+)
14	Illumination light (-)
15	4WD indicator light
16	Turn signal indicator light (left)

Connector No. / Terminal No.	B-23
1	Turn signal indicator light (right)
2	-
3	-
4	-
5	Ground
6	-
7	Ignition
8	Speedometer
9	Speedometer
10	Oil pressure warning light
11	Fuel gauge
12	Brake warning light
13	Charge warning light
14	-
15	-
16	Fuel warning light (Except Chile)

W/O Tachometer-2

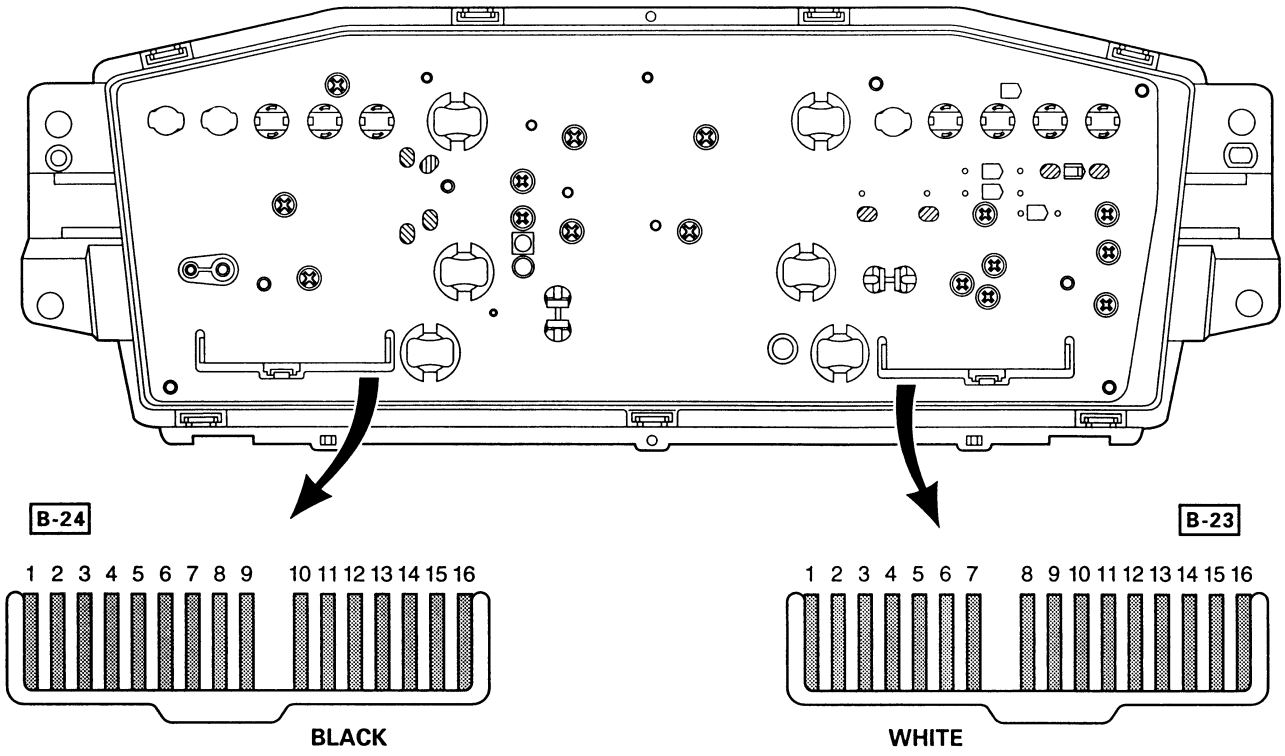


Connector No. / Terminal No.	B-37
1	Air bag Warning light
2	Air bag Warning light

Connector No. / Terminal No.	B-24
1	Turn signal indicator light
2	Ignition
3	-
4	-
5	-
6	Engine coolant temperature gauge
7	Seat belt warning light
8	Glow indicator light
9	Water sedimenter warning light
10	Rear fog light indicator light
11	High-beam indicator light (+)
12	High-beam indicator light (-)
13	Illumination light (+)
14	Illumination light (-)
15	4WD indicator light
16	Turn signal indicator light (left)

Connector No. / Terminal No.	B-23
1	Turn signal indicator light (right)
2	-
3	-
4	-
5	Ground
6	-
7	Ignition
8	Speedometer
9	Speedometer
10	Oil pressure warning light
11	Fuel gauge
12	Brake warning light
13	Charge warning light
14	-
15	-
16	Fuel warning light

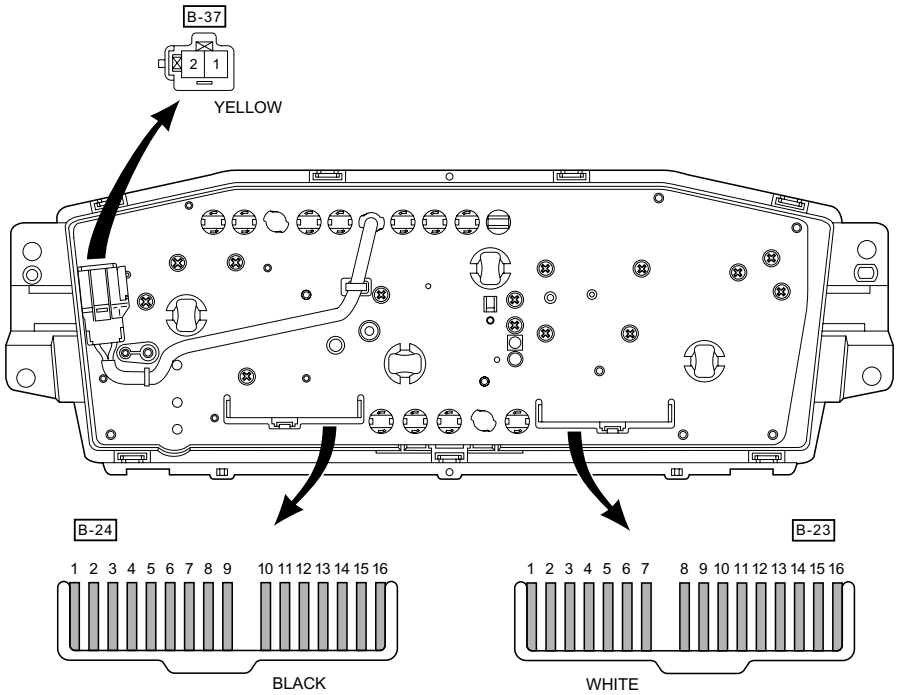
W/ Tachometer-1



Connector No. / Terminal No.	B-24
1	Ground
2	Ignition
3	Tachometer
4	-
5	-
6	Engine coolant temperature gauge
7	-
8	-
9	Check engine warning light
10	Diff. lock indicator light (South Africa only)
11	-
12	-
13	Illumination light (+)
14	Illumination light (-)
15	4WD indicator light
16	Turn signal indicator light (left)

Connector No. / Terminal No.	B-23
1	Turn signal indicator light (right)
2	-
3	High-beam indicator light (+)
4	High-beam indicator light (-)
5	Ground
6	-
7	-
8	Speedometer
9	Speedometer
10	Oil pressure warning light
11	Fuel gauge
12	Brake warning light
13	Charge warning light
14	Illumination light (+)
15	Illumination light (-)
16	Fuel warning light (Except Chile)

W/ Tachometer-2



Connector No. / Terminal No.	B-37
1	Air bag warning light
2	Air bag warning light

Connector No. / Terminal No.	B-24
1	Turn signal indicator light
2	Ignition
3	Tachometer
4	-
5	-
6	Engine coolant temperature gauge
7	Seat belt warning light
8	Glow indicator light
9	Water sedimenter warning light
10	Rear fog light indicator light
11	-
12	-
13	Illumination light (+)
14	Illumination light (-)
15	4WD indicator light
16	Turn signal indicator light (left)

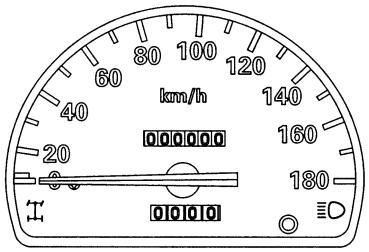
Connector No. / Terminal No.	B-23
1	Turn signal indicator light (right)
2	-
3	High-beam indicator light (+)
4	High-beam indicator light (-)
5	Ground
6	-
7	-
8	Speedometer
9	Speedometer
10	Oil pressure warning light
11	Fuel gauge
12	Brake warning light
13	Charge warning light
14	Illumination light (+)
15	Illumination light (-)
16	Fuel warning light

SPEEDOMETER AND TACHOMETER

Speedometer On-Vehicle Inspection

Check the speedometer accuracy with a speedometer tester. Carefully follow the tester manufacturer's instructions.

W/O Tachometer



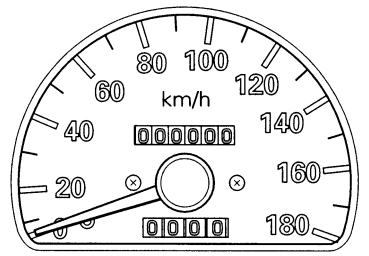
km/h meter (Except Gulf, South Arfrica) km/h

Indication	Permissible Range
20	17.2-22.8
40	37.2-42.8
60	57.2-62.8
80	77.2-82.8
100	97.3-103.7
120	117.3-123.7
140	137.3-143.7
160	156.9-164.1

km/h meter (For Gulf, South Arfrica) km/h

Indication	Permissible Range
20	20-25.6
40	40-45.6
60	60-65.6
80	80-85.6
100	99.5-105.9
120	119.5-125.9
140	139.5-145.9
160	159.1-166.3

W/ Tachometer



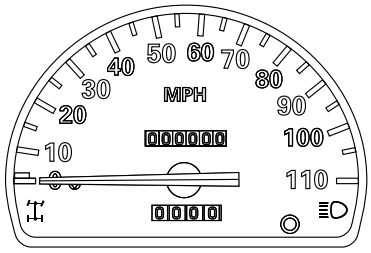
km/h meter (Except Gulf, South Africa) km/h

Indication	Permissible Range
20	17.5-22.5
40	37.5-42.5
60	57.5-62.5
80	77.5-82.5
100	97.6-103.4
120	117.6-123.4
140	137.6-143.4
160	157.2-163.8

km/h meter (For Gulf, South Arfrica) km/h

Indication	Permissible Range
20	20-25
40	40-45
60	60-65
80	80-85
100	99.8-105.6
120	119.8-125.6
140	139.8-145.6
160	159.4-166

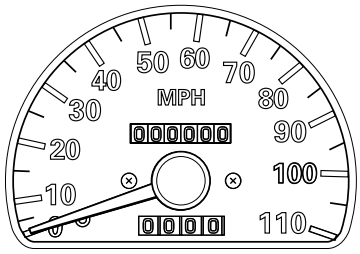
W/O Tachometer



MPH meter MPH

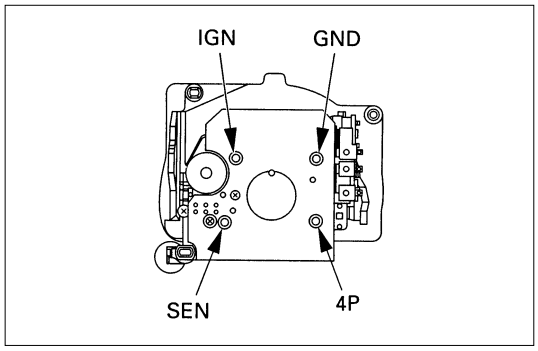
Indication	Permissible Range
20	18.2-21.8
40	38.2-41.8
60	58.2-61.8
80	78.2-82.8
100	98.5-103.1

W/ Tachometer



MPH meter MPH

Indication	Permissible Range
20	18.5-21.5
40	38.5-41.5
60	58.5-61.5
80	79.1-82.5
100	98.9-102.7

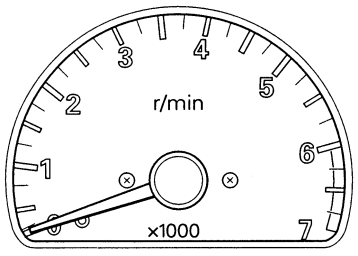


Speedometer Off-Vehicle Inspection

Tachometer On-Vehicle Inspection

1. Attach a tune-up tester to the engine.
2. Start the engine.
3. Compare the tachometer reading and the tester reading.
   If the tachometer indication is outside the permissible range, the tachometer must be replaced.
4. Gradually increase and decrease the engine speed.
   Note the movement of the tachometer needle.
   If the needle movement is sluggish, the tachometer must be replaced.

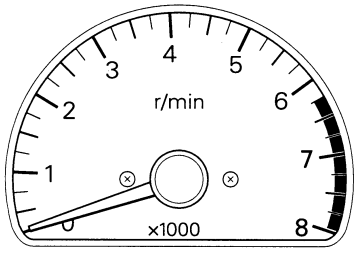
Gasoline engine



rpm

Indication	Permissible Range
1,000	940-1060
2,000	1875-2125
3,000	2850-3150
4,000	3820-4180
5,000	4820-5180
6,000	5820-6180

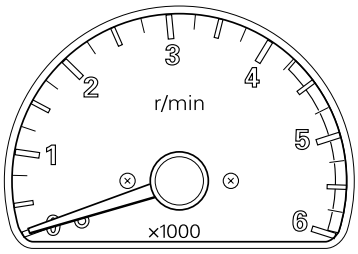
Gasoline engine (6VD1)



Gasoline engine (6VD1) rpm

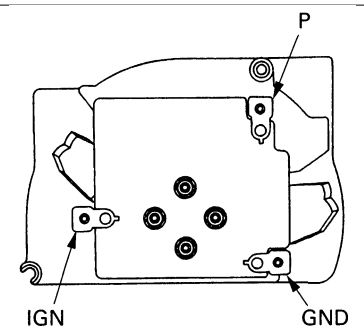
Indication	Permissible Range
1,000	900-1060
2,000	1820-2070
3,000	2820-3120
4,000	3820-4180
5,000	4820-5180
6,000	5820-6180
7,000	6820-7180

Diesel engine



Diesel engine rpm

Indication	Permissible Range
750	690-810
2,000	1875-2125
3,000	2850-3150
4,000	3820-4180
5,000	4820-5180



Tachometer Off-Vehicle Inspection

Remove the tachometer from the meter assembly and measure the resistance value and the current consumption between each terminal.

Tachometer Resistance

Terminal symbol \ Tester terminal	Red (+)	Black (-)	Black (-)	Red (+)
IGN - GND	IGN	GND	IGN	GND
	∞		23 - 31k	
P - GND	P	GND	P	GND
	28.8 - 35.2k		∞	

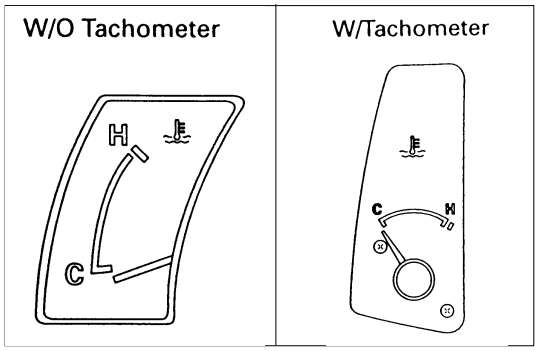
Note: Use the analog type circuit tester (range: × 1k).

Tachometer Current Consumption

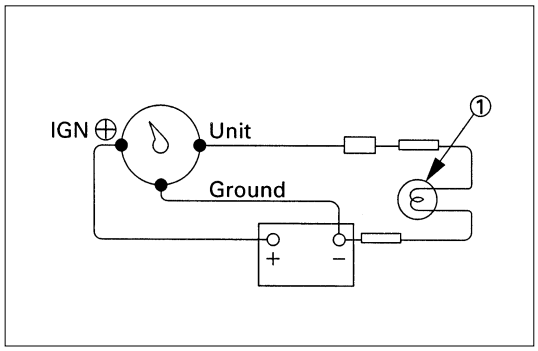
Terminal symbol	Current consumption	Remarks
IGN - GND ⊕ ⊖	90 ± 15mA (12 ± 1V when voltage applied)	No signal input

Note: 1. Use the analog type circuit tester.
2. Since the current consumption fluctuates as the source voltage varies, check to be sure that the

voltage applied is 12V ± 1V.

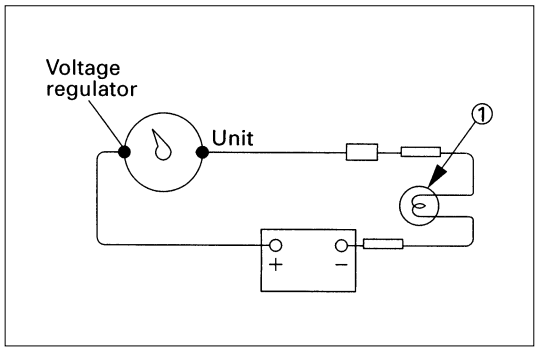


TEMPERATURE GAUGE AND THERMO UNIT



Temperature Gauge On-Vehicle Inspection

1. Disconnect the temperature gauge wire connector.
2. Connect a 3.4 Watt test bulb ① to the ground.
   The gauge needle should move the middle part of the gauge

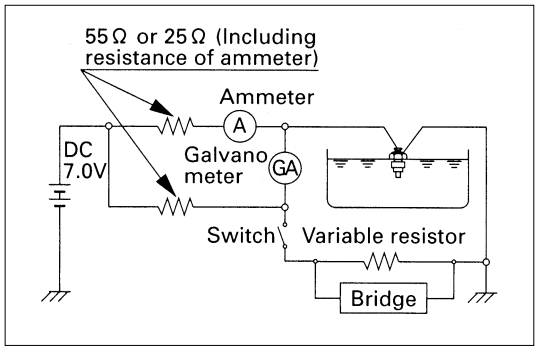


Temperature Gauge Off-Vehicle Inspection

Use a circuit tester to measure the temperature gauge resistance.

Temperature Gauge Resistance Ω

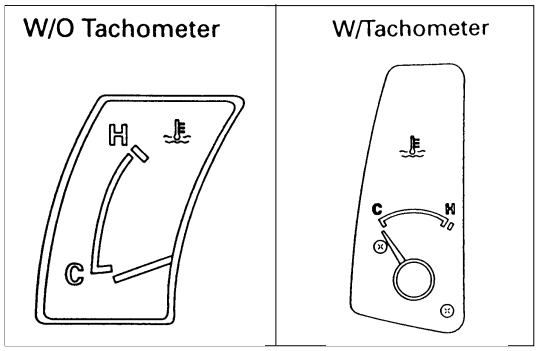
Measuring Point	Standard	
	With Tachometer	Without Tachometer
IGN (+) - Ground	130	-
IGN (+) - UNIT	82	-
UNIT - Ground	212	-
VOLTAGE REGULATOR - UNIT	-	25



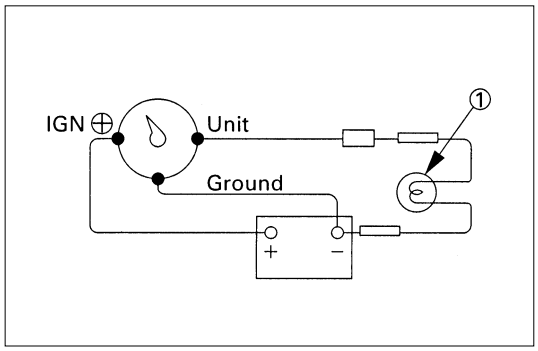
Thermo Unit Inspection

The thermo unit is thermistor type and must be inspected under the conditions as shown in the left chart.

1. Put the deviation of the galvanometer to 0 by using the variable resistor, switch the thermo unit off and then measure the resistance of the resistor through the bridge.
   Confirm that the resistance is continuously variable in any other points than those shown in the following table.
2. Dip the thermo unit into 80 - 90°C (176 - 194°F) water and confirm that there is no bubble continuously coming out of inside of the unit.
   Replace the unit when the result of inspection is found abnormal.

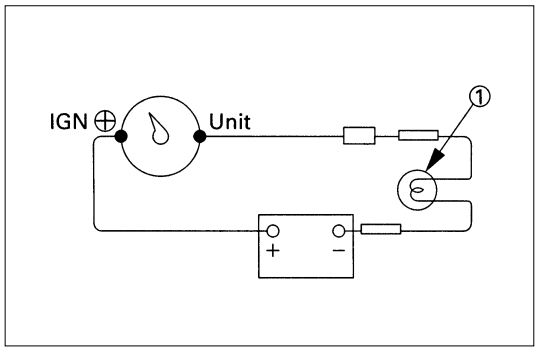


FUEL GAUGE AND TANK UNIT



Fuel gauge On-Vehicle Inspection

1. Disconnect the fuel gauge wire connector.
2. Connect a 3.4 Watt test bulb ① to the ground.
   The gauge needle should more the middle part of the gauge.

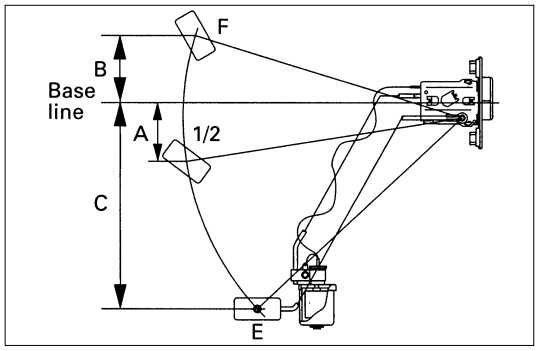


Fuel Gauge Off-Vehicle Inspection

Use a circuit tester to measure the fuel gauge resistance.

Fuel Gauge Resistance Ω

Measuring Point	Standard	
	With Tachometer	Without Tachometer
IGN (+) - Ground	223	110
IGN (+) - 7V		(0)
IGN (+) - UNIT	83	25
Ground - 7V		110
Ground - UNIT	140	135
7V - UNIT		25

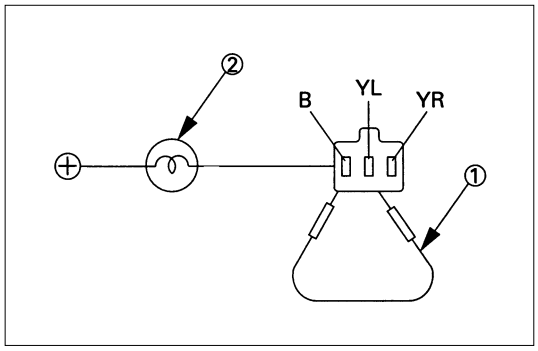


Fuel Tank Unit Inspection

Measure the fuel tank unit resistance between the connector terminals 1 F-1 and 3 F-1 while shifting the float from “E” to “F” point.

Fuel Tank Resistance

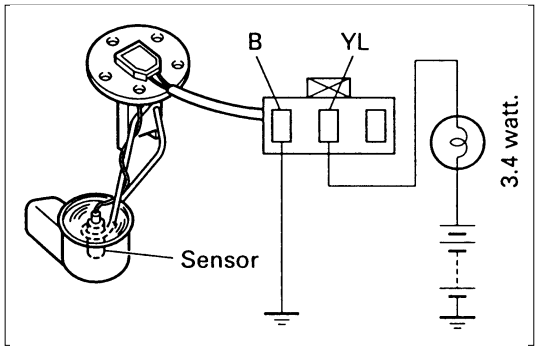
Level	Float position mm	Standard resistance Ω
F (B)	51.7	17 ± 2.1
1/2 (A)	49.4	45 ± 4.5
E (C)	166.9	120 ± 6.5



Low Fuel Indicator Light Inspection

1. Disconnect the fuel tank unit wire connector.
2. Connect between terminal (YL) and (B).
3. Turn the key switch on. Check that the bulb lights.

If operation is not correct, remove and check the bulb or circuit.



Check level sensor operation

1. Remove the fuel tank unit.
2. Apply battery voltage between terminal (YL) and (B) through a 3.4 watt bulb. Check that the bulb lights.

Note:
It will take a short time for the bulb light.

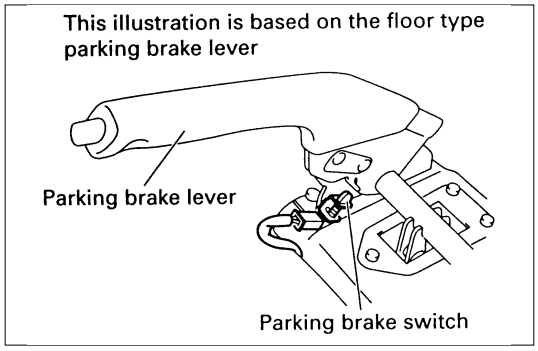
3. Submerge the sensor in fuel. Check that the bulb goes out.

If operation is not correct, replace the fuel tank unit.

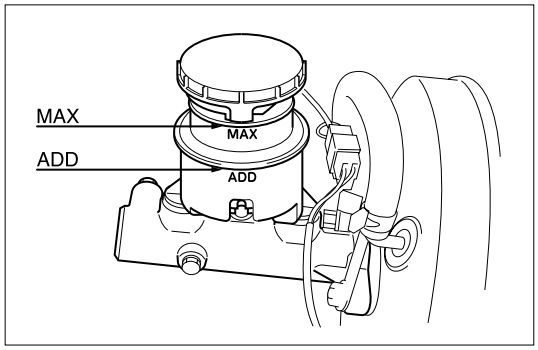
BRAKE SYSTEM WARNING LIGHT

The brake system warning light comes on while the parking brake is set and the starter key is ON position.

Note:
The parking brake indicator light circuit is designed to prevent driving of the vehicle with the parking brake on. It does not indicate the condition of the parking brake system.

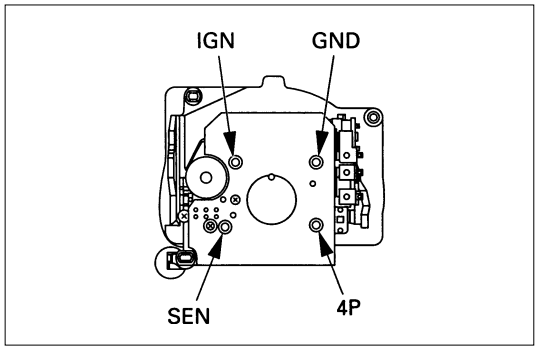


The parking brake switch is in parallel with the brake fluid switch.



The brake system warning light also comes on when reservoir brake fluid level falls below the specified limit with the parking brake released and the starter switch is ON position.

VEHICLE SPEED SENSOR (INCORPORATED IN THE SPEEDOMETER)



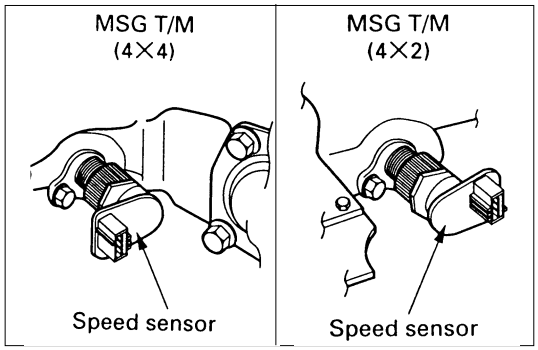
Vehicle Speed Sensor Inspection

Remove the speedometer from the meter assembly and measure the resistance value between the terminals.

Speed Sensor Resistance

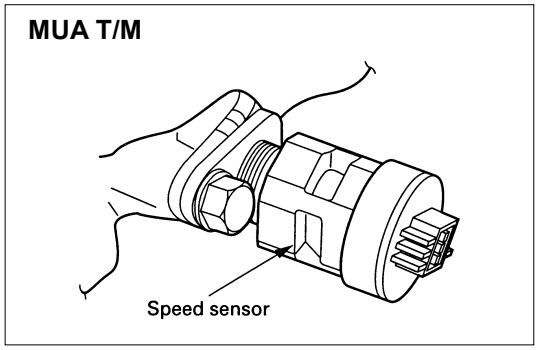
Tester terminal / Terminal symbol	Red (+)	Black (-)	Black (-)	Red (+)
4P - GND	4P	GND	4P	GND
	13.5 - 16.5k		∞	

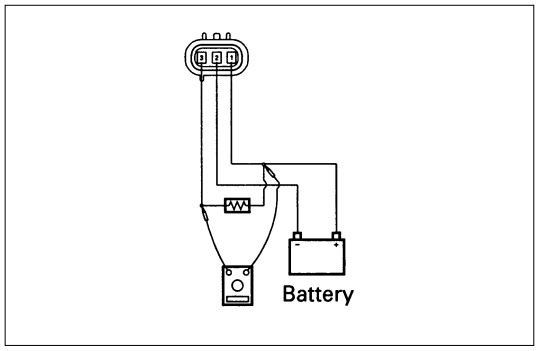
Note: Use the analog type circuit tester.



VEHICLE SPEED SENSOR (INSTALLED ON THE TRANSMISSION)

The speed sensor is installed on the rear portion of the transmission.
The number of pulses generated is four pulses per one rotation of the pinion shaft.





Vehicle Speed Sensor Inspection

1. Connect the vehicle speed sensor connector 1 M-10 (Diesel engine: 1 E-44) to the battery (+) terminal and 2 M-10 (Diesel engine: 2 E-44) to the (-) terminal.
2. Connect a resistance of 1.3K ohm to 5K ohm (1/4 W or more) between connectors 1 M-10 (Diesel engine: 1 E-44) and 3 M-10 (Diesel engine: 3 E-44)

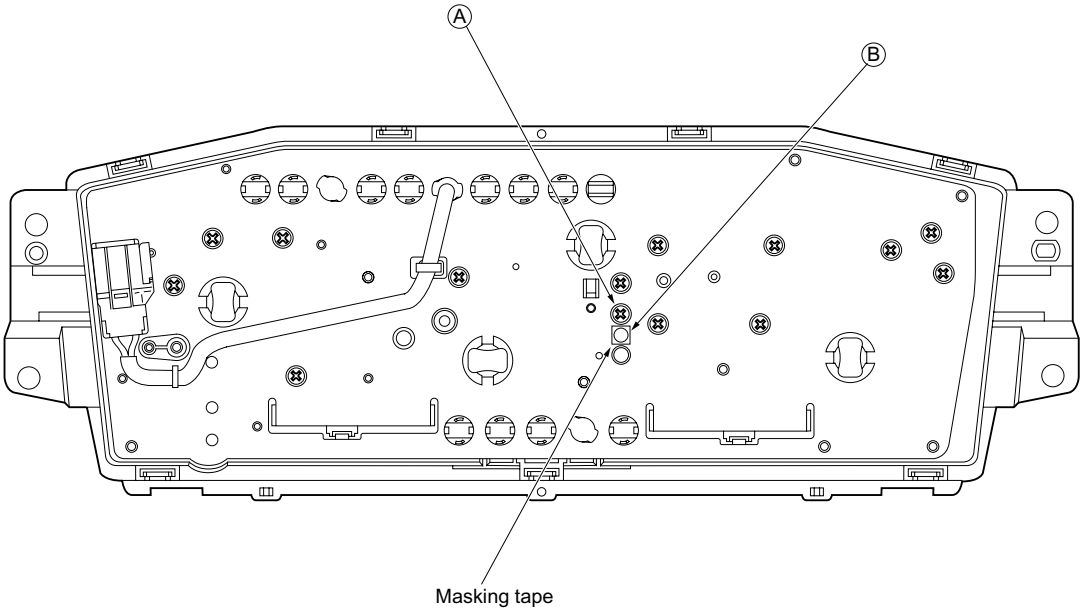
CAUTION:
Be extremely careful not to connect the battery (+) terminal to the connector 3 M-10 (Diesel engine: 3 E-44). This may damage the vehicle speed sensor.

3. Rotate the shaft of the vehicle speed sensor slowly and measure the voltage at the both ends with a digital tester.

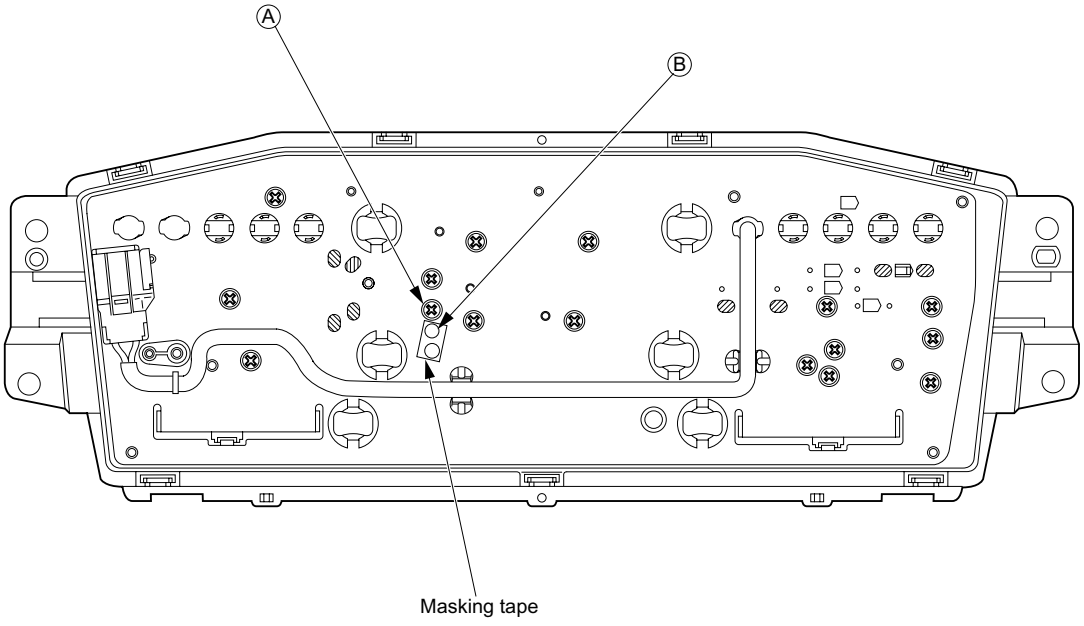
The voltage, with one rotation of shaft fluctuates four times in the following range: 10 to 14V - 2V or less.

Timing Belt Indicator Light Reset Procedure (4 Diesel Engine)

W/ Tachometer



W/O Tachometer



Timing belt must be replaced after 100,000 km of vehicle operation.
When the odometer reading reaches 100,000 km, the timing belt indicator light will turn on to remind the driver to change the timing belt.
After replacing the timing belt, the timing belt indicator light must be reset to remind the driver to replace the timing belt after the next 100,000 km.

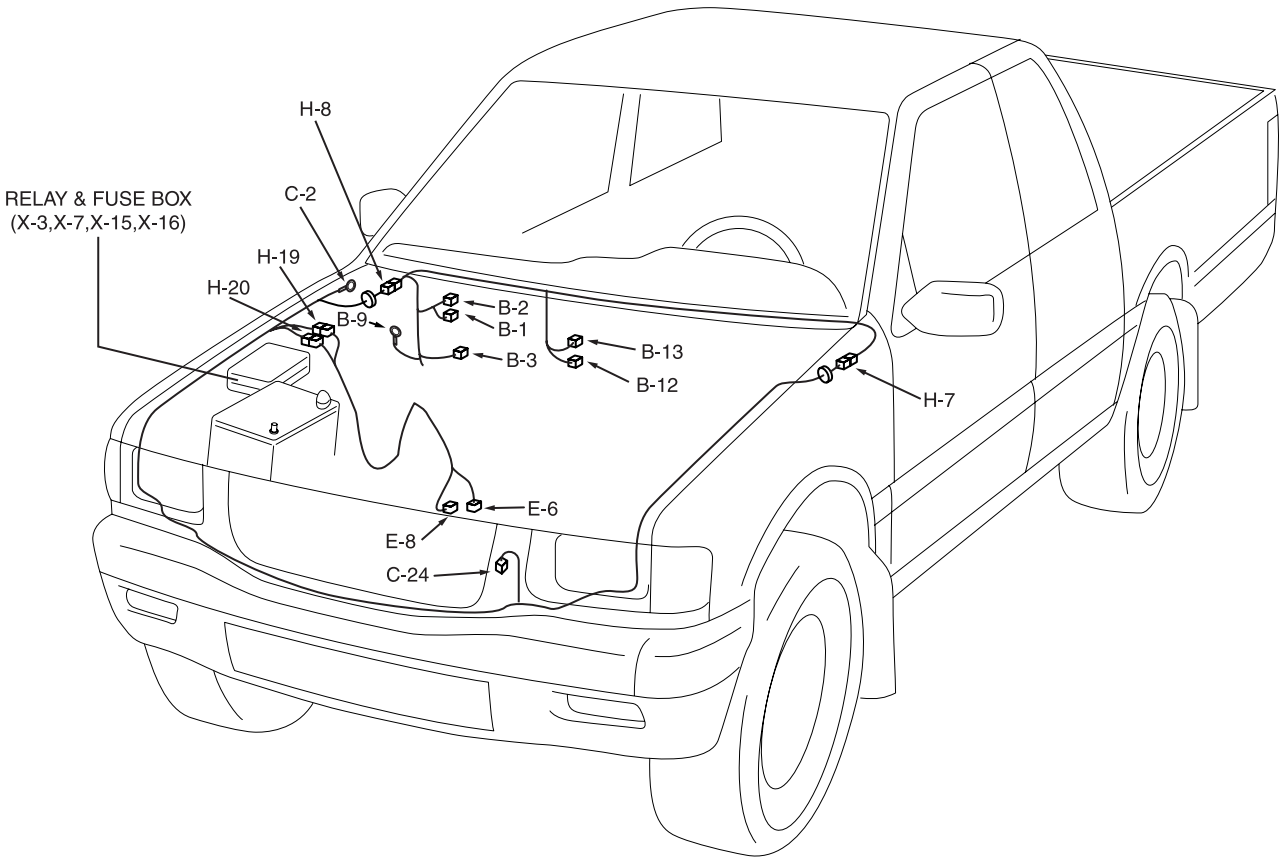
Timing Belt Indicator Light Reset Procedure

1. Remove the masking tape from the hole Ⓑ.
2. Remove the screw from the hole Ⓐ and install it to the hole Ⓑ.
3. Apply new masking tape to the hole Ⓐ.

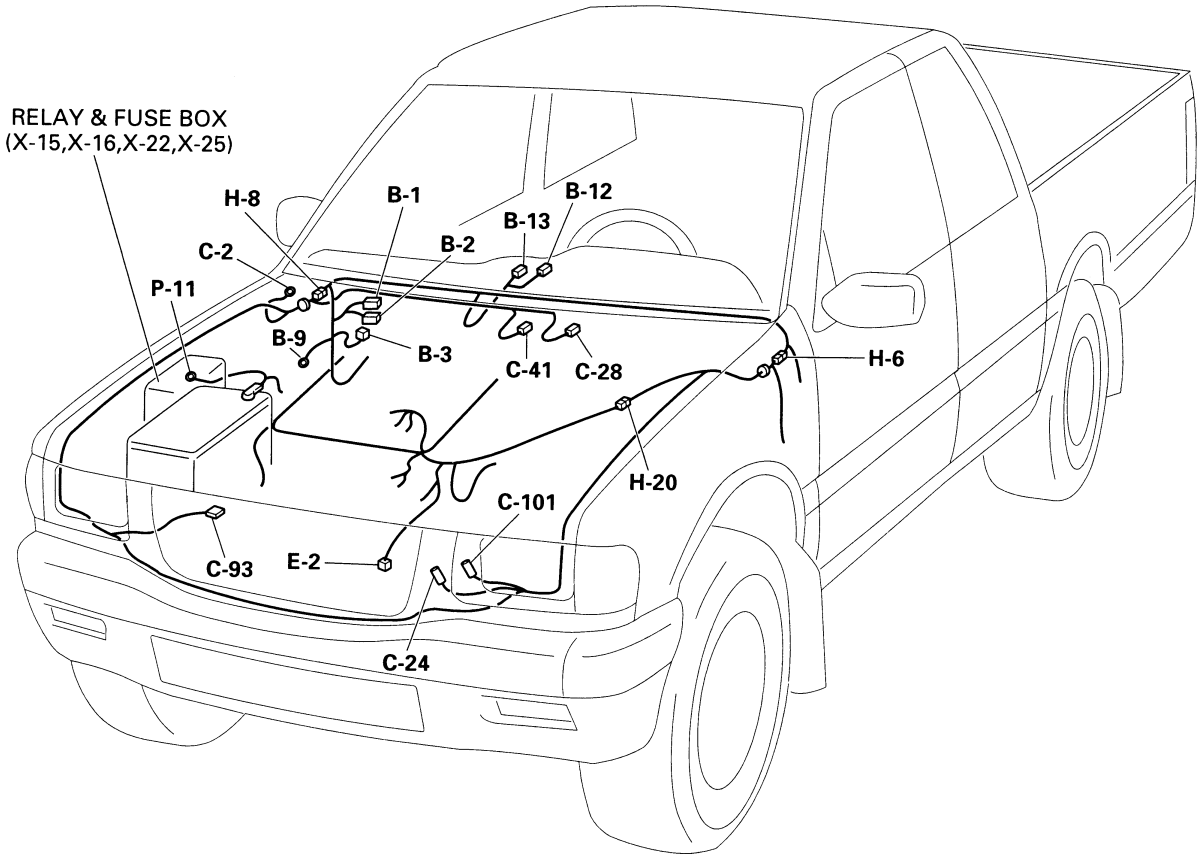
Note:
The above procedure assumes that the timing belt is being replaced for the first time (after 100,000 km).
For subsequent reset procedure (at next 100,000 km), hole positions will be the opposite of the above procedure.

HEATER AND AIR CONDITIONING

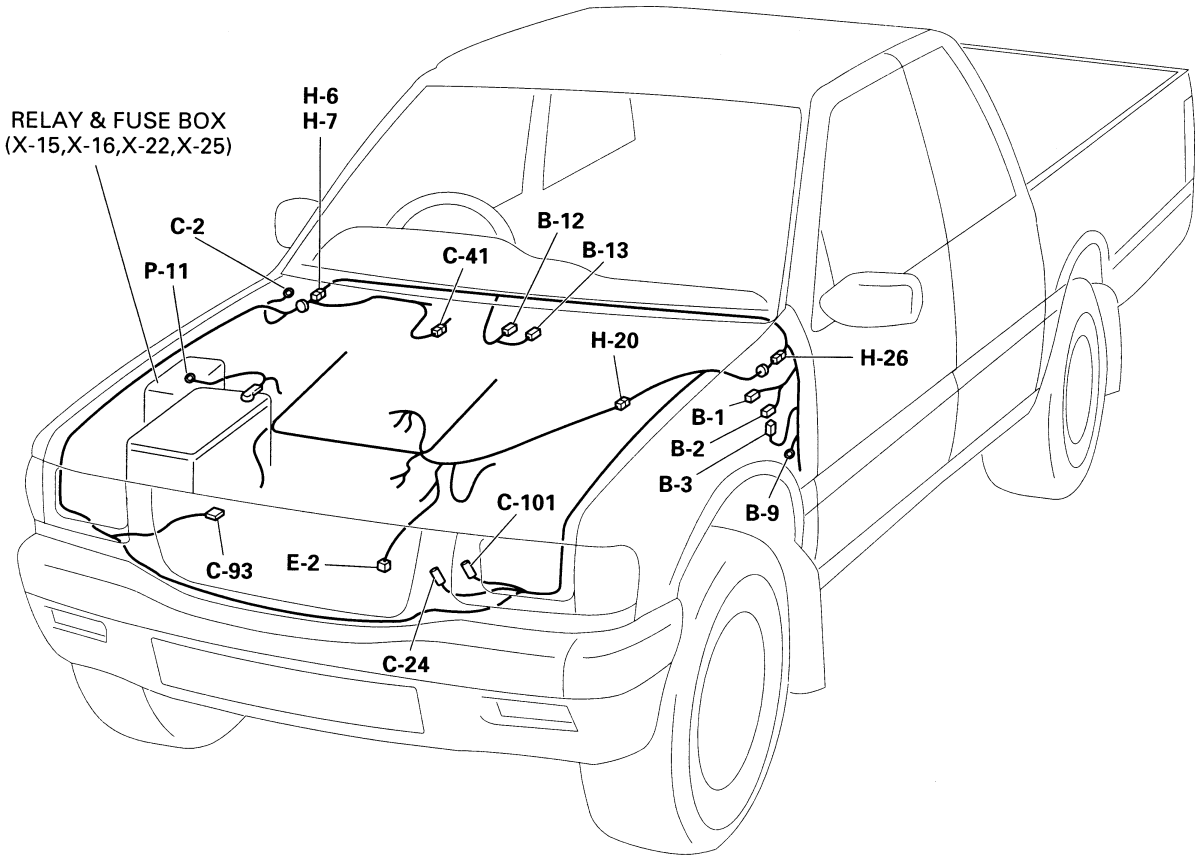
PARTS LOCATION (LHD EXCEPT EC)



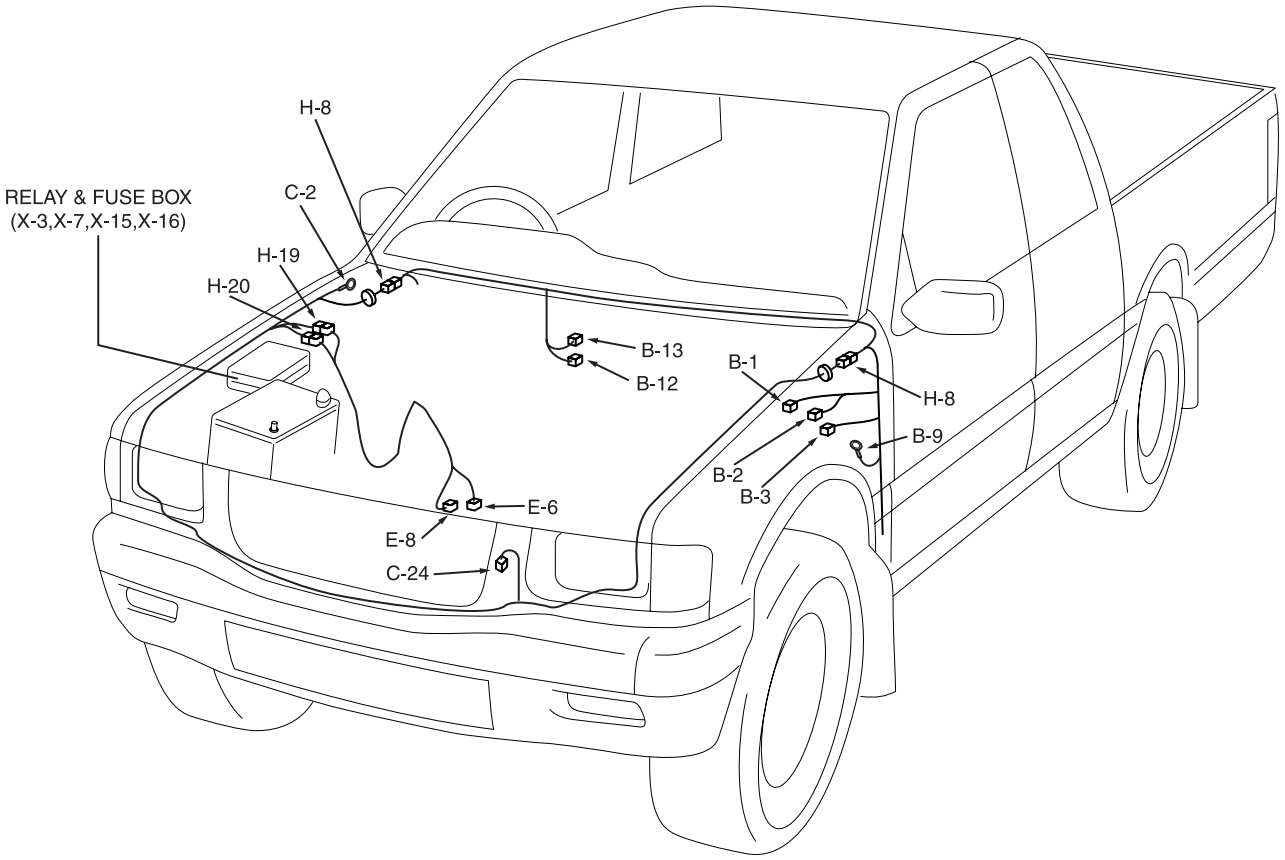
PARTS LOCATION (6VD1-LHD)



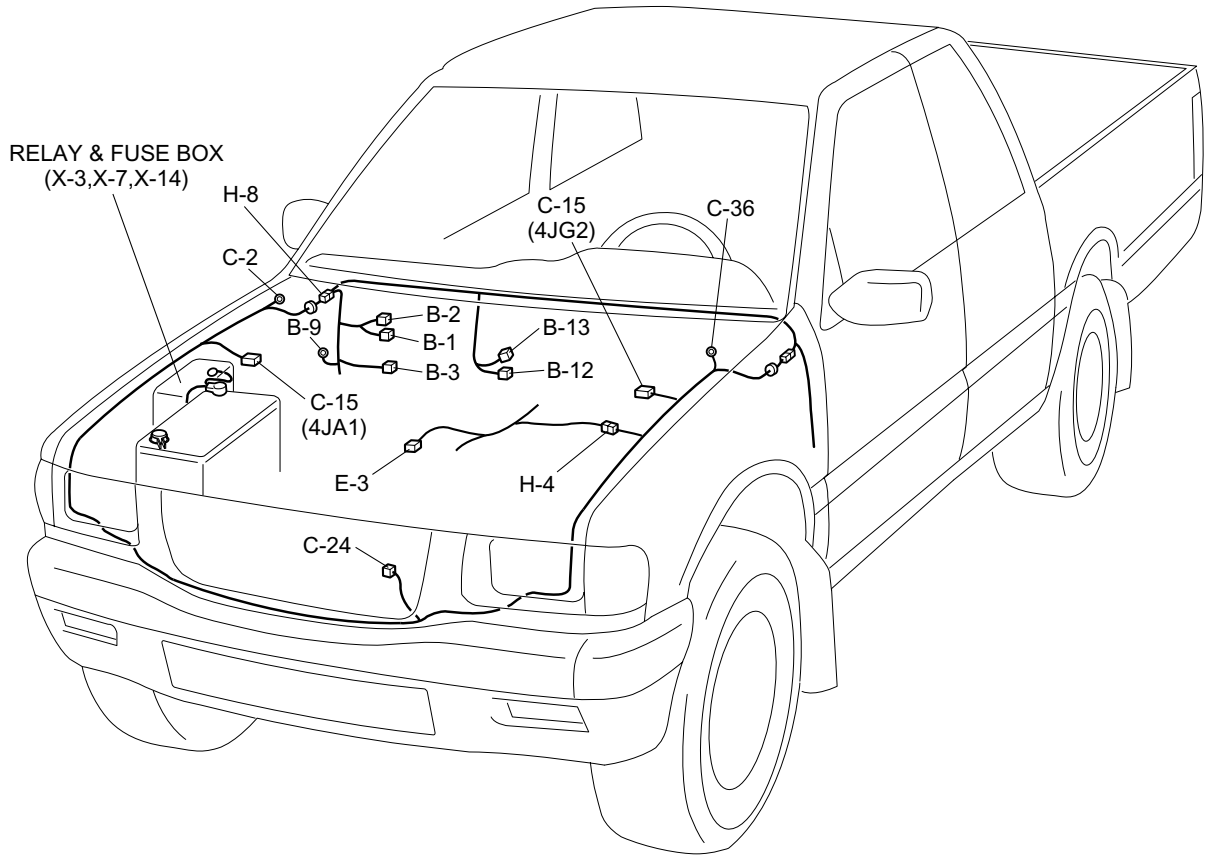
PARTS LOCATION (6VD1-RHD)



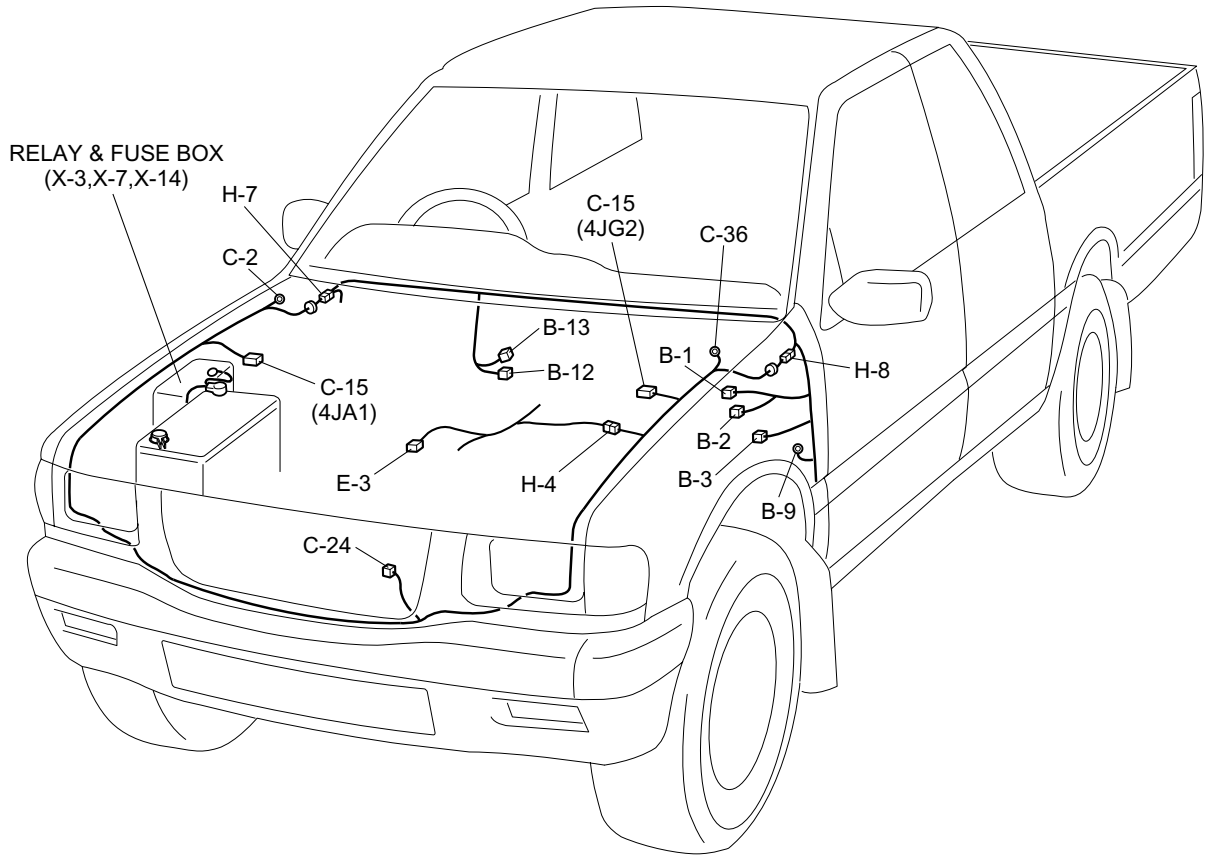
PARTS LOCATION (RHD EXCEPT UK)



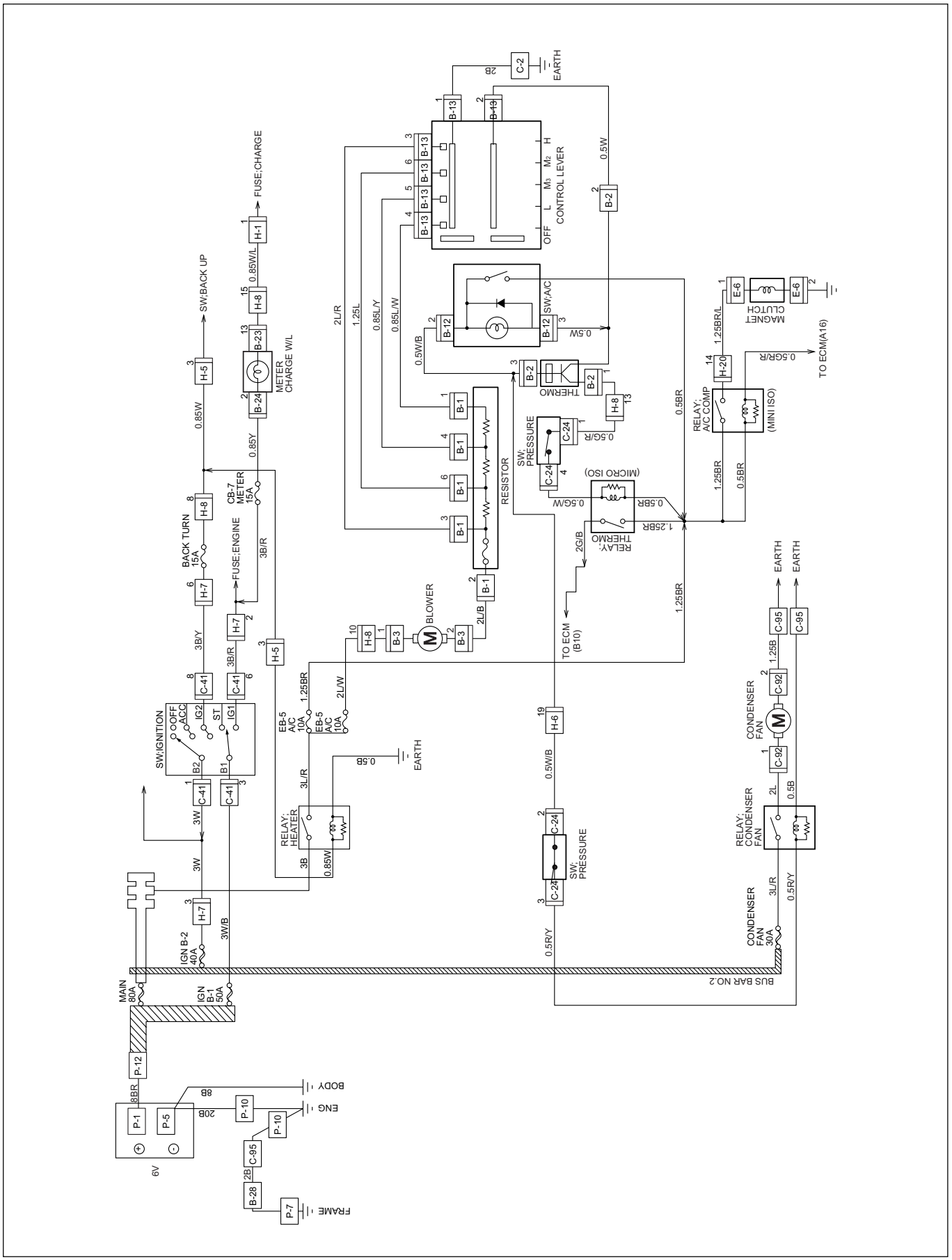
PARTS LOCATION (EC-LHD)



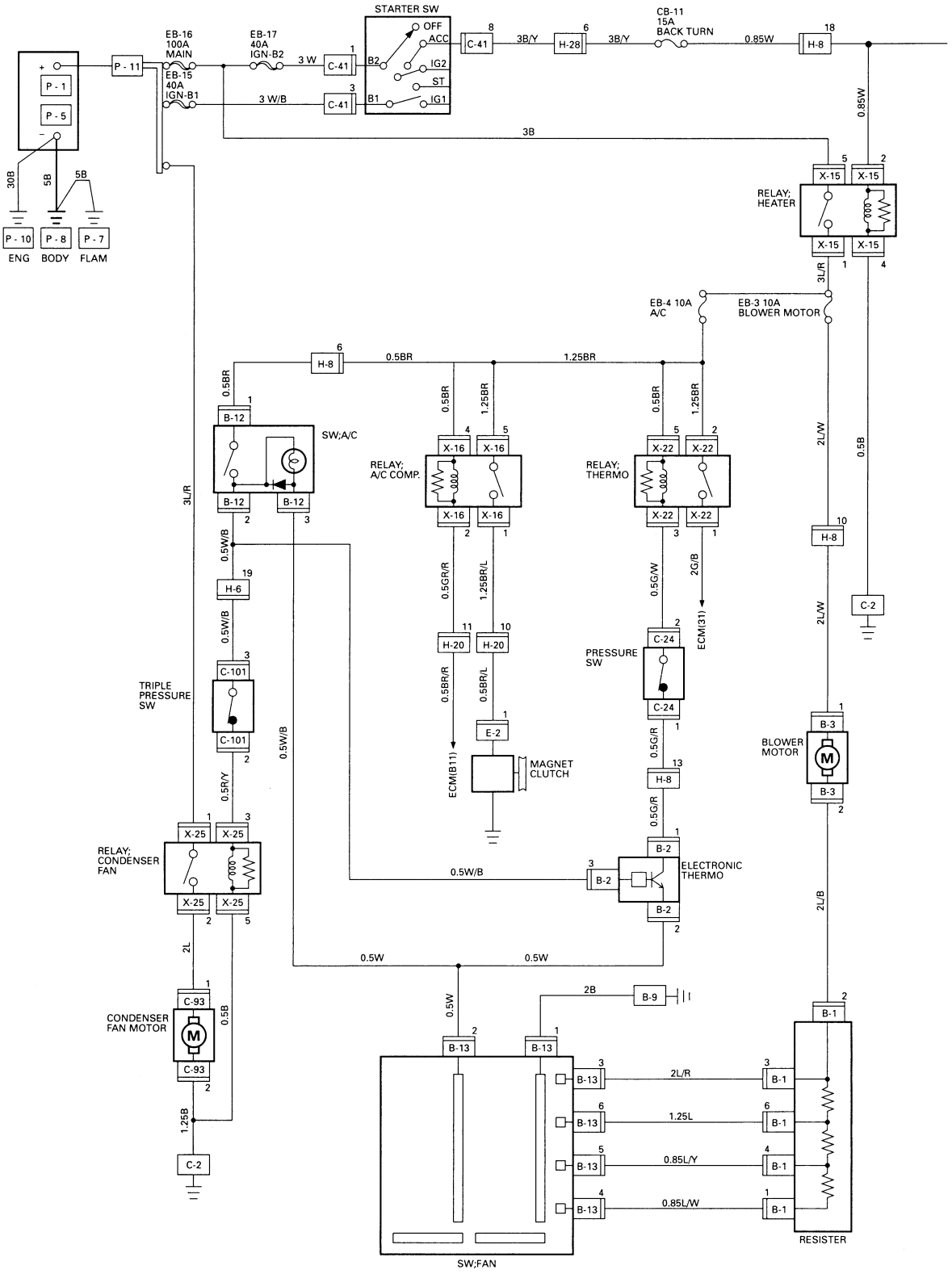
PARTS LOCATION (UK)



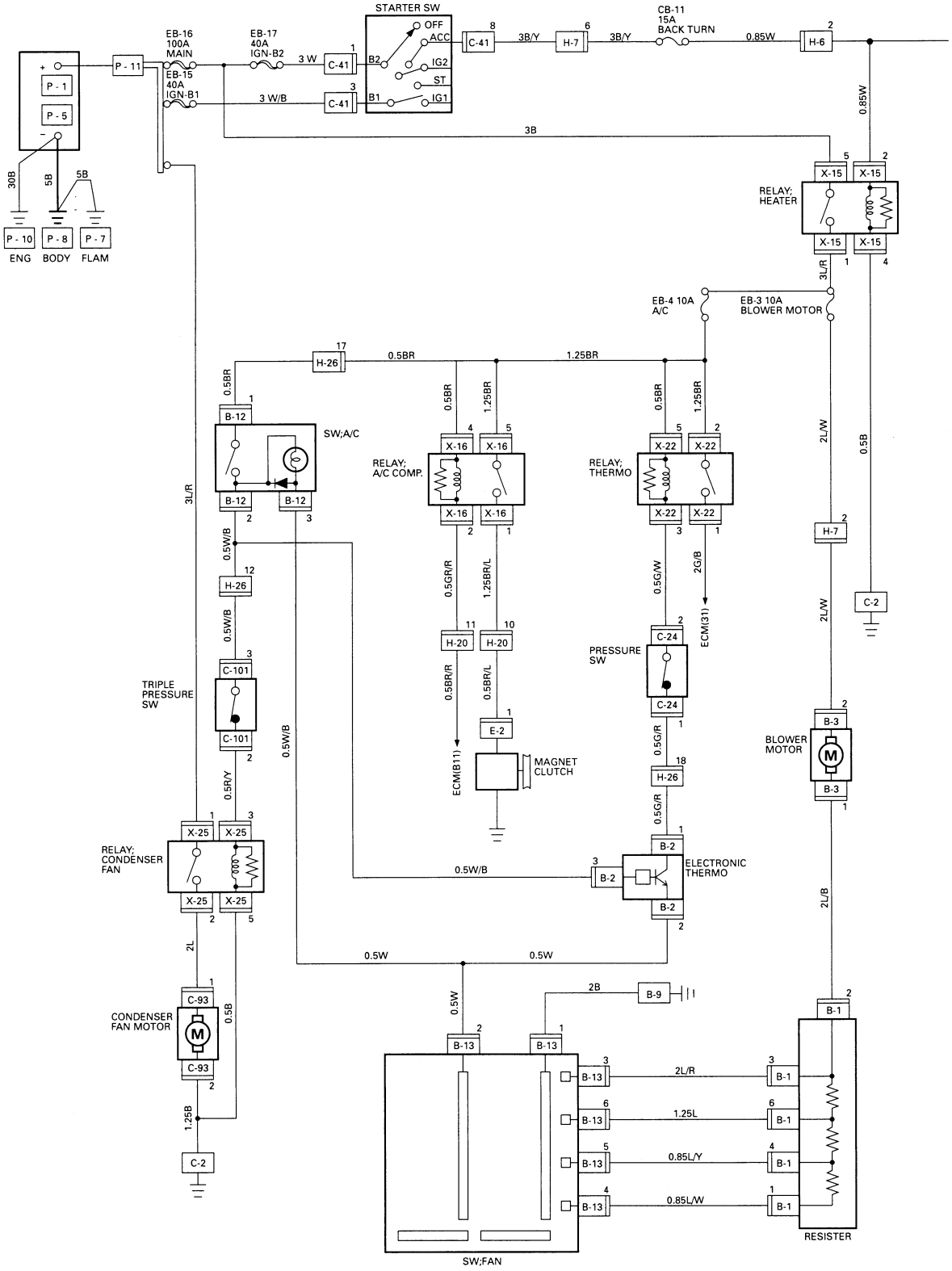
CIRCUIT DIAGRAM (LHD EXCEPT EC)



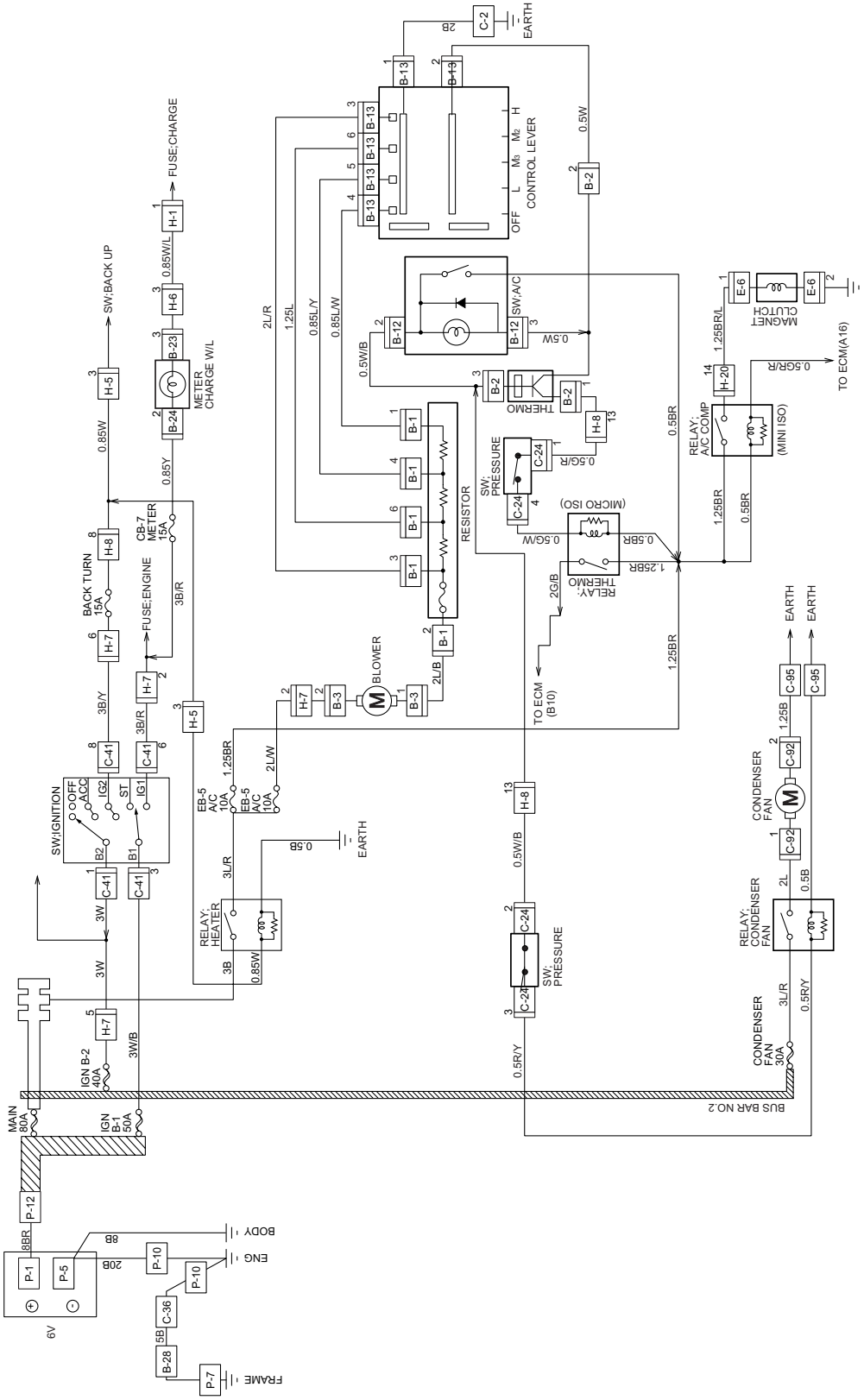
CIRCUIT DIAGRAM (GASOLINE ENGINE 6VD1-LHD)



CIRCUIT DIAGRAM (GASOLINE ENGINE 6VD1-RHD)

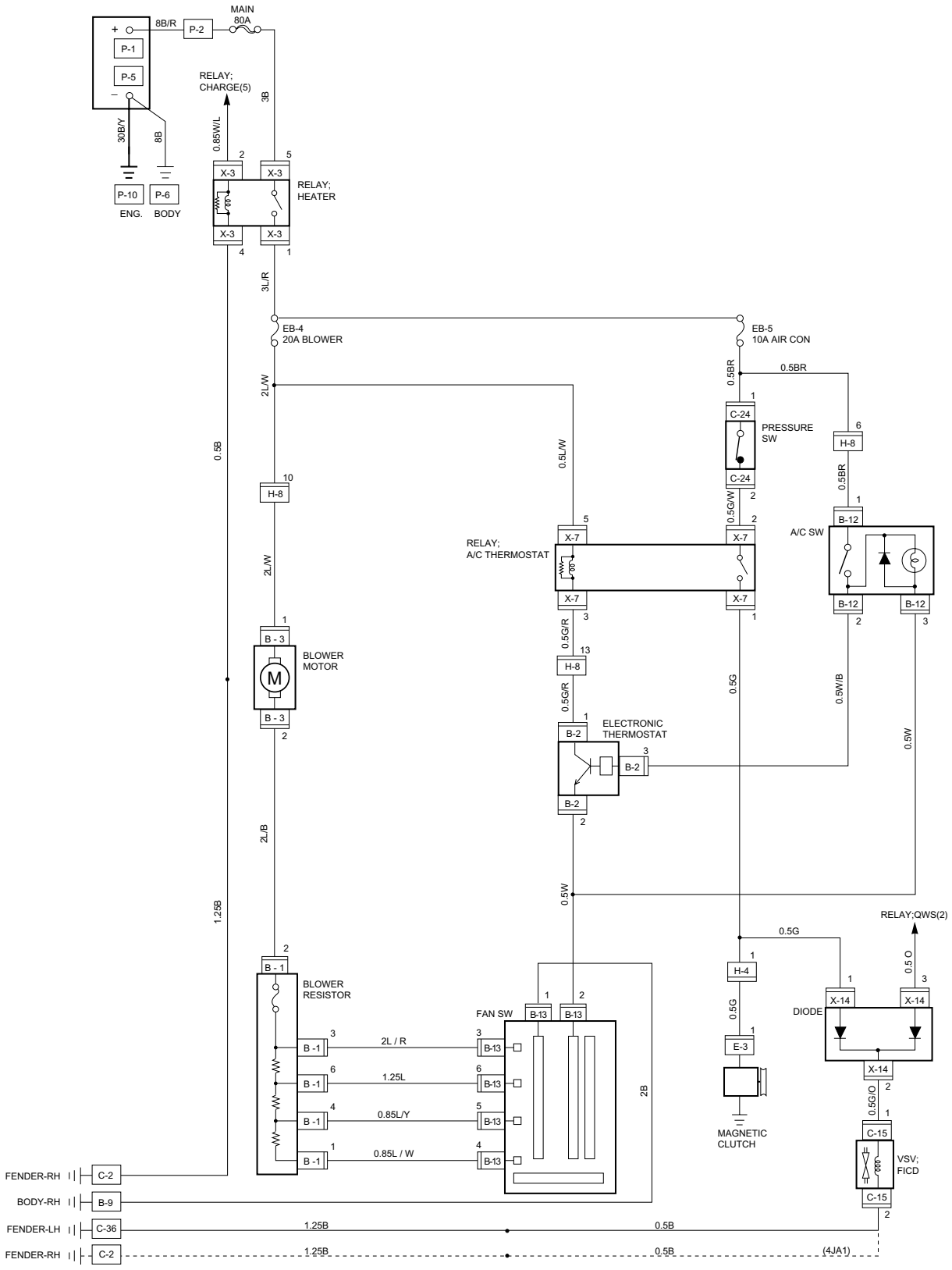


CIRCUIT DIAGRAM (RHD EXCEPT UK)



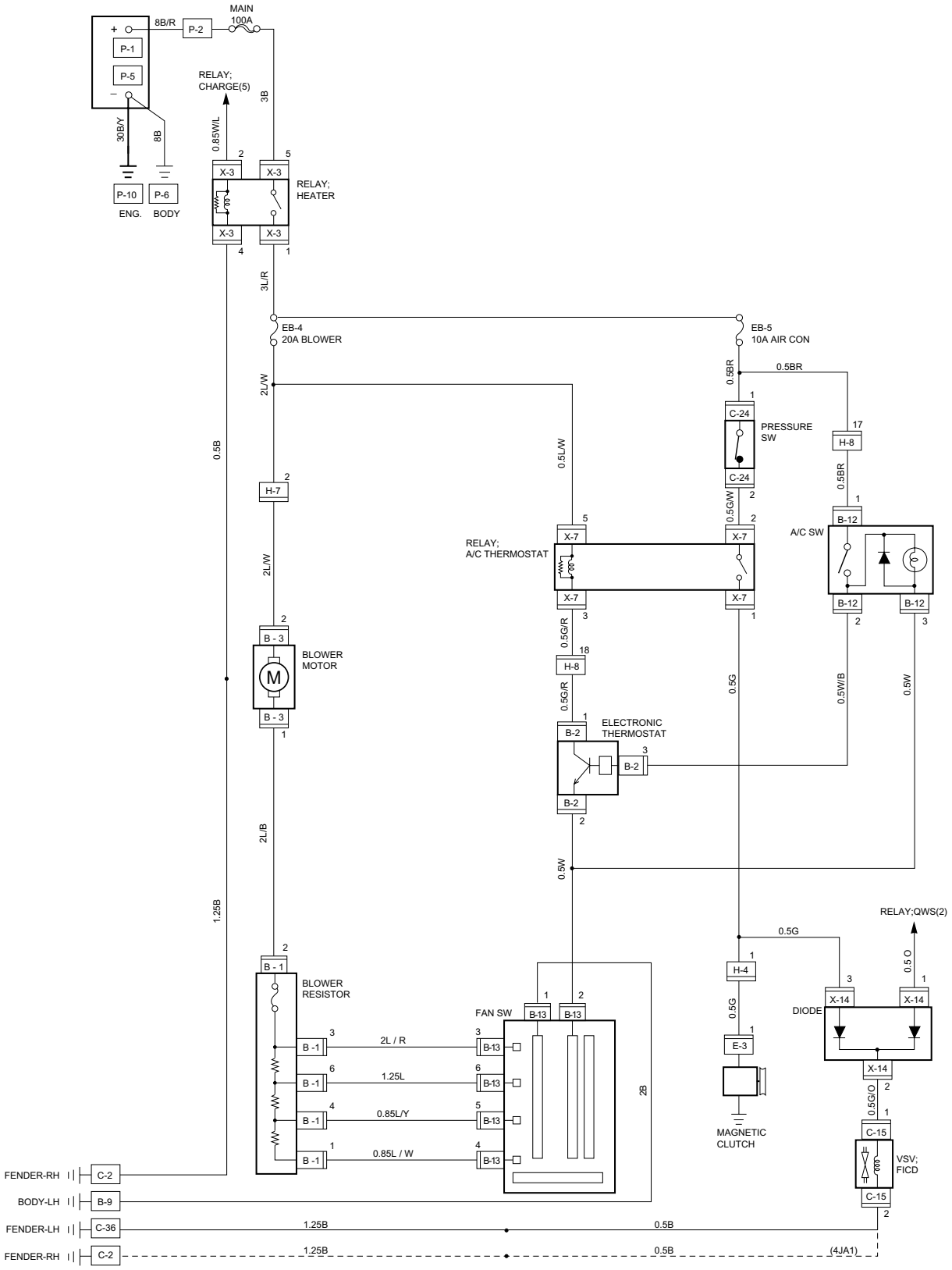
Removal and Installation : Refer to “HEATING AND AIR CONDITIONING” Section of this manual.

CIRCUIT DIAGRAM (EC-LHD)



Removal and Installation : Refer to “HEATING AND AIR CONDITIONING” Section of this manual.

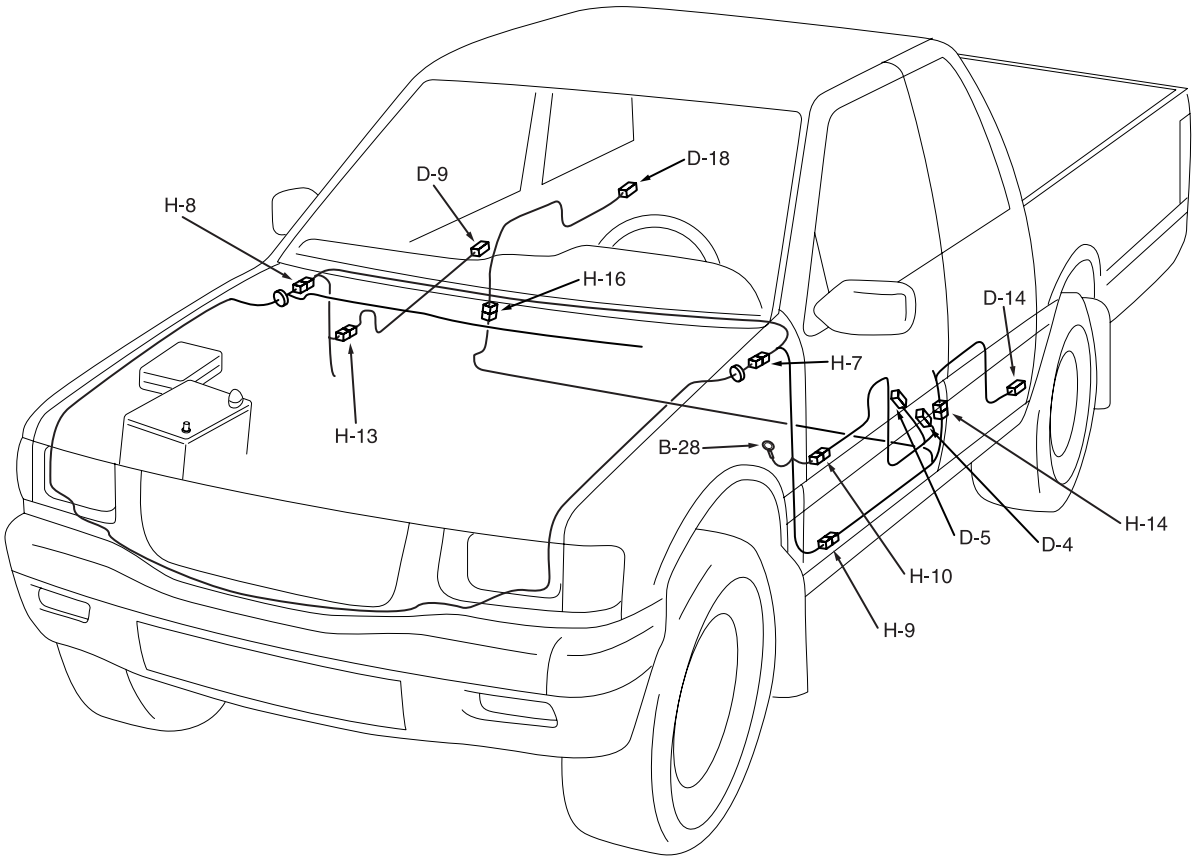
CIRCUIT DIAGRAM (UK)



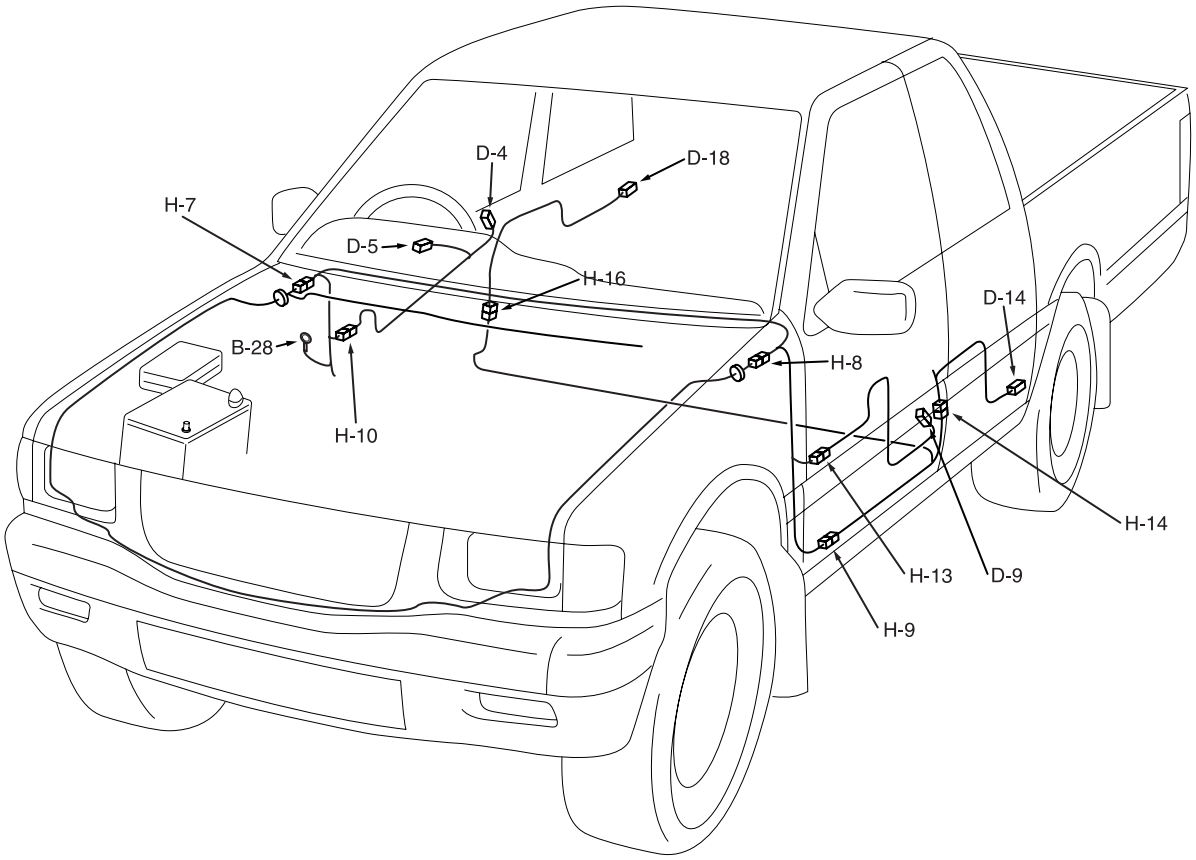
Removal and Installation : Refer to “HEATING AND AIR CONDITIONING” Section of this manual.

POWER DOOR LOCK

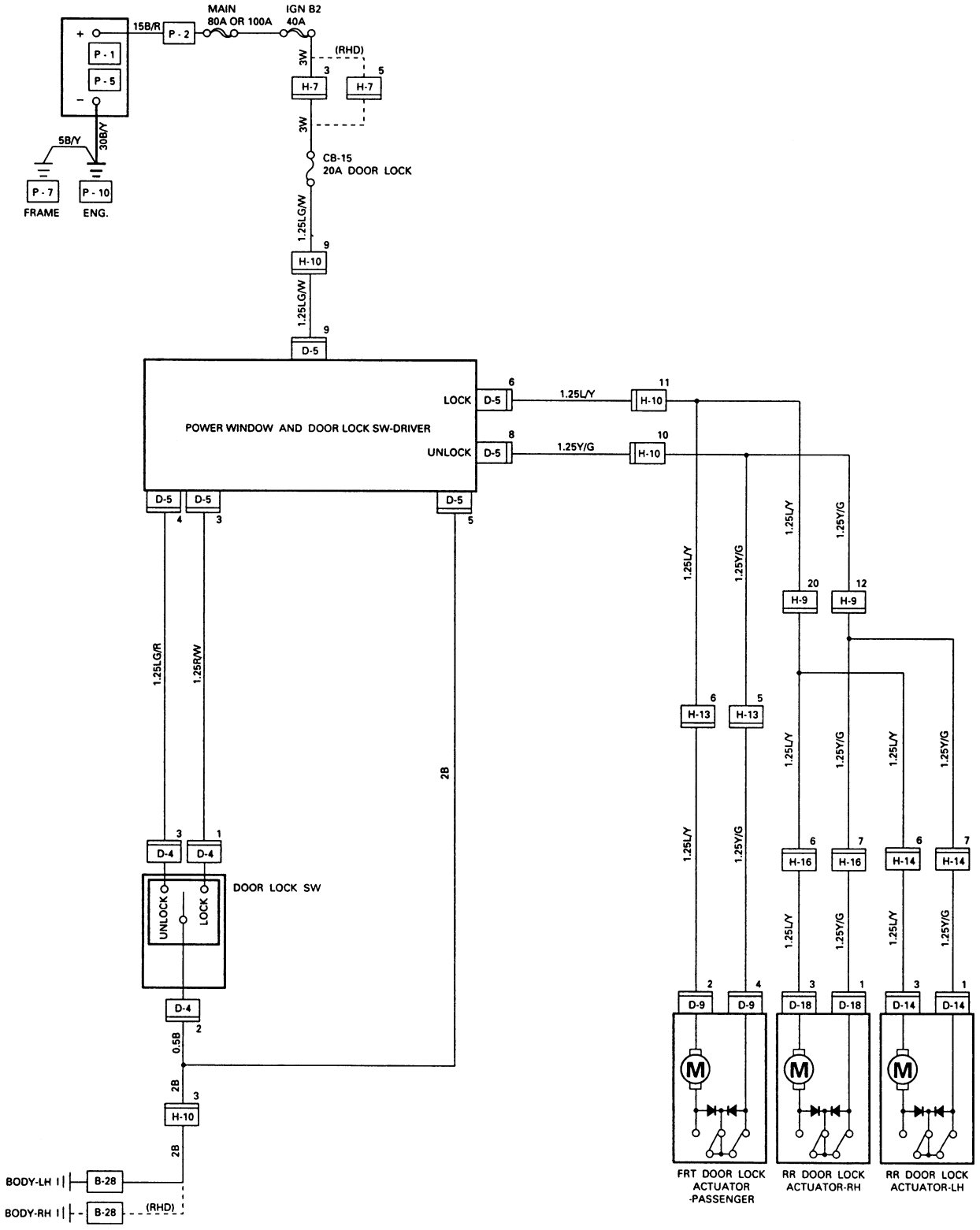
PARTS LOCATION (LHD)



PARTS LOCATION (RHD)



CIRCUIT DIAGRAM



TROUBLE SHOOTING

QUICK CHART FOR CHECK POINTS

Check Points / Trouble Mode	Fuse CB-15 (20A)	Power Window & Door Lock Switch	Door Lock Switch	Door Lock Actuator			Cable Harness
		Driver's side	Driver's side	Passenger's side	RR-RH	RR-LH	
1. All the doors do not lock and unlock	○	○					○
2. All the doors do not get locked (or unlocked)		○					○
3. Driver's side door does not get locked (or unlocked)			○				○
4. FRT passenger's side door does not get locked (or unlocked)				○			○
5. RR door-RH does not get locked (or unlocked)					○		○
6. RR door-LH does not get locked (or unlocked)						○	○
7. Door lock does not operate when operating from the driver's seat side			○				○

1. All the doors do not lock and unlock

Checkpoint		Trouble Cause	Countermeasure
Fuse No. CB-15 (20A, Fuse box)	NG	Poor fuse contact or blown	Reinstall or replace the fuse No. CB-15 (20A)
OK			
Grounding point (B-28)	NG	Poor grounding point contact	Repair grounding point (B-28) contact
OK			
Voltage between the driver's side power window & door lock SW harness side connector terminal 9 D-5 and the ground (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Continuity between 5 D-5 and B-28	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Driver's side power window & door lock SW. function	NG	SW. malfunction	Replace the driver's side power window & door lock SW.

2. All the doors do not get locked (or unlocked)

Continuity between the driver's side power window & door lock SW harness side connector terminals 6 D-5 and 8 D-5	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Driver's side power window & door lock SW. function	NG	SW. malfunction	Replace the driver's side power window & door lock SW.

3. Driver's side door does not get locked (or unlocked)

Checkpoint		Trouble Cause	Countermeasure
Door lock SW. function	NG	SW. malfunction	Replace the door lock SW.

4. FRT passenger's side door does not get locked (or unlocked)

FRT passenger's side door lock actuator function	NG	Actuator malfunction	Replace the FRT passenger's side door lock actuator

5. RR door-RH does not get locked (or unlocked)

RR door lock actuator-RH function	NG	Actuator malfunction	Replace the RR door lock actuator-RH

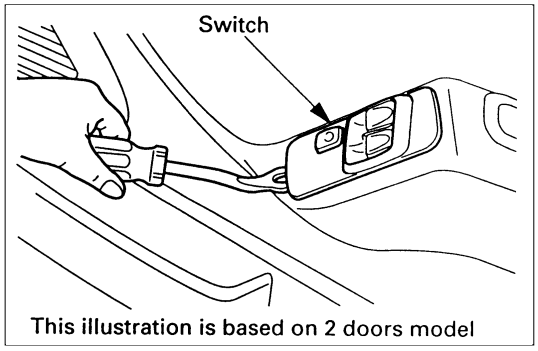
6. RR door-LH does not get locked (or unlocked)

RR door lock actuator-LH function	NG	Actuator malfunction	Replace the RR door lock actuator-LH

7. Door lock does not operate when operated from the driver's seat side

Grounding point (B-28)	NG	Poor grounding point contact	Repair grounding point (B-28) contact
OK			
Continuity between the door lock SW. side connector terminals 1 D-4 and 2 D-4 when the SW is locked and between is unlocked 3 D-4 and 2 D-4 when the SW.	NG	SW. malfunction	Replace the door lock SW.

REMOVAL AND INSTALLATION



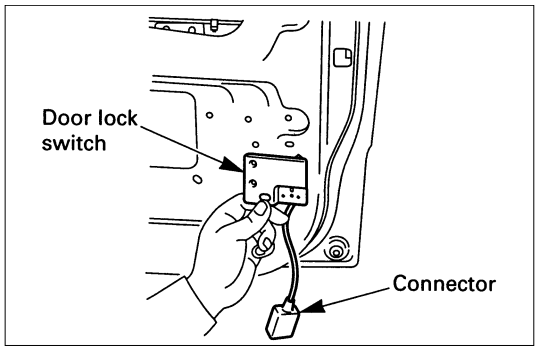
DRIVER SEAT SIDE POWER WINDOW & DOOR LOCK SWITCH

Removal

1. Remove the switch by pushing the spring with the tip of a screwdriver.
2. Disconnect the connector.

Installation

To install, follow the removal steps in the reverse order.



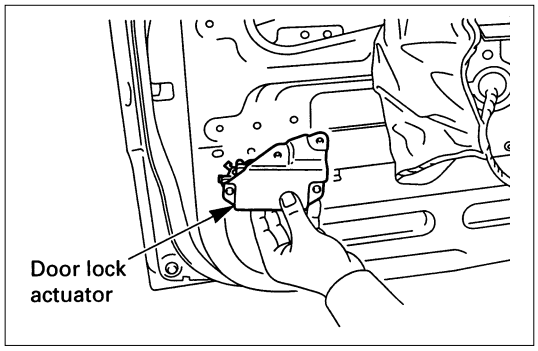
DRIVER'S SIDE DOOR LOCK SWITCH

Removal

1. **Door Lock ASM**
   - Refer to the removal steps of the DOORS in section 10 "BODY".
2. **Door Lock Switch**

Installation

To install, follow the removal steps in the reverse order.



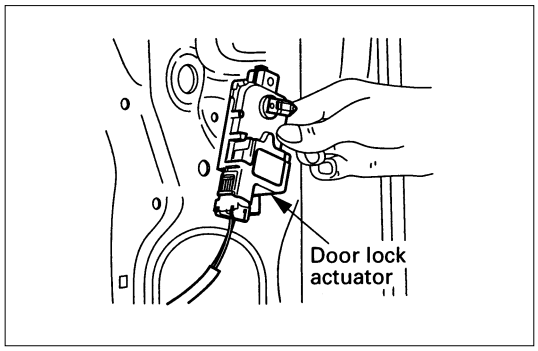
FRT PASSENGER'S SIDE DOOR LOCK ACTUATOR

Removal

1. **Door Lock ASM**
   - Refer to the removal steps of the DOORS in Section 10 "BODY".
2. **Door Lock Actuator**
   - Remover the actuator fixing bolts.
   - Disconnect the door lock link rod.
   - Disconnect the actuator connector.

Installation

To install, follow the removal steps in the reverse order.



RR DOOR LOCK ACTUATOR-LH & RH

Removal

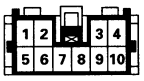
1. **Door Lock ASM**
   - Refer to the removal steps of the DOORS in section 10 "BODY".
2. **Door Lock Actuator**
   - Remove the actuator fixing bolts.
   - Disconnect the door lock link rod.
   - Disconnect the actuator connector.

Installation

To install, follow the removal steps in the reverse order.

INSPECTION AND REPAIR

D-5



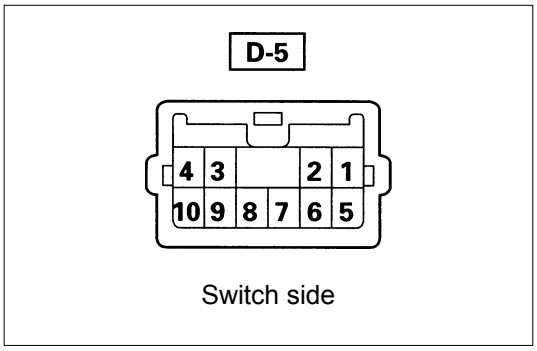
Harness side

Driver Seat Side Power Window & Door Lock Switch

1. Harness Side Connector Circuit

Check voltage and continuity between the switch harness side connector terminals as shown in the following table.

Terminal No.	Wire color	Connecting to	Check item	Connecting terminal	Check condition		Standard
3	R/W	Door lock SW (Lock)	Continuity (Resistance)	3-Ground	Driver seat side door	Lock	Continuity
						Unlock	No continuity
4	LG/R	Door lock SW (Unlock)		4-Ground	Driver seat side door	Lock	No continuity
						Unlock	Continuity
5	B	Ground		5-Ground	-		Continuity
6	L/Y	Door lock actuator (Lock)		6-8	-		Continuity (There is some resistance)
8	Y/G	Door lock actuator (Unlock)		8-6	-		Continuity (There is some resistance)
9	LG/W	Fuse CB-15 (20A)	Voltage	9- Ground	-		Battery voltage (Approx. 12V)

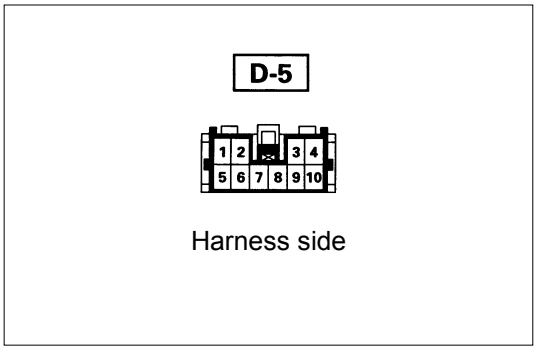


2. Switch Side Connector Circuit

Remove the switch connector, and check continuity and voltage between the switch connector terminals.

(Connect the (+) terminal of the battery to 9 D-5 and the (-) terminal to 5 D-5.)

5 D-5 - 6 D-5	Continuity
5 D-5 - 8 D-5	Continuity
(Then, ground 3 D-5.)	
6 D-5	Current flow for approx. 1 second
(Disconnect the ground of 3 D-5, and ground 4 D-5.)	
8 D-5	Current flow for approx. 1 second



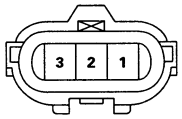
3. Door Lock Operation Test

After confirming that there is continuity between the switch harness side connector terminals 6 D-5 and 8 D-5, apply the battery voltage to each of the terminals to conduct the operation test.

When the door lock will not operate, check the door lock actuator for any trouble.

Connecting terminals		Operation
8 (Y/G)	6 (L/Y)	
⊕	⊖	Unlock
⊖	⊕	Lock

D-4



Switch side

Driver's Side Door Lock Switch

1. Switch Side Connector Circuit

Check continuity between the switch connector terminals

D-9



Actuator side

Front Passenger's Side Door Lock Actuator

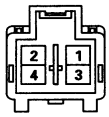
1. Actuator Side Connector Circuit

Apply the battery voltage to the actuator connector terminals to check the operation.

When the door lock actuator is checked on the vehicle and there is no continuity, and when the door lock actuator itself is checked and no trouble is found, check the circuit between the door lock actuator and the driver seat side power window & door lock switch for any failure.

Connecting terminals		Operation
2	4	
⊕	⊖	Lock
⊖	⊕	Unlock

D-14 D-18



Actuator side

Rear Door Lock Actuator -LH & RH

1. Actuator Side Connector Circuit

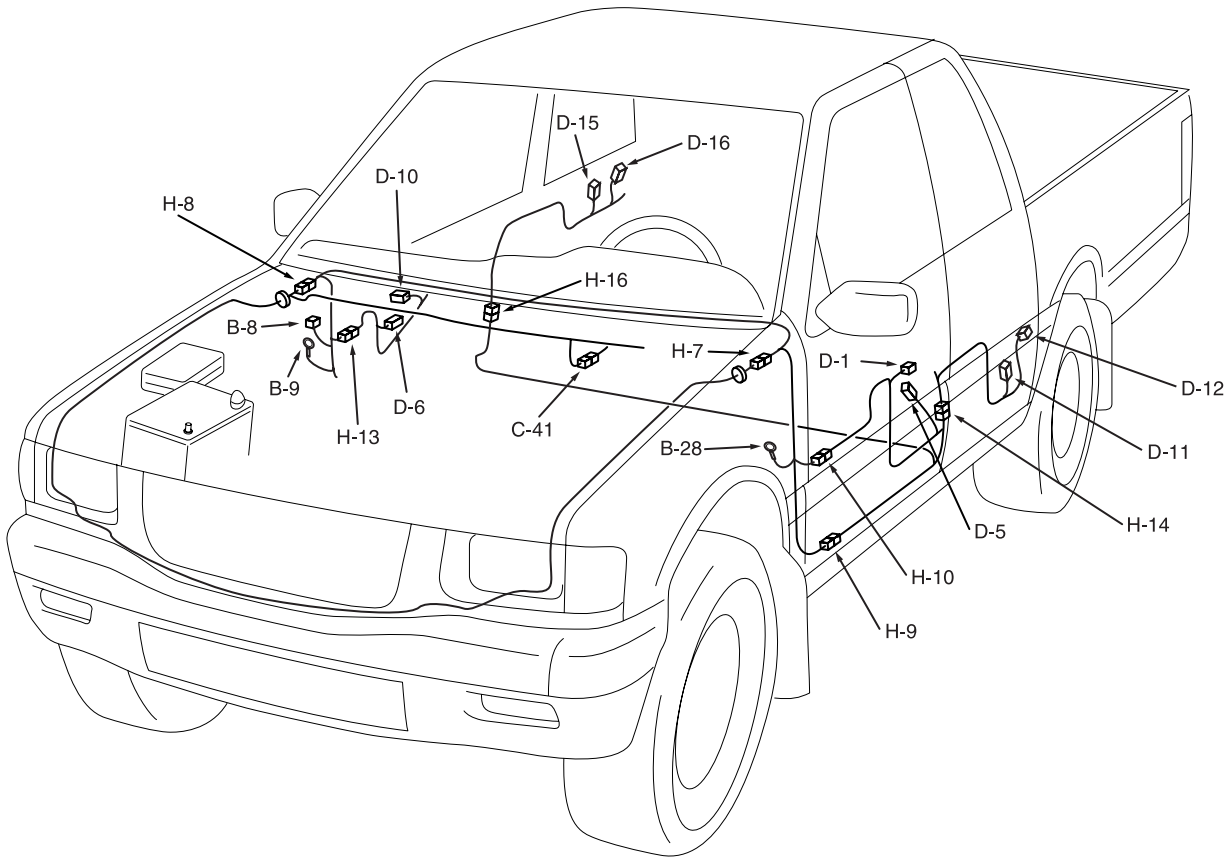
Apply the battery voltage to the actuator connector terminals to check the operation.

When the door lock actuator is checked on the vehicle and there is no continuity, and when the door lock actuator itself is checked and no trouble is found, check the circuit between the door lock actuator and the driver seat side power window & door lock switch for any failure.

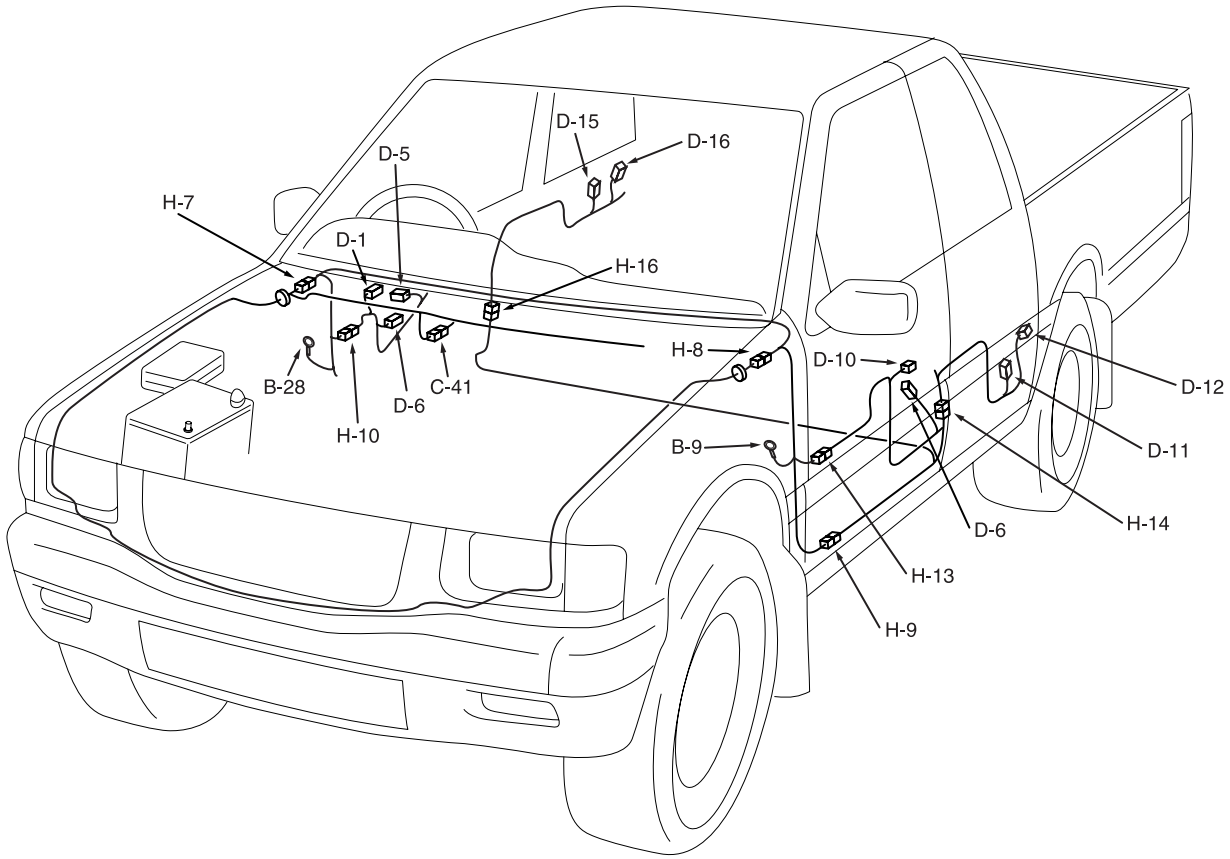
Connecting terminals		Operation
1	3	
⊖	⊕	Lock
⊕	⊖	Unlock

POWER WINDOW

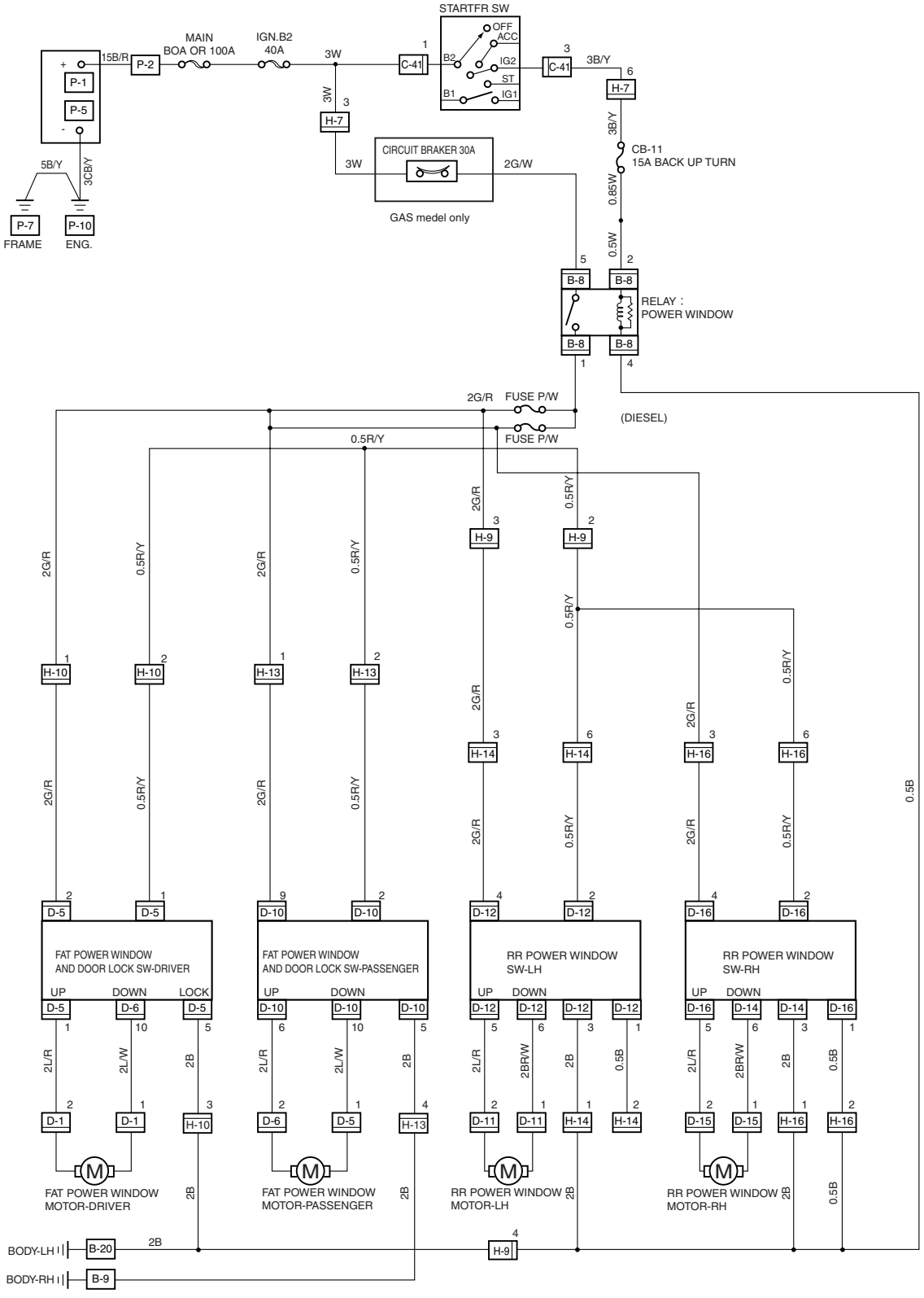
PARTS LOCATION (LHD)



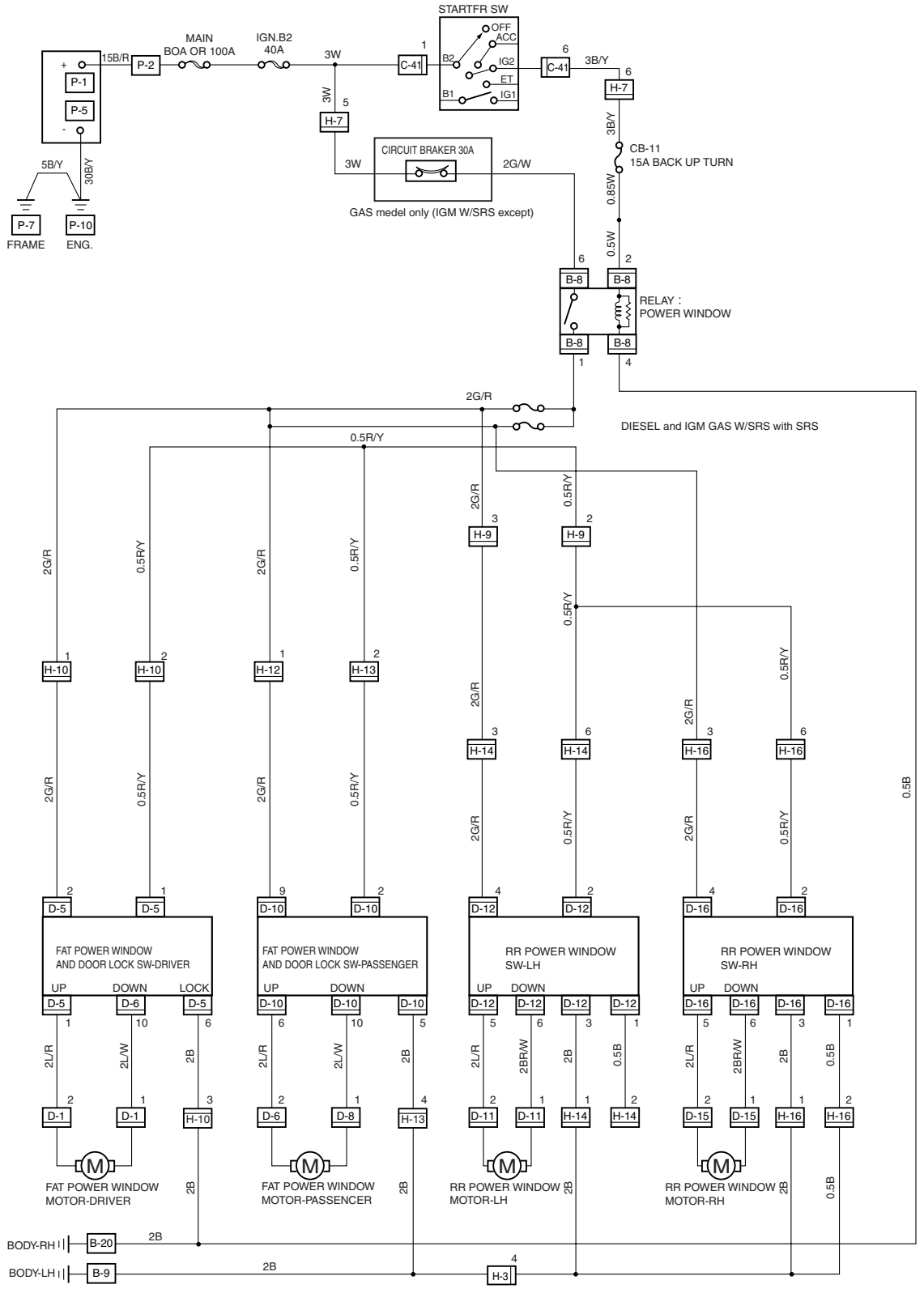
PARTS LOCATION (RHD)



CIRCUIT DIAGRAM (LHD)



CIRCUIT DIAGRAM (RHD)



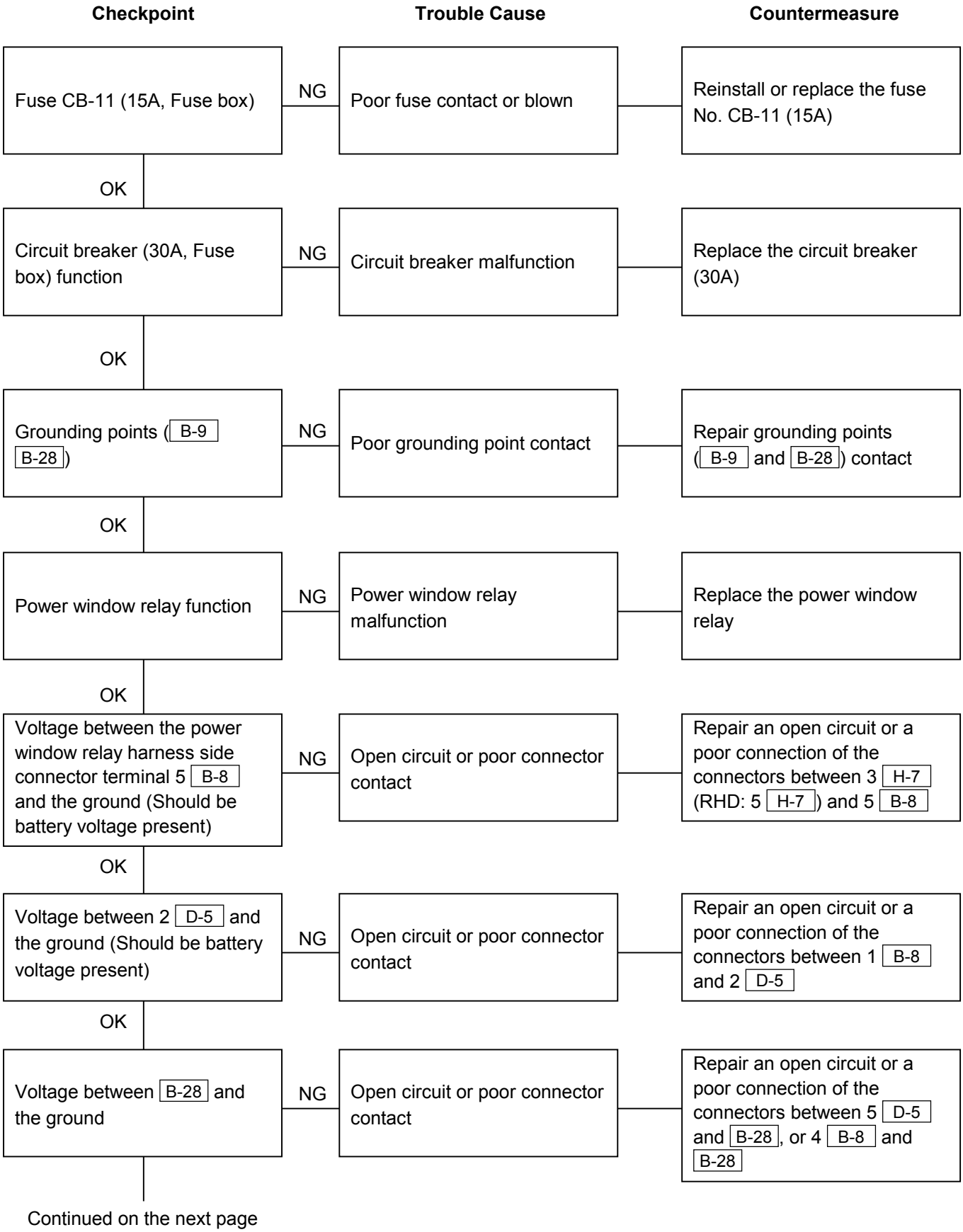
TROUBLE SHOOTING

QUICK CHART FOR CHECK POINTS

Trouble Mode	Check Points											
	Fuse CB-11 (15A)	Circuit Breaker (30A)	Relay; Power Window	Power Window & Door Lock Switch		Power Window Switch		Power Window Motor				Cable Harness
				Driver's Side	Passenger's Side	RR-LH	RR-RH	Driver's Side	Passenger's Side	RR-LH	RR-RH	
All windows will not operate	○	○	○	○								○
Lock SW does not function				○								
Driver's Window:												
Window does not operate	○	○	○	○				○				○
One-touch operation for "DOWN" movement will not operate				○								
Window operates in only one direction				○								
Front window on passenger seat side:												
Window does not operate				○	○				○			○
Window does not operate when operating the driver's SW				○								
Window does not operate when operating the passenger's SW				○	○							○
Window does operate in only one direction when operating the driver's SW				○	○							
Window does operate in only one direction when operating the passenger's seat side SW					○							
Rear window on left (or right) side:												
Window on left (or right) side does not operate				○		○	○			○	○	○
Window does not operate when operating the driver's SW				○								
Window does operate in only one direction when operating the driver's SW				○								
Window does operate in only one direction when operating the RR-LH (or RH) side SW						○	○					○

GAS EXCEPT IGM W/SRS MODEL

1. All windows do not operate



Continued on the next page

Checkpoint		Trouble Cause	Countermeasure
Continued from the previous page			
OK			
Driver seat side power window & door lock SW. function	NG	SW. malfunction	Replace the driver seat side power window & door lock SW.

2. Lock switch does not function

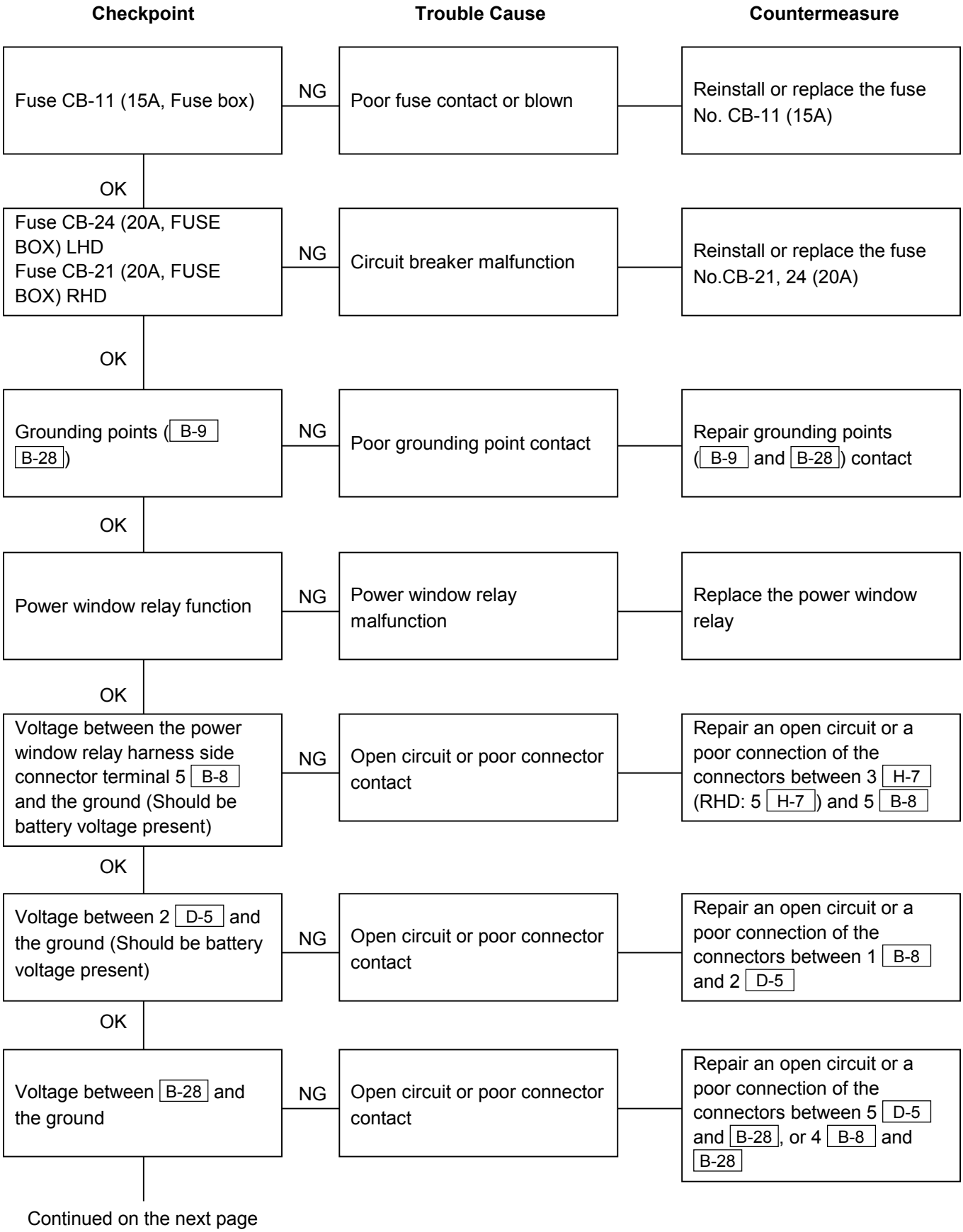
Checkpoint		Trouble Cause	Countermeasure
Driver seat side power window & door lock SW. function	NG	SW. malfunction	Replace the driver seat side power window & door lock SW.

3. Window on the driver's side does not operate

Checkpoint		Trouble Cause	Countermeasure
Driver seat side power window & door lock SW. function	NG	SW. malfunction	Replace the driver seat side power window & door lock SW.
OK			
1. Driver seat side power window motor function when connection the motor connector 2 D-1 to the battery (+) terminal, and 1 D-1 to the (-) terminal (Should the motor rotate in the "UP" direction of the window) 2. Driver seat side power window motor function when connecting the motor connector 1 D-1 to the battery (+) terminal, and 2 D-1 to the (-) terminal (Should the motor rotate in the "DOWN" direction of the window)	NG	Motor malfunction	Replace the driver seat side power window motor
OK			
Continuity between 1 D-5 and 2 D-1, or 10 D-5 and 1 D-1	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

DIESEL W/SRS

1. RH SIDE windows do not operate



Continued on the next page

Checkpoint		Trouble Cause		Countermeasure
Continued from the previous page				
OK				
Driver seat side power window & door lock SW. function	NG	SW. malfunction	—	Replace the driver seat side power window & door lock SW.

2. Lock switch does not function

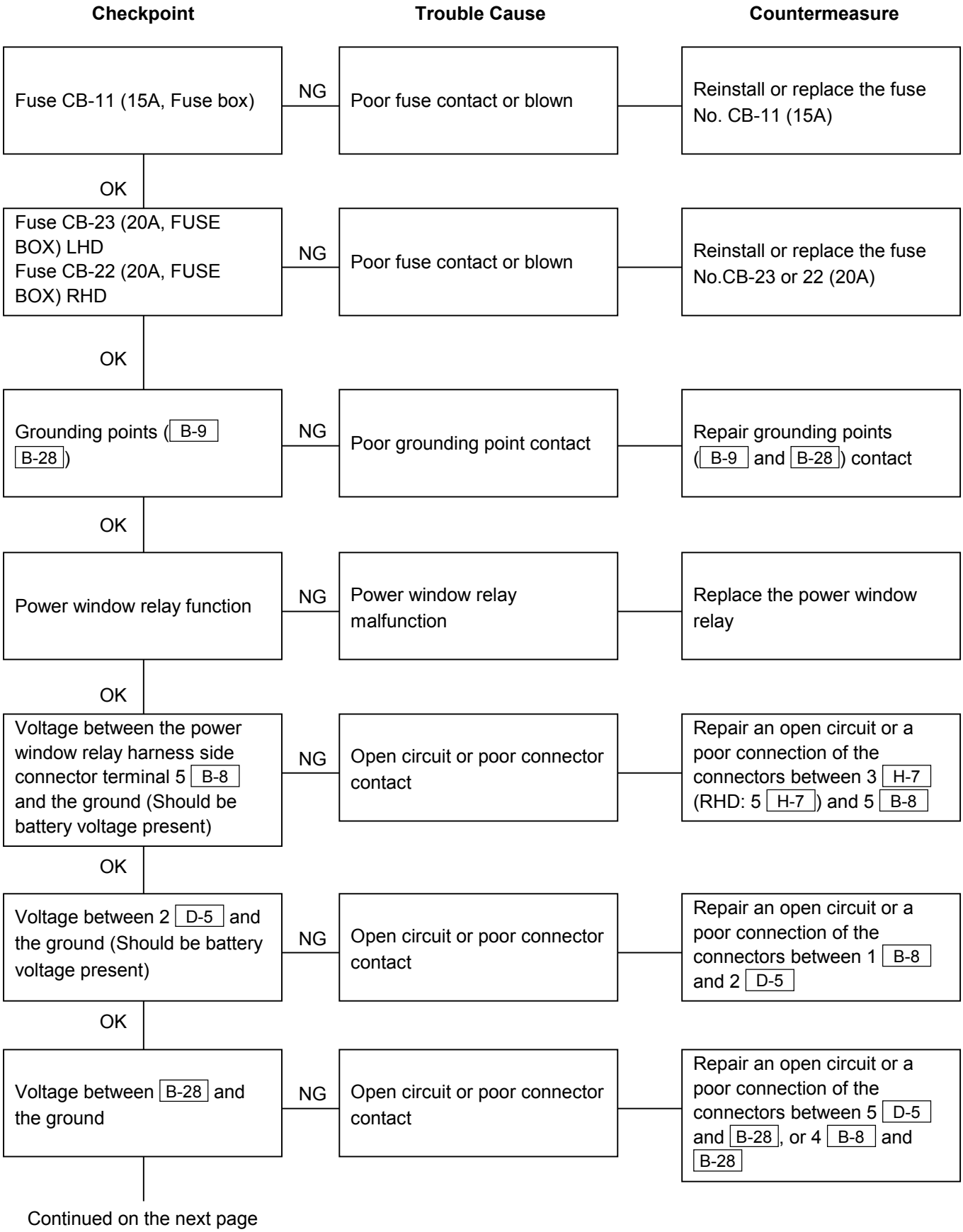
Checkpoint		Trouble Cause		Countermeasure
Driver seat side power window & door lock SW. function	NG	SW. malfunction	—	Replace the driver seat side power window & door lock SW.

3. Window on the driver's side does not operate

Checkpoint		Trouble Cause		Countermeasure
Driver seat side power window & door lock SW. function	NG	SW. malfunction	—	Replace the driver seat side power window & door lock SW.
OK				
1. Driver seat side power window motor function when connection the motor connector 2 D-1 to the battery (+) terminal, and 1 D-1 to the (-) terminal (Should the motor rotate in the "UP" direction of the window) 2. Driver seat side power window motor function when connecting the motor connector 1 D-1 to the battery (+) terminal, and 2 D-1 to the (-) terminal (Should the motor rotate in the "DOWN" direction of the window)	NG	Motor malfunction	—	Replace the driver seat side power window motor
OK				
Continuity between 1 D-5 and 2 D-1, or 10 D-5 and 1 D-1	NG	Open circuit or poor connector contact	—	Repair open circuit or connector contact

DIESEL W/SRS

1. LH SIDE windows do not operate



Continued on the next page

Checkpoint	Trouble Cause	Countermeasure
Continued from the previous page OK Driver seat side power window & door lock SW. function	NG SW. malfunction	Replace the driver seat side power window & door lock SW.

2. Lock switch does not function

Checkpoint	Trouble Cause	Countermeasure
Driver seat side power window & door lock SW. function	NG SW. malfunction	Replace the driver seat side power window & door lock SW.

3. Window on the driver's side does not operate

Checkpoint	Trouble Cause	Countermeasure
Driver seat side power window & door lock SW. function	NG SW. malfunction	Replace the driver seat side power window & door lock SW.
OK 1. Driver seat side power window motor function when connection the motor connector 2 D-1 to the battery (+) terminal, and 1 D-1 to the (-) terminal (Should the motor rotate in the "UP" direction of the window) 2. Driver seat side power window motor function when connecting the motor connector 1 D-1 to the battery (+) terminal, and 2 D-1 to the (-) terminal (Should the motor rotate in the "DOWN" direction of the window)	NG Motor malfunction	Replace the driver seat side power window motor
OK Continuity between 1 D-5 and 2 D-1, or 10 D-5 and 1 D-1	NG Open circuit or poor connector contact	Repair open circuit or connector contact

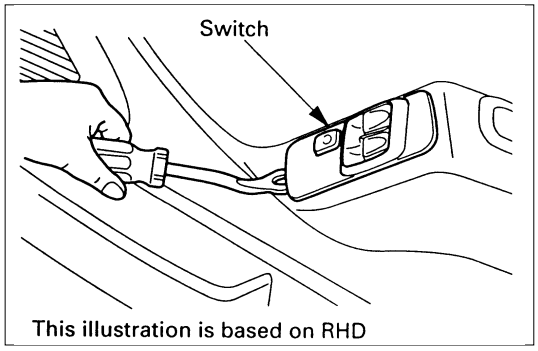
4. Window on the front passenger's side does not operate

Checkpoint		Trouble Cause	Countermeasure
Front passenger's window & door lock SW. function	NG	SW. malfunction	Replace the driver seat side power window & door lock SW.
OK			
Driver seat side power window & door lock SW. function	NG	SW. malfunction	Replace the front passenger's power window & door lock SW.
OK			
1. Front passenger's power window motor function when connecting the motor connector 2 D-6 to the battery (+) terminal, and 1 D-6 to the (-) terminal (Should the motor rotate in the "UP" direction of the window) 2. Front passenger's power window motor function when connecting the motor connector 1 D-6 to the battery (+) terminal, and 2 D-6 to the (-) terminal. (Should the motor rotate in the "DOWN" direction of the window)	NG	Motor malfunction	Replace the front passenger's power window motor
OK			
Continuity Between 6 D-10 and 2 D-6, or 10 D-10 and 1 D-6	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

5. Rear window on the left (right) side does not operate

Checkpoint		Trouble Cause	Countermeasure
Rear power window SW. LH (RH) function	NG	SW. malfunction	Replace the rear power window SW. -LH (RH)
OK			
Driver seat side power window & door lock SW. function	NG	SW. malfunction	Replace the driver seat side power window & door lock SW.
OK			
1. Rear power window motor-LH (RH) function when connecting the motor connector 2 D-11 (2 D-15) to the battery (+) terminal, and 1 D-11 (1 D-15) to the (-) terminal (Should the motor rotate in the “UP” direction of the window) 2. Rear power window motor-LH (RH) function when connecting the motor connector 1 D-11 (1 D-15) to the battery (+) terminal, and 2 D-11 (2 D-15) to the (-) terminal (Should the motor rotate in the “DOWN” direction of the window)	NG	Motor malfunction	Replace the rear power window motor
OK			
Continuity between 5 D-12 and 2 D-11 (5 D-16 and 2 D-15), or 6 D-12 and 1 D-11 (6 D-16 and1 D-15)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

REMOVAL AND INSTALLATION



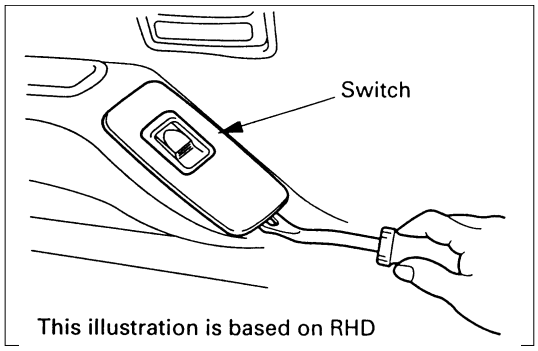
DRIVER SEAT SIDE POWER WINDOW & DOOR LOCK SWITCH (2 DOORS MODEL)

Removal

1. Remove the switch by pushing the spring with the tip of a screwdriver.
2. Disconnect the connector.

Installation

To install, follow the removal steps in the reverse order.



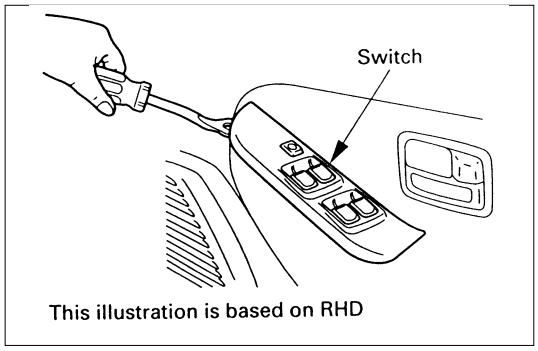
FRONT PASSENGER'S POWER WINDOW & DOOR LOCK SWITCH (2 DOORS MODEL)

Removal

1. Remove the switch by pushing the spring with the tip of a screwdriver.
2. Disconnect the connector.

Installation

To install, follow the removal steps in the reverse order.



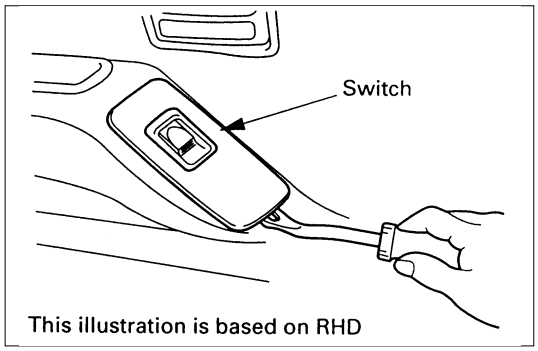
DRIVER SEAT SIDE POWER WINDOW & DOOR LOCK SWITCH (4 DOORS MODEL)

Removal

1. Remove the switch by pushing the spring with the tip of a screwdriver.
2. Disconnect the connector.

Installation

To install, follow the removal steps in the reverse order.



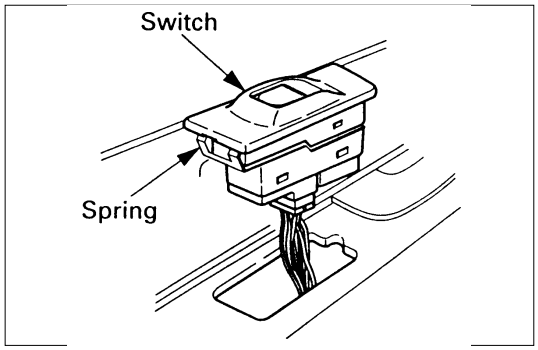
FRONT PASSENGER'S POWER WINDOW & DOOR LOCK SWITCH (4 DOORS MODEL)

Removal

1. Remove the switch by pushing the spring with the tip of a screwdriver.
2. Disconnect the connector.

Installation

To install, follow the removal steps in the reverse order.



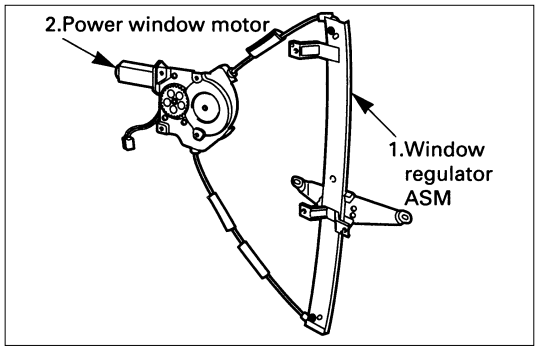
REAR POWER WINDOW & DOOR LOCK SWITCH-LH & RH

Removal

1. Remove the switch by pushing the spring with the tip of a screwdriver.
2. Disconnect the connector.

Installation

To install, follow the removal steps in the reverse order.



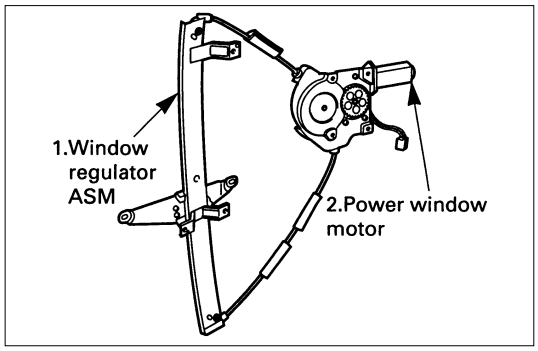
DRIVER SEAT SIDE POWER WINDOW MOTOR

Removal

1. **Window Regulator ASM**
   - Refer to the removal steps of the WINDOW REGULATOR/POWER WINDOW MOTOR in Section 10 “BODY”.
2. **Power Window Motor**
   - Loosen the fixing bolts to remove the power window motor from the regulator.

Installation

To install, follow the removal steps in the reverse order.



FRONT PASSENGER’S POWER WINDOW MOTOR

Removal

1. Window Regulator ASM
   - Refer to the removal steps of the WINDOW REGULATOR/POWER WINDOW MOTOR in Section 10 “BODY”.
2. Power Window Motor
   - Loosen the fixing bolts to remove the power window motor from the regulator.

Installation

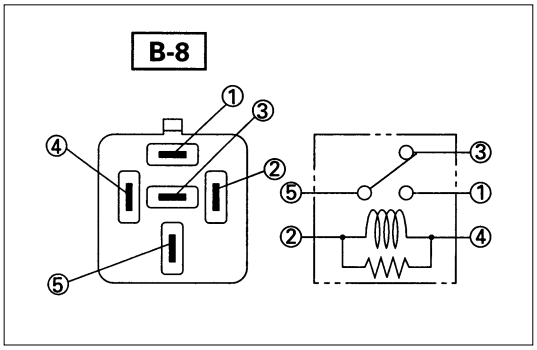
To install, follow the removal steps in the reverse order.

REAR POWER WINDOW MOTOR-LH & RH

Removal and Installation

Refer to the “DRIVER SEAT SIDE POWER WINDOW MOTOR” removal and installation steps in this section.

INSPECTION AND REPAIR



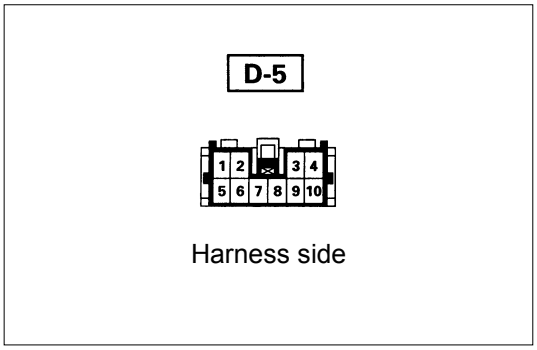
Power Window Relay

Check continuity between the relay terminals.

①- ⑤.....No continuity

(When battery voltage is applied between ② and ④)

①- ⑤.....Continuity

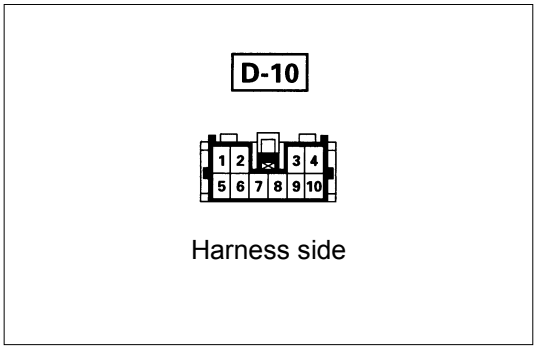


Driver Seat Side Power Window & Door Lock Switch

1. Harness Side Connector Circuit

Disconnect the switch connector, and check voltage and continuity between the harness side connector terminals as shown in the following table.

Terminal No.	Wire color	Connecting to	Check item	Connecting terminal	Check condition	Standard
2	G/R	Power window relay	Voltage	2-Ground	Starter SW “ON”	Approx. 12V
1	L/R	Power window motor	Continuity	1-10	-	Continuity
10	L/W					
5	B	Ground	Continuity	5-Ground	-	Continuity



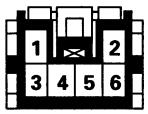
Front Passenger’s Power Window & Door Lock Switch

1. Harness Side Connector Circuit

Disconnect the switch connector, and check voltage and continuity between the harness side connector terminals as shown in the following table.

Terminal No.	Wire color	Connecting to	Check item	Connecting terminal	Check condition	Standard
9	G/R	Power window relay	Voltage	9-Ground	Starter SW “ON”	Approx. 12V
6	L/R	Power window motor	Continuity	6-10	-	Continuity
10	L/W					
5	B	Ground	Continuity	5-Ground	-	Continuity

D-12 D-16



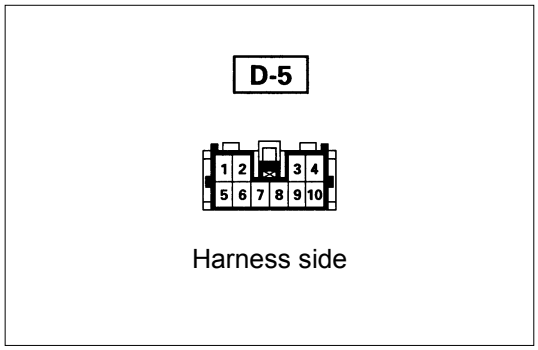
Harness side

Rear Power Window Switch-LH & RH

1. Harness Side Connector Circuit

Disconnect the switch connector, and check voltage and continuity between the harness side connector terminals as shown in the following tables.

D-12 (RR-LH)						
Terminal No.	**Wire color**	**Connecting to**	**Check item**	**Connecting terminal**	**Check condition**	**Standard**
4	G/R	Power window relay	Voltage	4-Ground	Starter SW “ON”	Approx. 12V
5	L/R	Power window motor	Continuity	6-10	-	Continuity
6	BR/W					
3	B	Ground	Continuity	3-Ground	-	Continuity
D-16 (RR-RH)						
Terminal No.	**Wire color**	**Connecting to**	**Check item**	**Connecting terminal**	**Check condition**	**Standard**
4	G/R	Power window relay	Voltage	4-Ground	Starter SW “ON”	Approx. 12V
5	L/R	Power window motor	Continuity	6-10	-	Continuity
6	BR/W					
3	B	Ground	Continuity	3-1	-	Continuity
1	B					

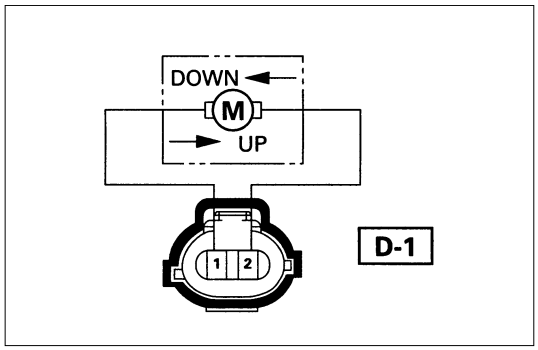


Driver Seat Side Power Window Motor

1. Driver Seat Side Power Window & Door Lock Switch Connector Circuit

Disconnect the switch connector, apply the battery voltage (12V) to the harness side connector terminals and check operation.

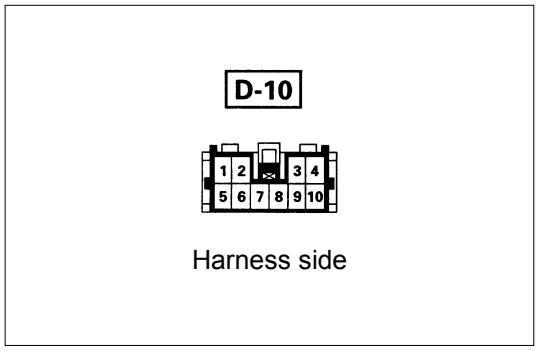
Connecting terminals		Operation direction
1 (L/R)	10 (L/W)	
⊖	⊕	DOWN
⊕	⊖	UP



2. Driver Seat Side Power Window Motor Connector Circuit

Disconnect the switch connector, apply the battery voltage (12V) to the motor side connector terminals and check operation.

Connecting terminals		Operation direction
1	2	
⊕	⊖	DOWN
⊖	⊕	UP

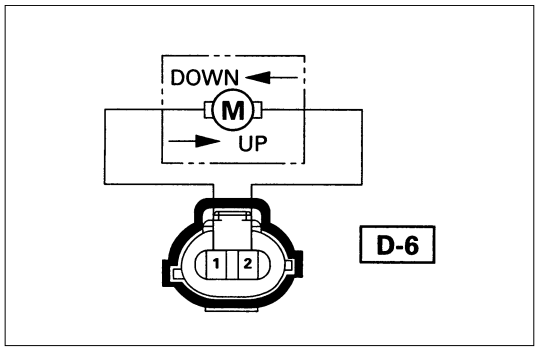


Front Passenger's Power Window Motor

1. Front Passenger's Power Window Switch & Door Lock Switch Connector Circuit

Disconnect the motor connector, apply the battery voltage (12V) to the harness side connector terminals and check operation.

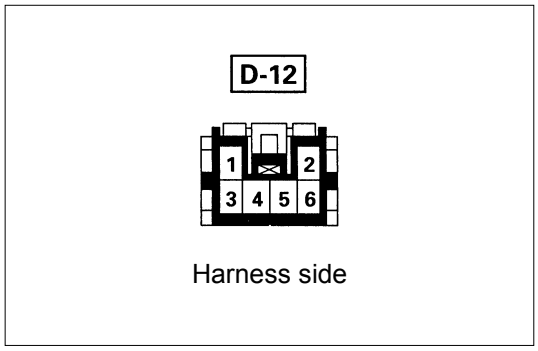
Connecting terminals		Operation direction
6 (L/R)	10 (L/W)	
⊖	⊕	DOWN
⊕	⊖	UP



2. Front Passenger's Power Window Motor Connector Circuit

Disconnect the switch connector, apply the battery voltage (12V) to the motor side connector terminals and check operation.

Connecting terminals		Operation direction
1	2	
⊕	⊖	DOWN
⊖	⊕	UP

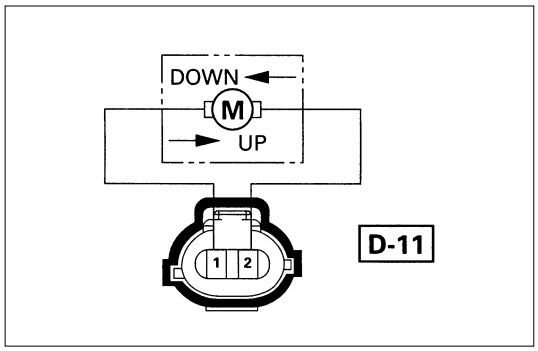


Rear Passenger's Power Window Motor-LH

1. Rear Power Window Switch-LH Connector Circuit

Disconnect the motor connector, apply the battery voltage (12V) to the harness side connector terminals and check operation.

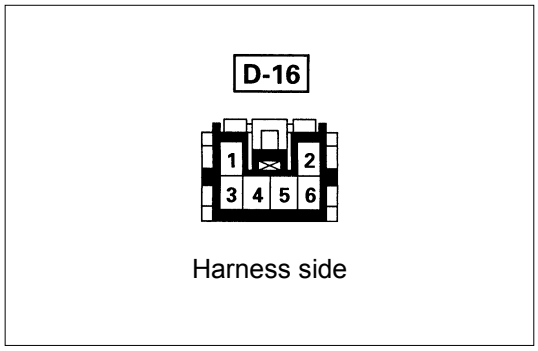
Connecting terminals		Operation direction
5 (L/R)	6 (BR/W)	
⊖	⊕	DOWN
⊕	⊖	UP

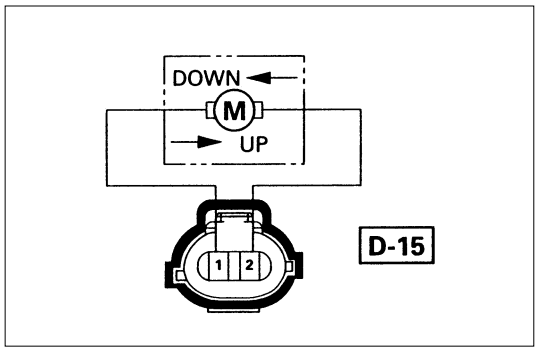


2. Rear Power Window Motor-LH Connector Circuit

Disconnect the switch connector, apply the battery voltage (12V) to the motor side connector terminals and check operation.

Connecting terminals		Operation direction
1	2	
⊕	⊖	DOWN
⊖	⊕	UP





Rear Power Window Motor-RH

1. Rear Power Window Switch-RH Connector Circuit

Disconnect the motor connector, apply the battery voltage (12V) to the harness side connector terminals and check operation.

Connecting terminals		Operation direction
5 (L/R)	6 (BR/W)	
⊖	⊕	DOWN
⊕	⊖	UP

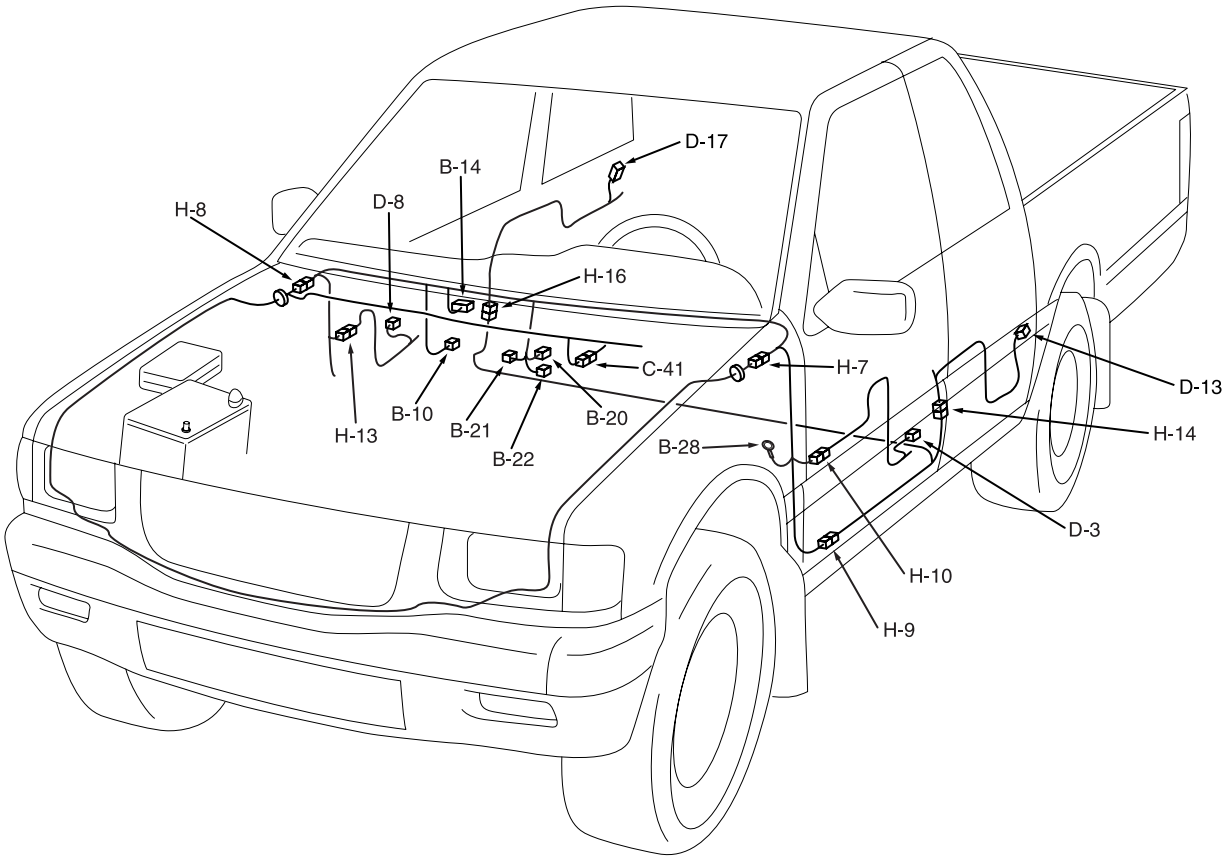
2. Rear Power Window Motor-RH Connector Circuit

Disconnect the switch connector, apply the battery voltage (12V) to the motor side connector terminals and check operation.

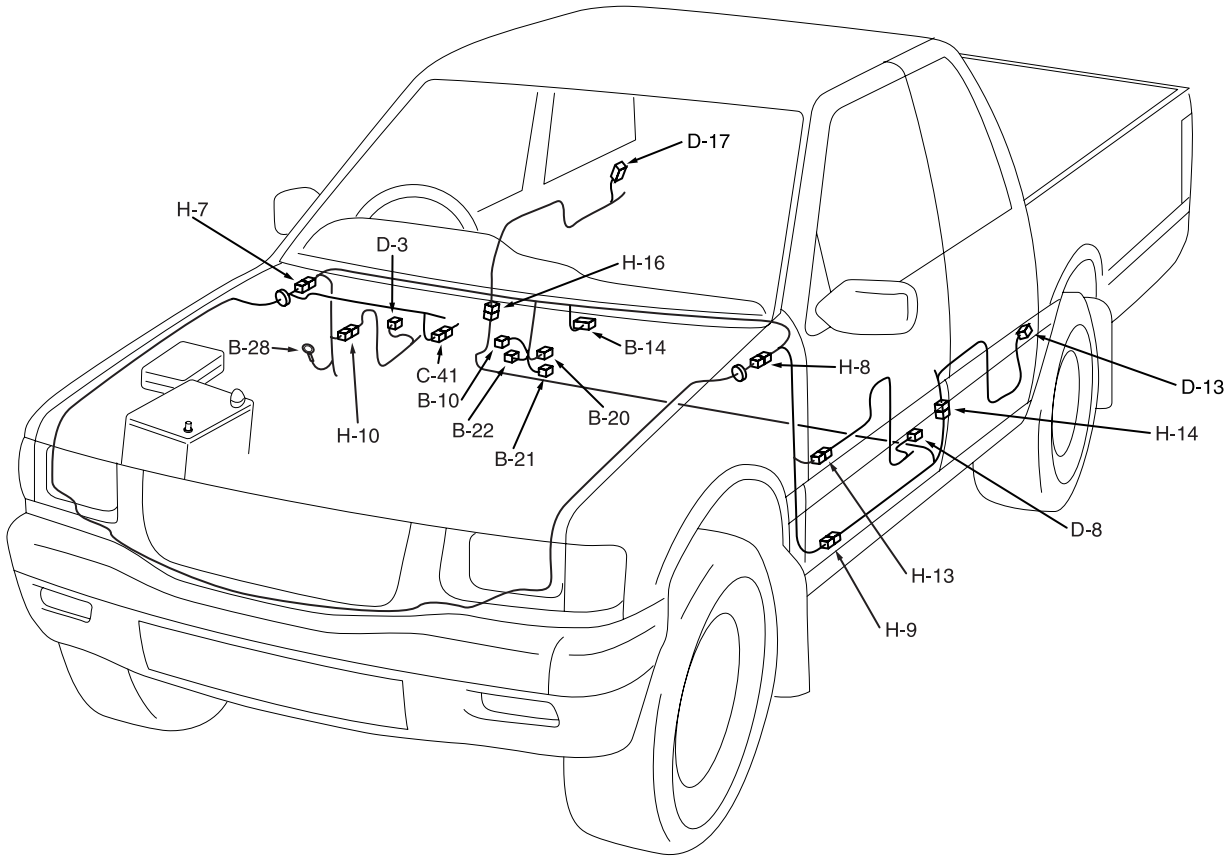
Connecting terminals		Operation direction
1	2	
⊕	⊖	DOWN
⊖	⊕	UP

AUDIO, CLOCK AND CIGARETTE LIGHTER

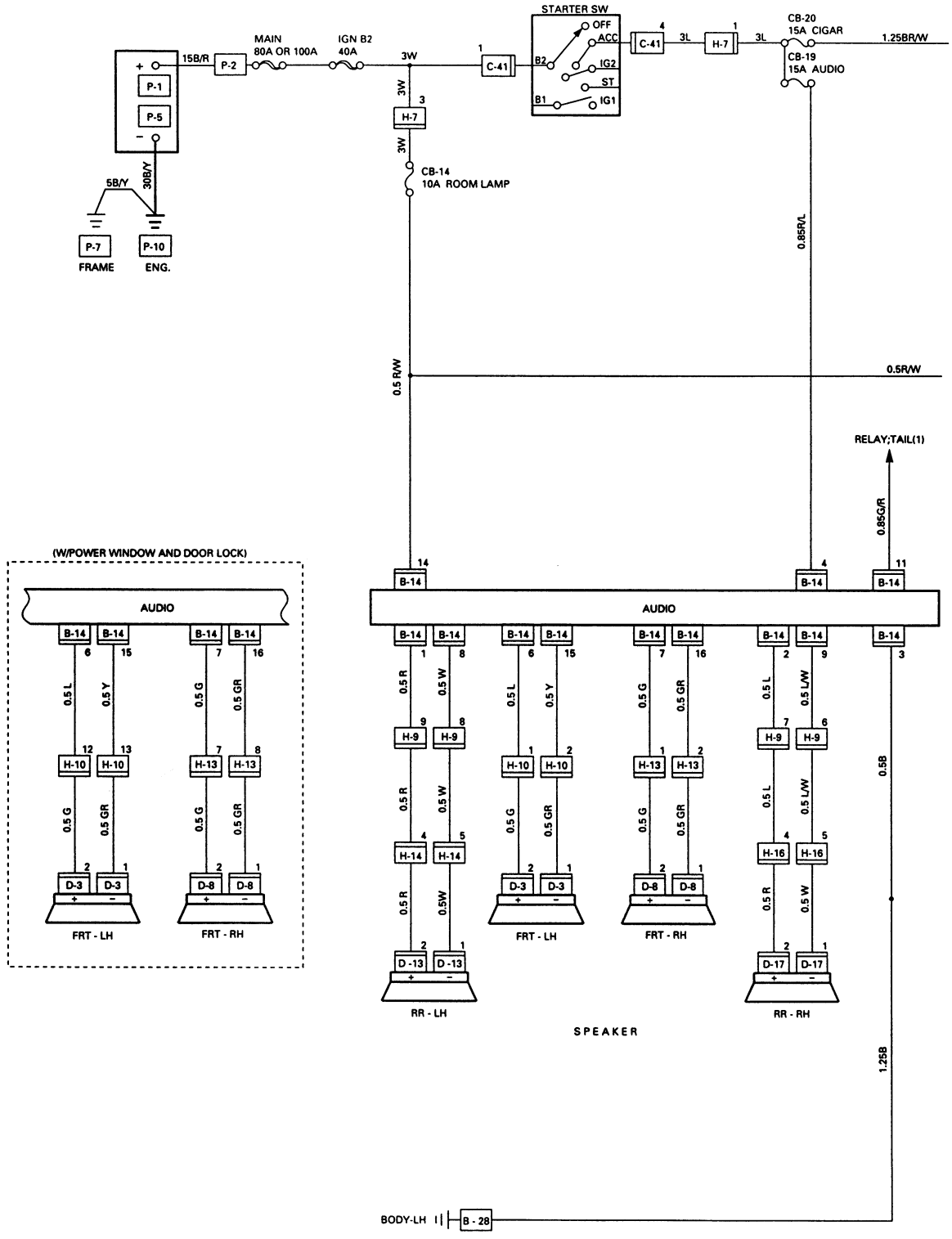
PARTS LOCATION (LHD)

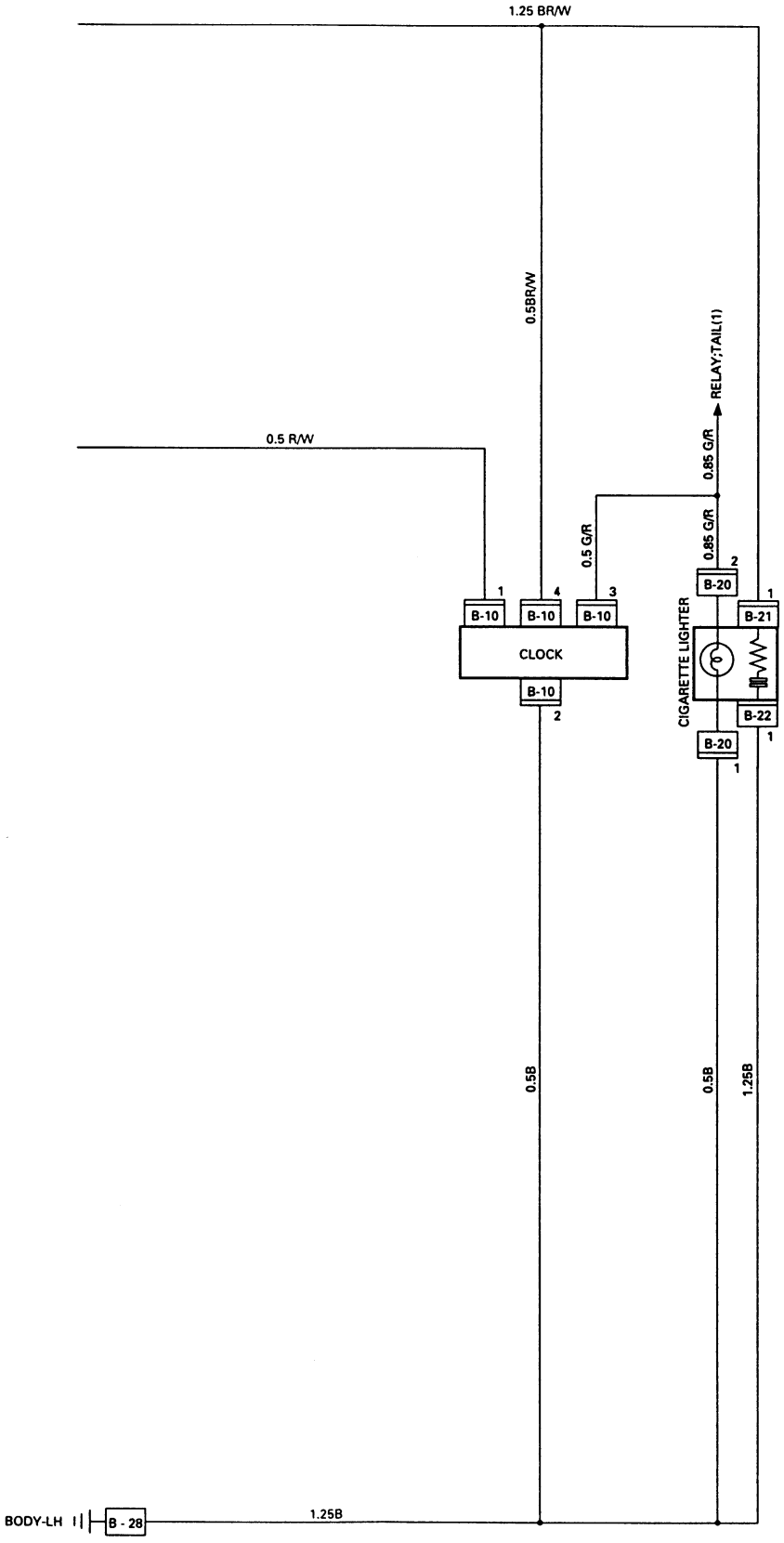


PARTS LOCATION (RHD)

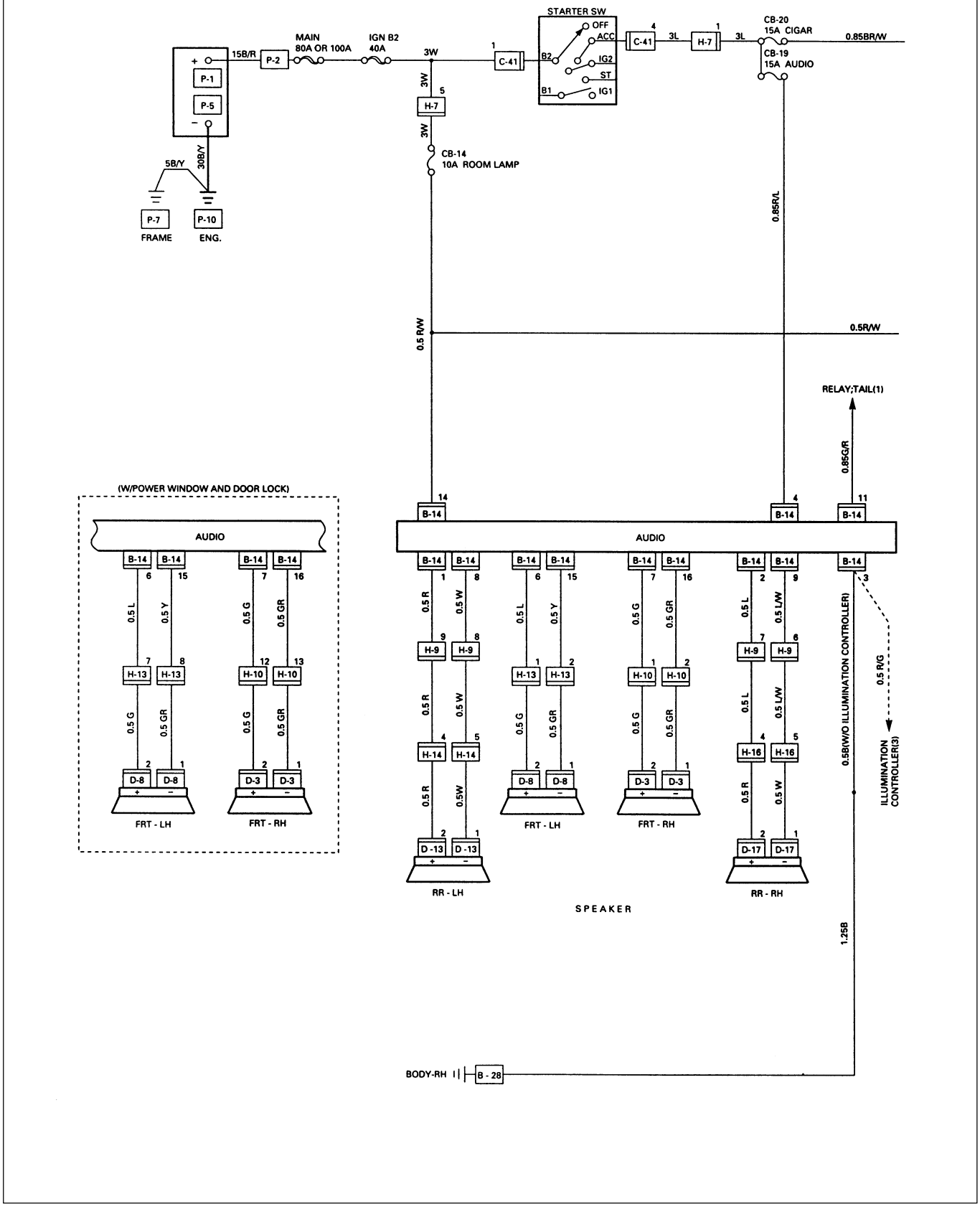


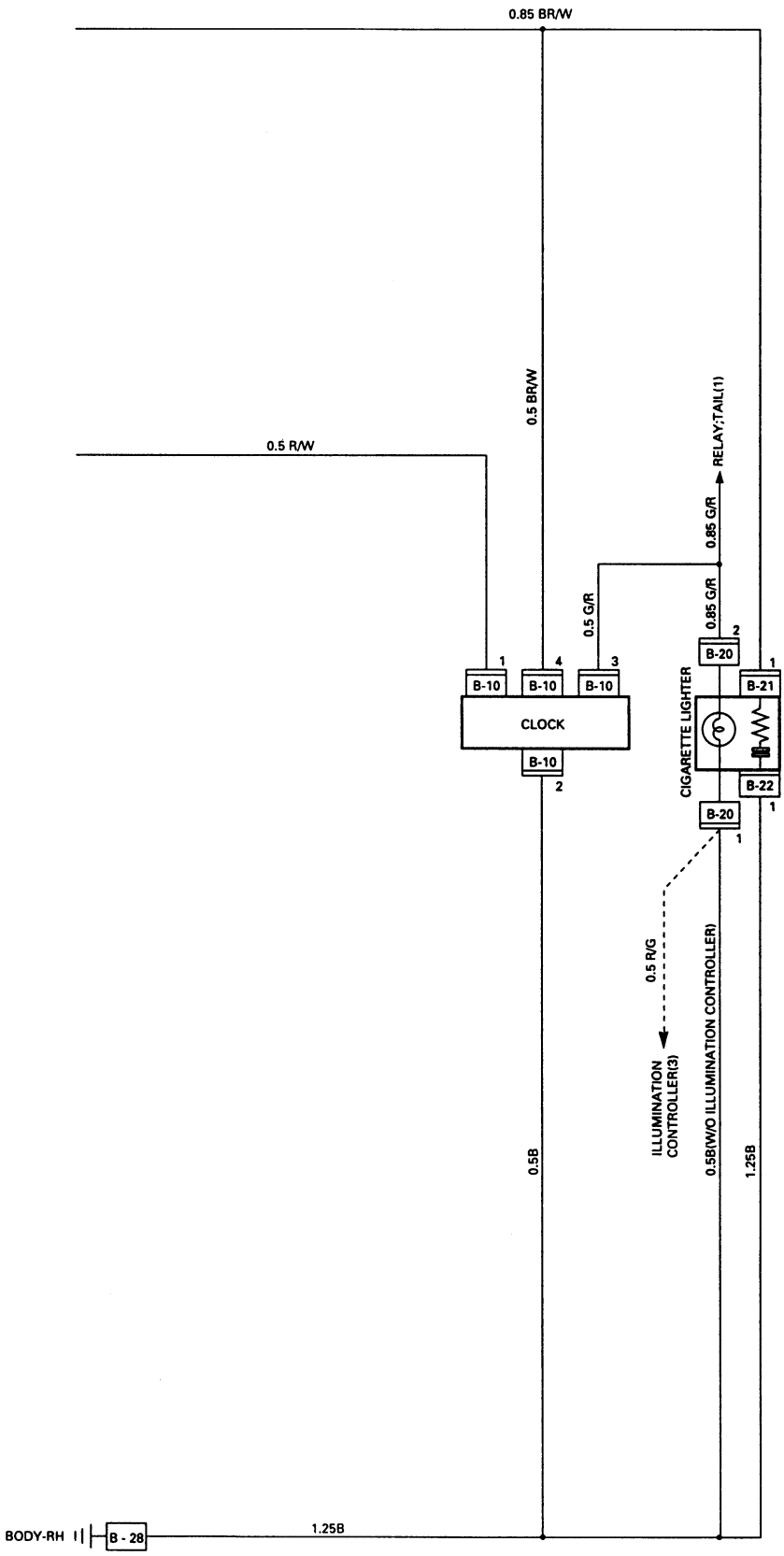
CIRCUIT DIAGRAM (LHD)




1.25 BR/W
0.5BR/W
RELAY;TAIL(1)
0.85 G/R
0.5 R/W
0.85 G/R
0.5 G/R
2
B-20
1
B-21
1
4
3
B-10
B-10
B-10
CLOCK
B-10
2
CIGARETTE LIGHTER
B-22
1
B-20
1
0.5B
0.5B
1.25B
BODY-LH
B - 28
1.25B

CIRCUIT DIAGRAM (RHD)




0.85 BR/W
0.5 BR/W
0.5 R/W
0.5 G/R
0.85 G/R
RELAY;TAIL(1)
0.85 G/R
B-10
B-10
B-10
B-10
CLOCK
B-20
B-21
CIGARETTE LIGHTER
B-22
B-20
0.5 R/G
ILLUMINATION CONTROLLER(3)
0.5B(W/O ILLUMINATION CONTROLLER)
1.25B
0.5B
BODY-RH
B - 28
1.25B

TROUBLE SHOOTING

CIGARETTE LIGHTER

1. Lighter does not pop out after being pushed in. It does not become hot.

Checkpoint		Trouble Cause	Countermeasure
Audio system (System should receive power)	NG	Poor Fuse No. CB-20 (15A, Fuse box) contact or blown	Reinstall or replace the fuse No. CB-20 (15A)
OK			
Lighter continuity between center part and outer area	NG	Open circuit or poor connector contact	Replace the lighter
OK			
Voltage between connector 1 B-21 and the ground at starter SW. is ACC position (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Continuity between connector 1 B-22 and the ground	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

2. Lighter pops out prematurely before becoming hot

Lighter and casing	NG	Deformed lighter or casing	Repair or replace the lighter and/or casing

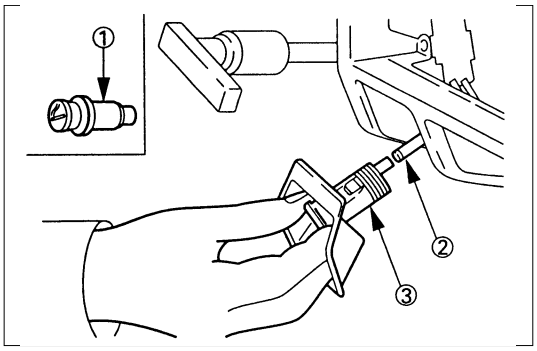
3. Lighter becomes too hot

Lighter and casing	NG	Deformed lighter and casing	Repair or replace the lighter and/or casing

REMOVAL AND INSTALLATION

AUDIO

Refer to Section 9 “ACCESSORIES” for details.



CIGARETTE LIGHTER

Removal

1. Remove the lighter ①.
2. Disconnect the connector ②.
3. Loosen the lighter holder ③ nut at the back side.
4. Remove the holder from the bezel.

Installation

Follow the removal procedure in the reverse order to install the lighter.

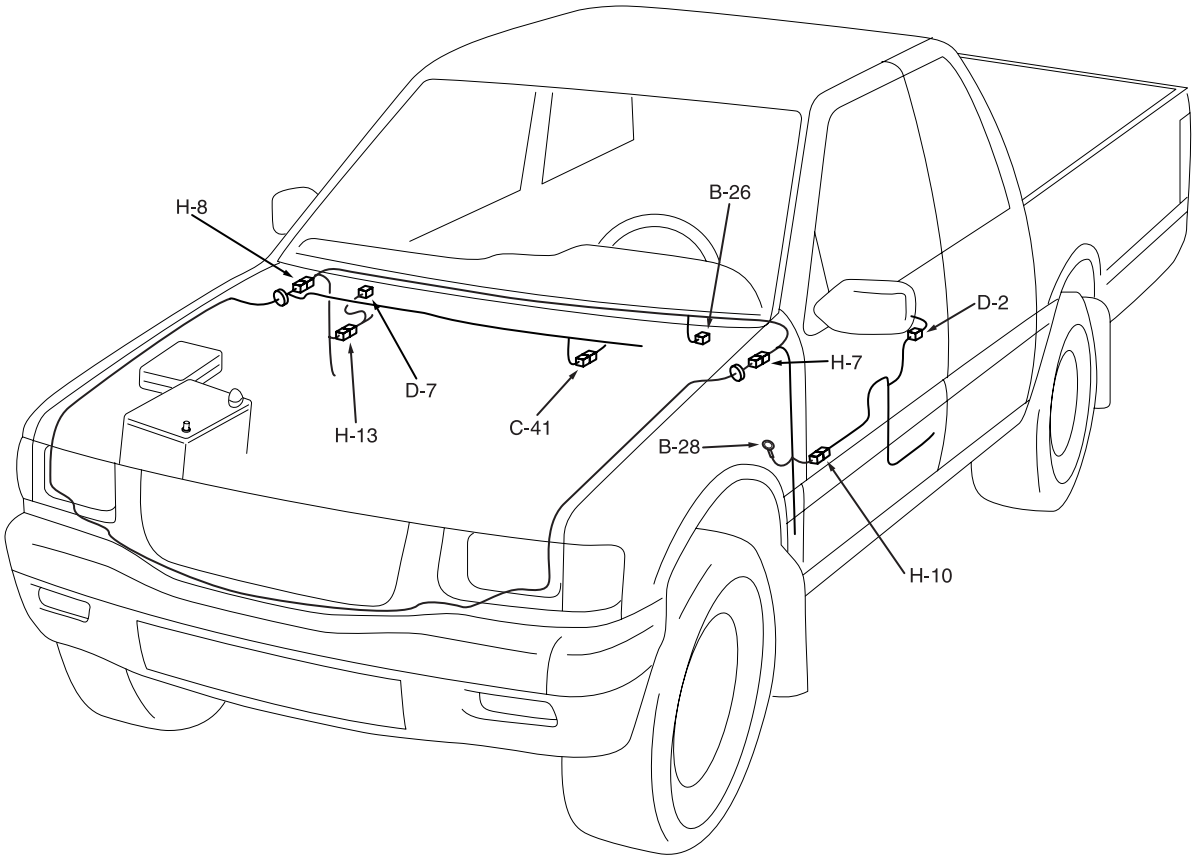
Pay close attention to the important points mentioned in the following paragraphs.

Connector

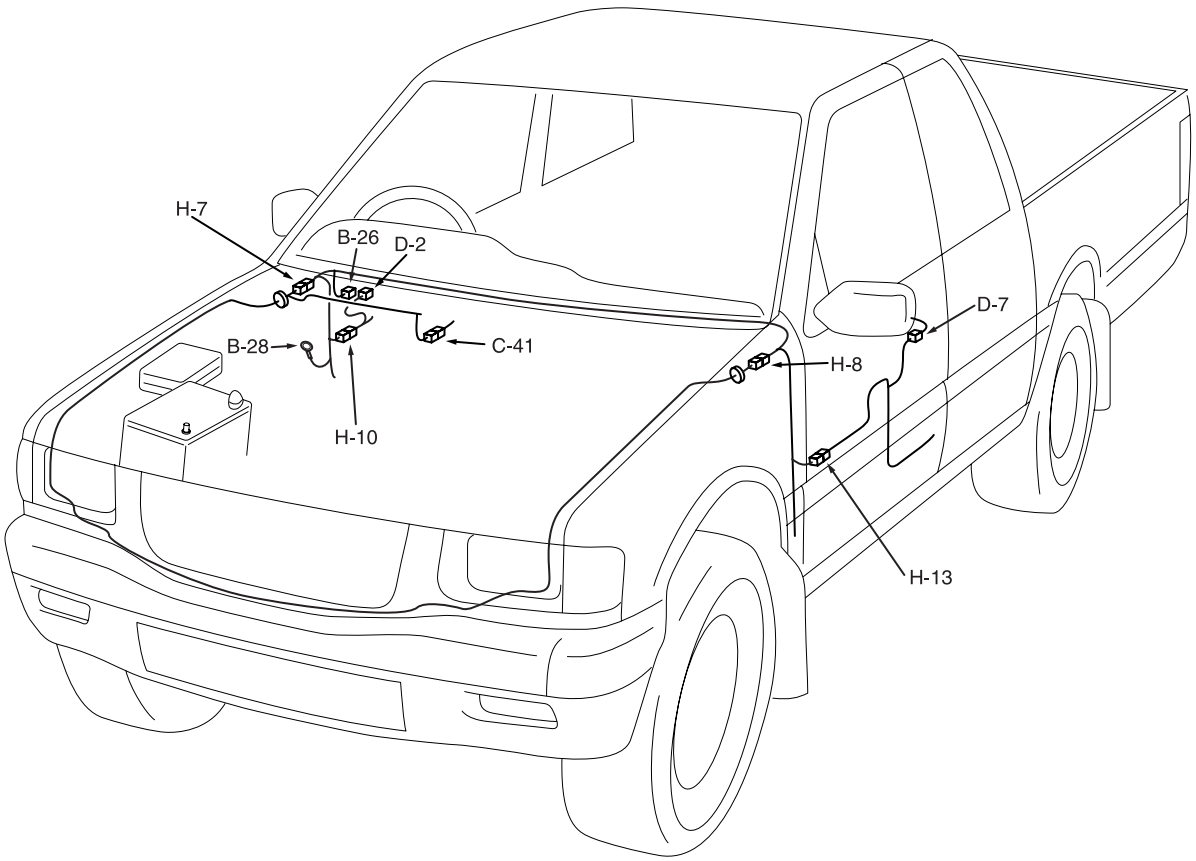
Be absolutely sure that the lighter connector is securely connected.
This will prevent a poor contact and an open circuit.

POWER DOOR MIRROR

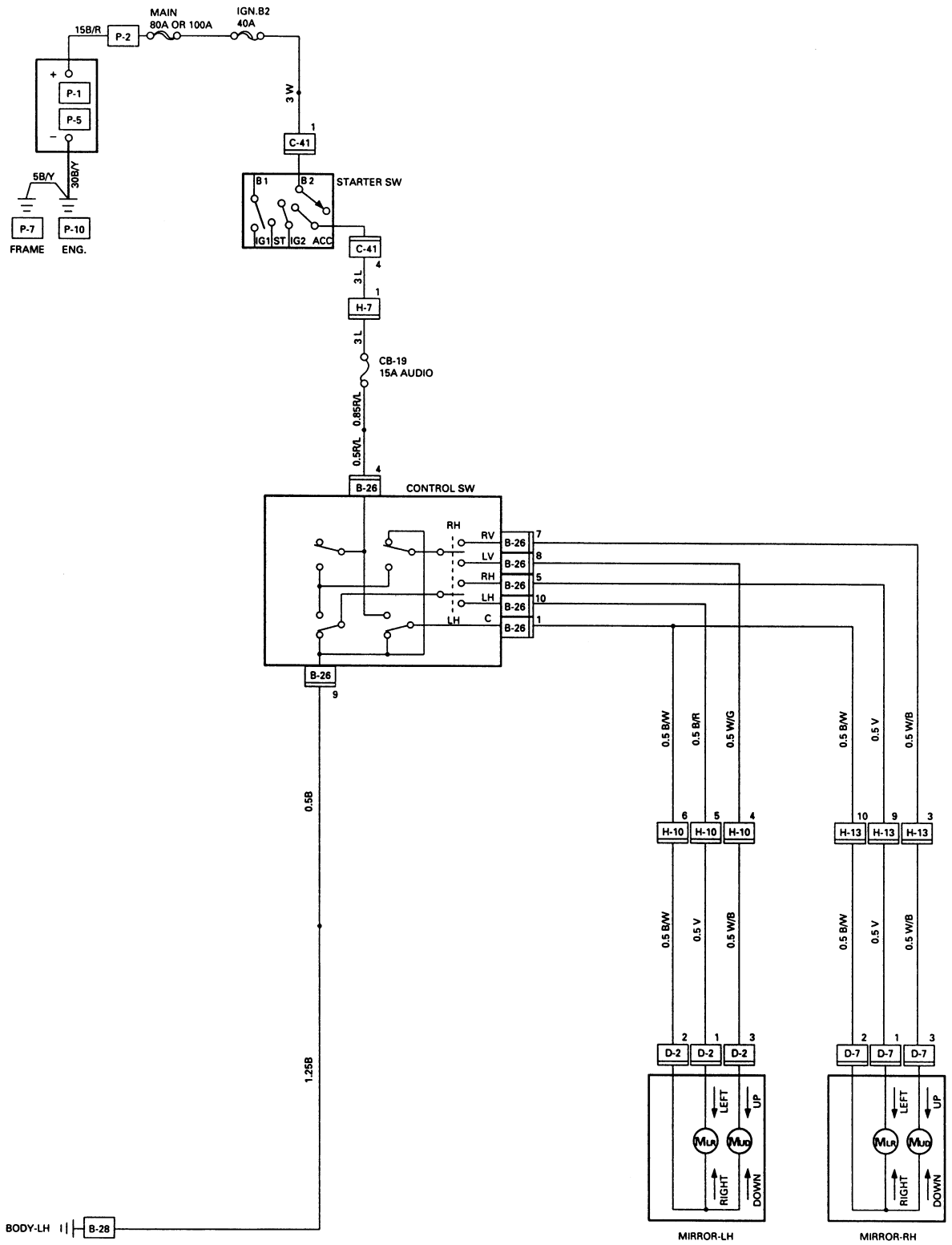
PARTS LOCATION (LHD)



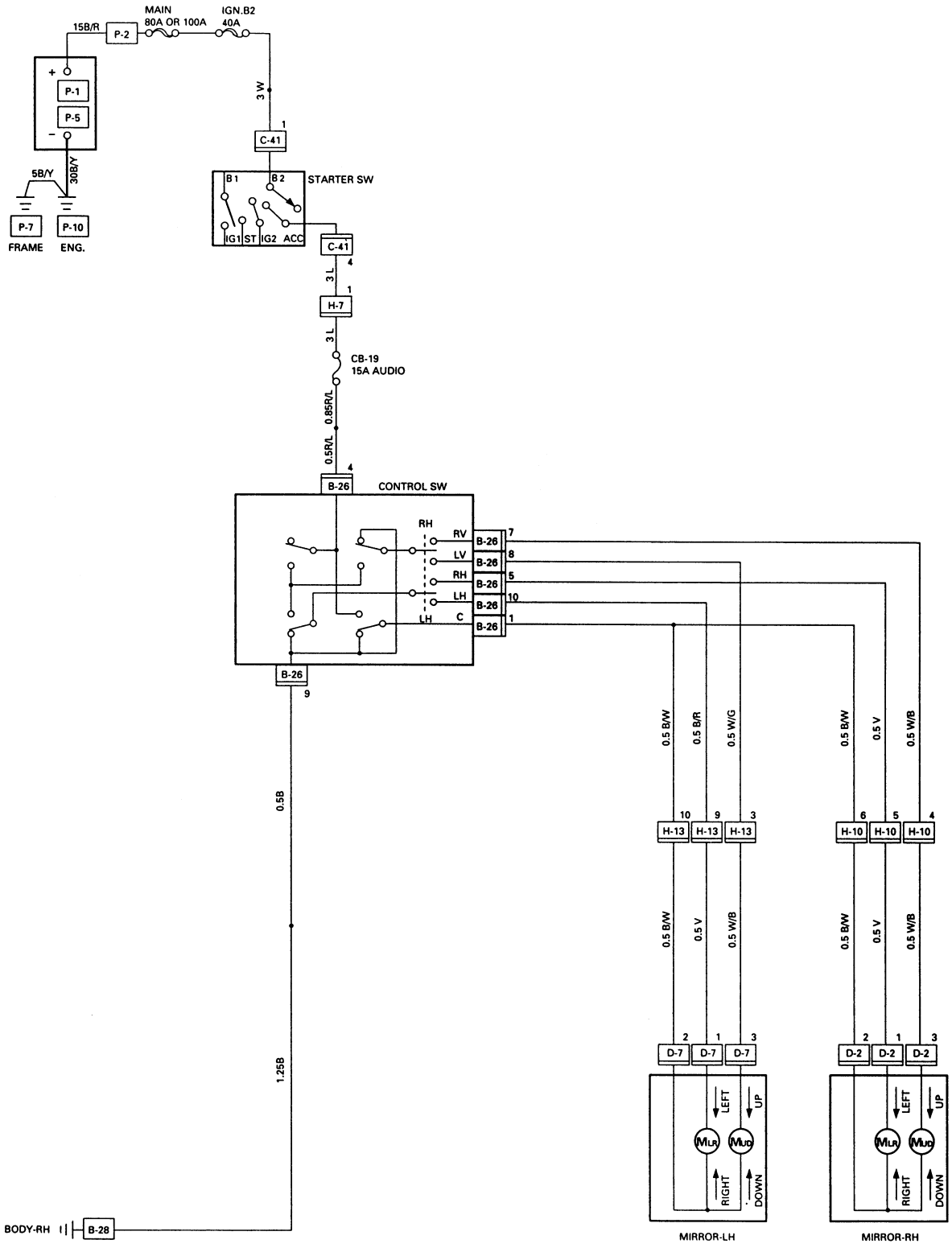
PARTS LOCATION (RHD)



CIRCUIT DIAGRAM (LHD)



CIRCUIT DIAGRAM (RHD)



TROUBLE SHOOTING

QUICK CHART FOR CHECK POINT

Check Point / Trouble Mode	Fuse	Door Mirror Control Switch	Door Mirror		Cable Harness
	CB-19 (15A)		LH	RH	
1. Mirrors on the both sides do not operate	◯	◯			◯
2. Mirror on the left (or right) side does not operate		◯	◯	◯	◯
3. Mirrors on the both sides operate only in the vertical (or horizontal) direction		◯			
4. Mirror on the left side operates only in the vertical (or horizontal)direction		◯	◯		◯
5. Mirror on the right side operates only in the vertical (or horizontal) direction		◯		◯	◯

TROUBLE SHOOTING

DOOR MIRROR CONTROL SWITCH

1. Mirrors on the both sides do not operate

Checkpoint		Trouble Cause	Countermeasure
Fuse No. CB-19 (15A, Fuse box)	NG	Poor fuse contact or blown	Reinstall or replace the fuse No. CB-19 (15A)
OK			
Grounding point (B-28)	NG	Poor grounding point contact	Repair grounding point (B-28) contact
OK			
Voltage between the door mirror control SW. harness side connector terminal 4 B-26 and the ground (Should be battery voltage present)	NG	Open circuit or poor connector contact	Repair an open circuit or a poor connection of the connectors between the fuse No. CB-19 (15A) and 4 B-26
OK			
Continuity between the door mirror control SW harness side connector terminal 9 B-26 and (B-28)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact
OK			
Door mirror control SW. function	NG	SW. malfunction	Replace the door mirror control SW.
OK			
Continuity between 1 B-26 and 10 H-13 (or 6 H-10)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

2. Mirror on the left (or right) side does not operate

Checkpoint		Trouble Cause	Countermeasure
Door mirror control SW. function	NG	SW. malfunction	Replace the door mirror control SW.
OK			
Mirror function on the left (or right) side	NG	Mirror malfunction on the left (or right)	Repair or replace the door mirror
OK			
Continuity between [LHD] 1 B-26 and 2 D-2 (1 B-26 and 2 D-7) [RHD] 1 B-26 and 2 D-7 (1 B-26 and 2 D-2)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

3. Mirrors on the both sides operate only in the vertical (or horizontal) direction

Door mirror control SW. function	NG	SW. malfunction	Replace the door mirror control SW.

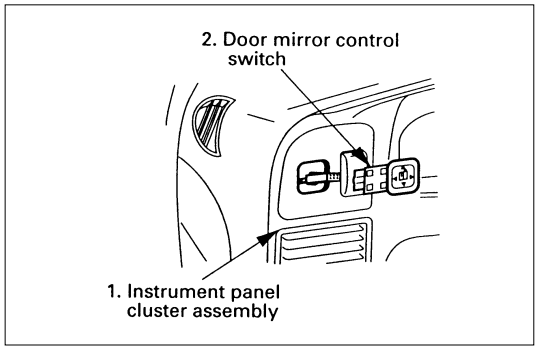
4. Mirror on the left side operates only in the vertical (or horizontal) direction

Checkpoint		Trouble Cause	Countermeasure
Door mirror control SW. function	NG	SW. malfunction	Replace the door mirror control SW.
OK			
Door mirror function	NG	Door mirror malfunction	Repair or replace the door mirror
OK			
Continuity between [LHD] 8 B-26 and 3 D-2 (10 B-26 and 1 D-7) [RHD] 8 B-26 and 3 D-7 (10 B-26 and 1 D-2)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

5. Mirror on the right side operates only in the vertical (or horizontal) direction

Door mirror control SW. function	NG	Door mirror control malfunction	Replace the door mirror control SW.
OK			
Door mirror function	NG	Door mirror malfunction	Repair or replace the door mirror
OK			
Continuity between [LHD] 7 B-26 and 3 D-7 (5 B-26 and 1 D-7) [RHD] 7 B-26 and 3 D-2 (5 B-26 and 1 D-2)	NG	Open circuit or poor connector contact	Repair open circuit or connector contact

REMOVAL AND INSTALLATION



DOOR MIRROR CONTROL SWITCH

Removal

1. **Instrument Panel Cluster Assembly**
   - Refer to section 10 “BODY” for instrument panel cluster assembly removal steps.
2. **Door Mirror Control Switch**
   - Disconnect the switch connector.
   - To remove the switch, push the lock from the back side of the cluster assembly.

Installation

To install, follow the removal steps in the reverse order.

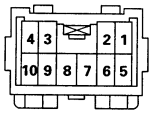
DOOR MIRROR

Removal and Installation

Refer to the DOOR MIRROR in section 10 “BODY”.

INSPECTION AND REPAIR

B-26



Switch side

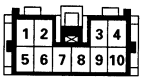
Door Mirror Control Switch

1. Switch side Connector Circuit

Check continuity between the switch connector terminals while operating the door mirror control switch as shown in the following table.

Switch position \ Connector No.		4	9	1	8	10	7	5
Door mirror (RH)	△ (Up)	○	○	○			○	○
	▽ (Down)	○	○	○			○	
	◁ (Left)	○	○	○			○	○
	▷ (Right)	○	○	○				○
Door mirror (LH)	△ (Up)	○	○	○	○	○		
	▽ (Down)	○	○	○	○			
	◁ (Left)	○	○	○	○	○		
	▷ (Right)	○	○	○		○		

B-26



Harness side

2. Harness Side Connector Circuit

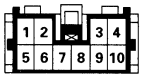
Remove the connector No. B-26 of the mirror control switch and check voltage and continuity of the harness side connector.

- When there is no continuity at the terminal No. 5, 7, 8 and 10, it is considered that the circuit with terminal No. 1 (B/W) is defective.

- When there is no continuity at either one of the circuit No, 5, 7, 8, or 10, the motor in the mirror of the circuit or the circuit itself is defective.

Terminal No.	Wire color	Connection to	Check item	Connecting terminal	Check condition	Standard
1	B/W	LH mirror & RH mirror	Continuity	1-Ground	-	No continuity
4	R/L	Fuse CB-19 (15A)	Voltage	4-Ground	Starter SW "ACC" position	Approx. 12V
5	V	RH mirror-LH/RH	Continuity	5-1	-	Continuity
7	W/B	RH mirror-Up/Down		7-1	-	
8	W/G	LH mirror-Up/Down		8-1	-	
9	B	Ground		9-Ground	-	
10	B/R	LH mirror-LH/RH		10-1	-	

B-26



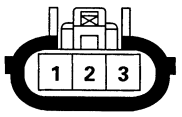
Harness side

Door Mirror

1. Door Mirror Control Switch Connector Circuit

Disconnect the switch connector (B-26), apply the battery voltage to the harness side connector terminals and check its function.

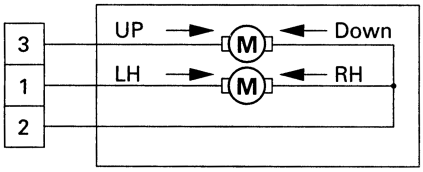
Mirror \ Connector No. / Terminal No.	B-26 10	5	1	8	7	Operating direction
Right		⊕	⊖			Left
		⊖	⊕			Right
			⊖		⊕	Up
			⊕		⊖	Down
Left	⊕		⊖			Left
	⊖		⊕			Right
			⊖	⊕		Up
			⊕	⊖		Down



Door mirror side

2. Door Mirror Connector Circuit

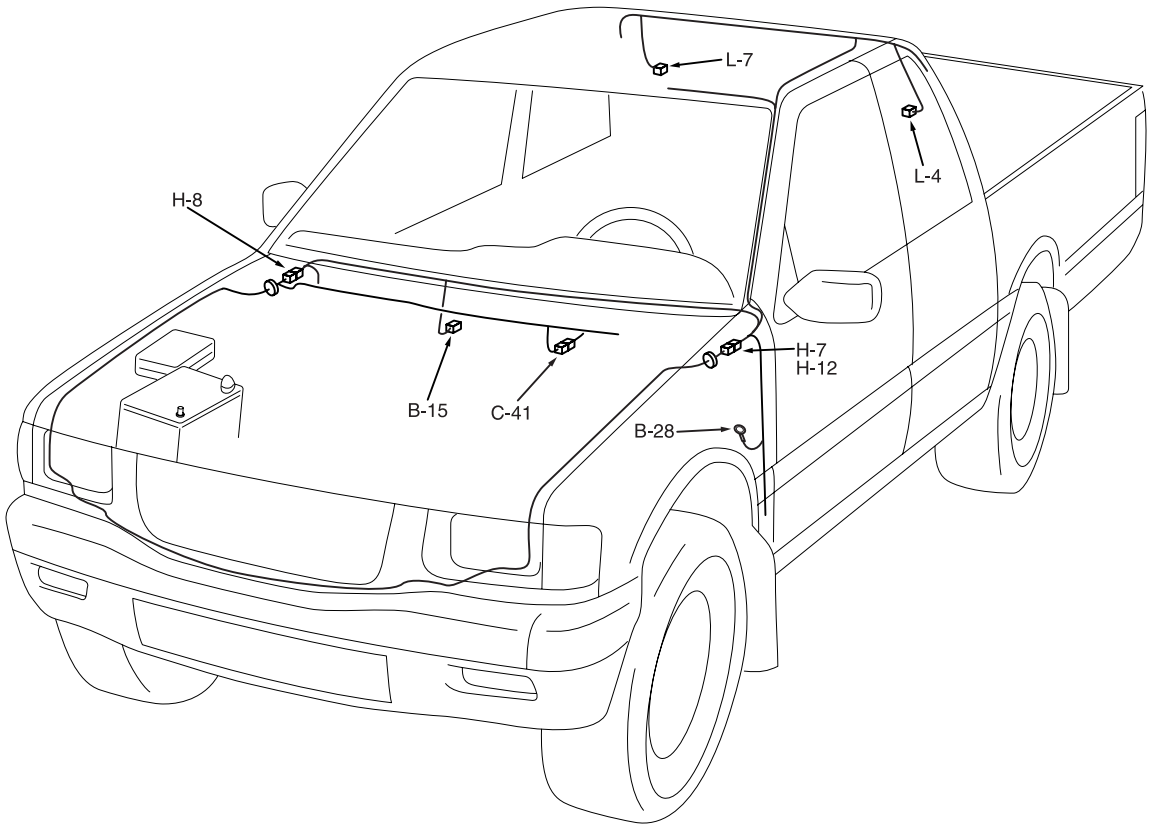
Disconnect the door mirror connector, apply the battery voltage to the door mirror side connector (D-2 and D-7) terminals and check its function.



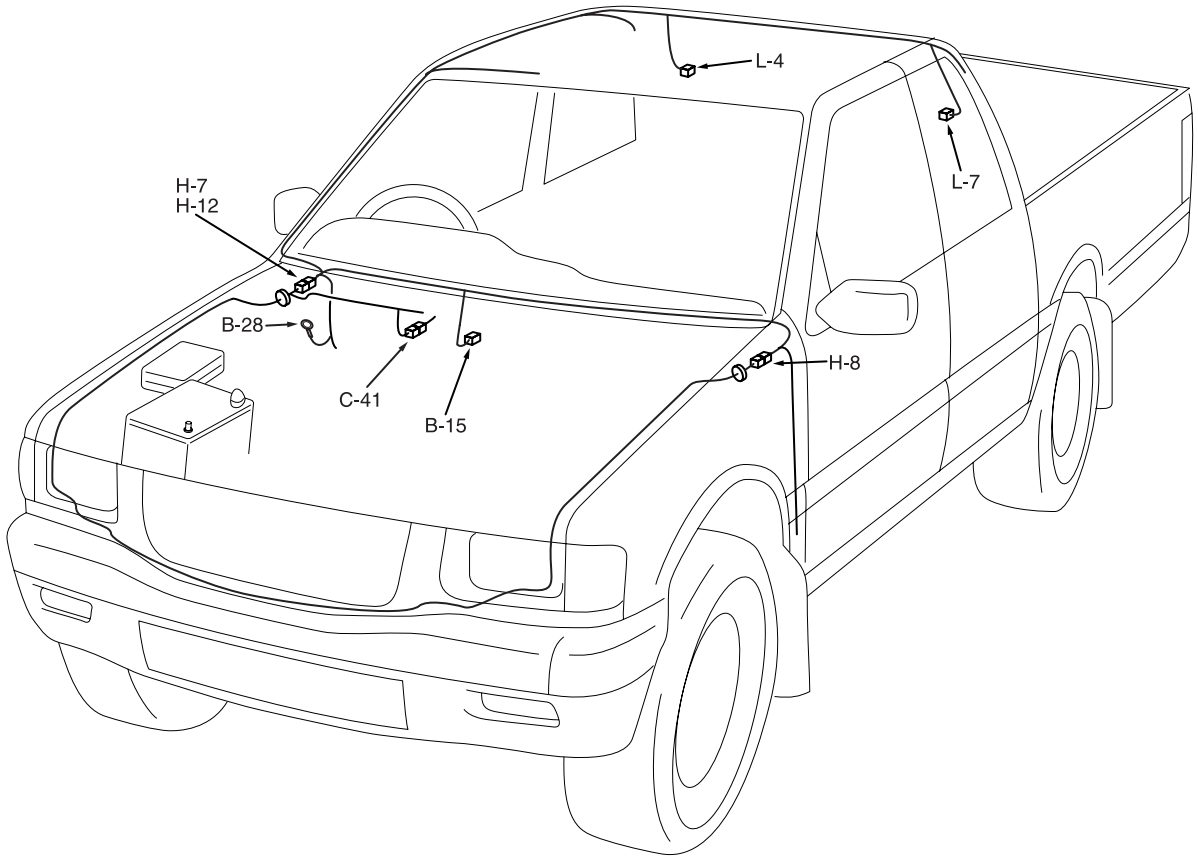
Operation \ Connector No. / Terminal No.	D-2 D-7		
	1	2	3
Up		⊖	⊕
Down		⊕	⊖
Left	⊕	⊖	
Right	⊖	⊕	

REAR DEFOGGER

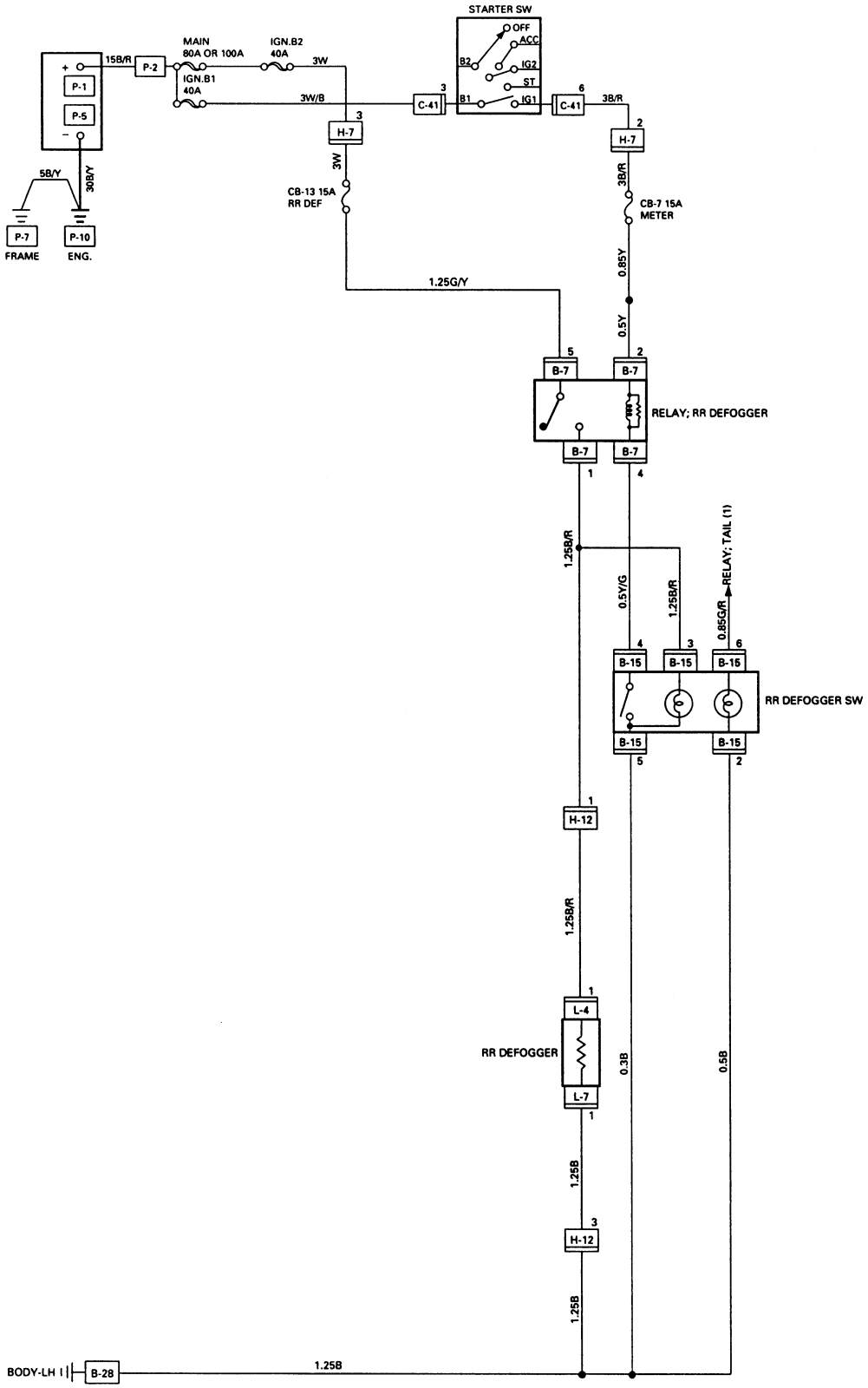
PARTS LOCATION (LHD)



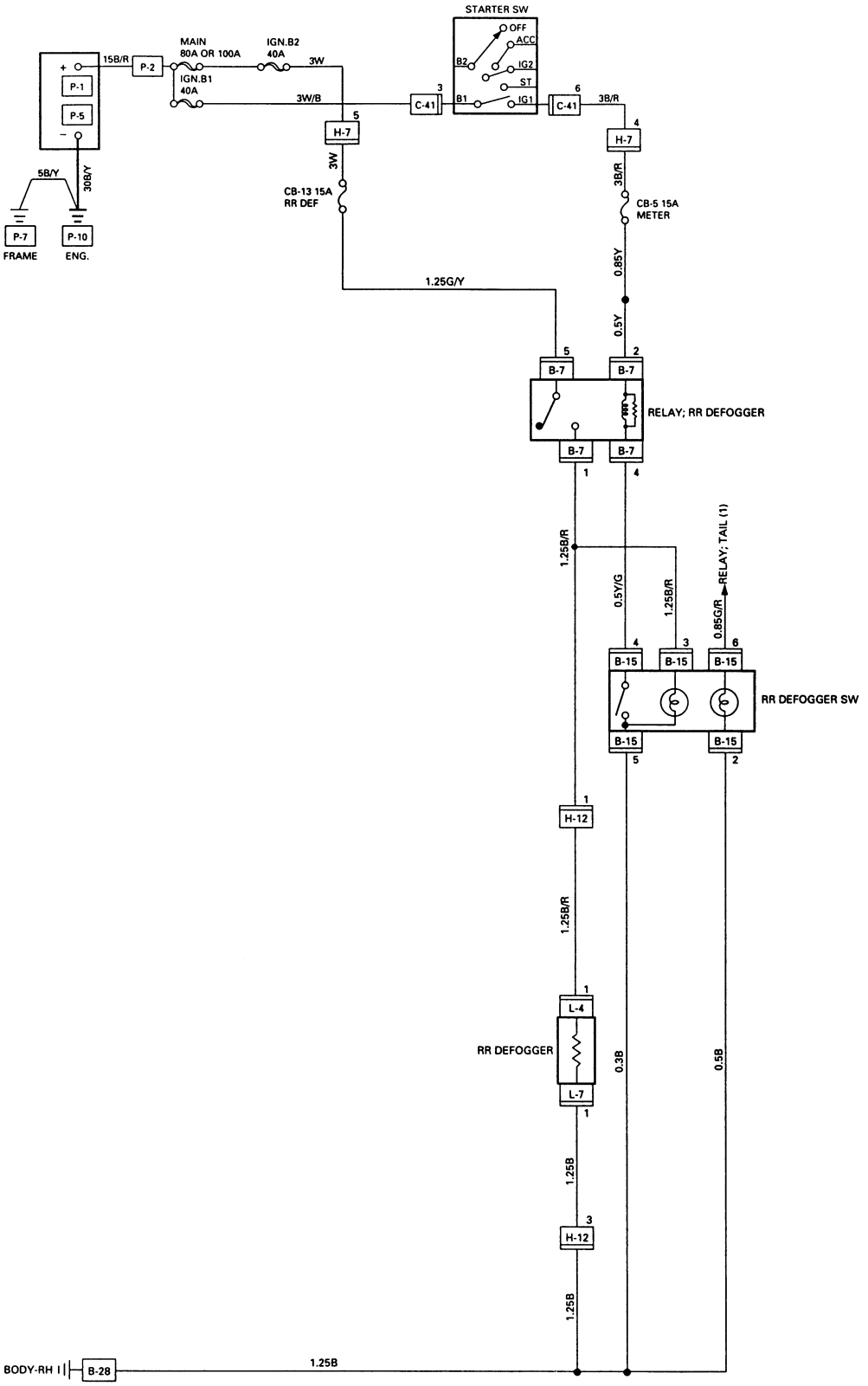
PARTS LOCATION (RHD)



CIRCUIT DIAGRAM (LHD)

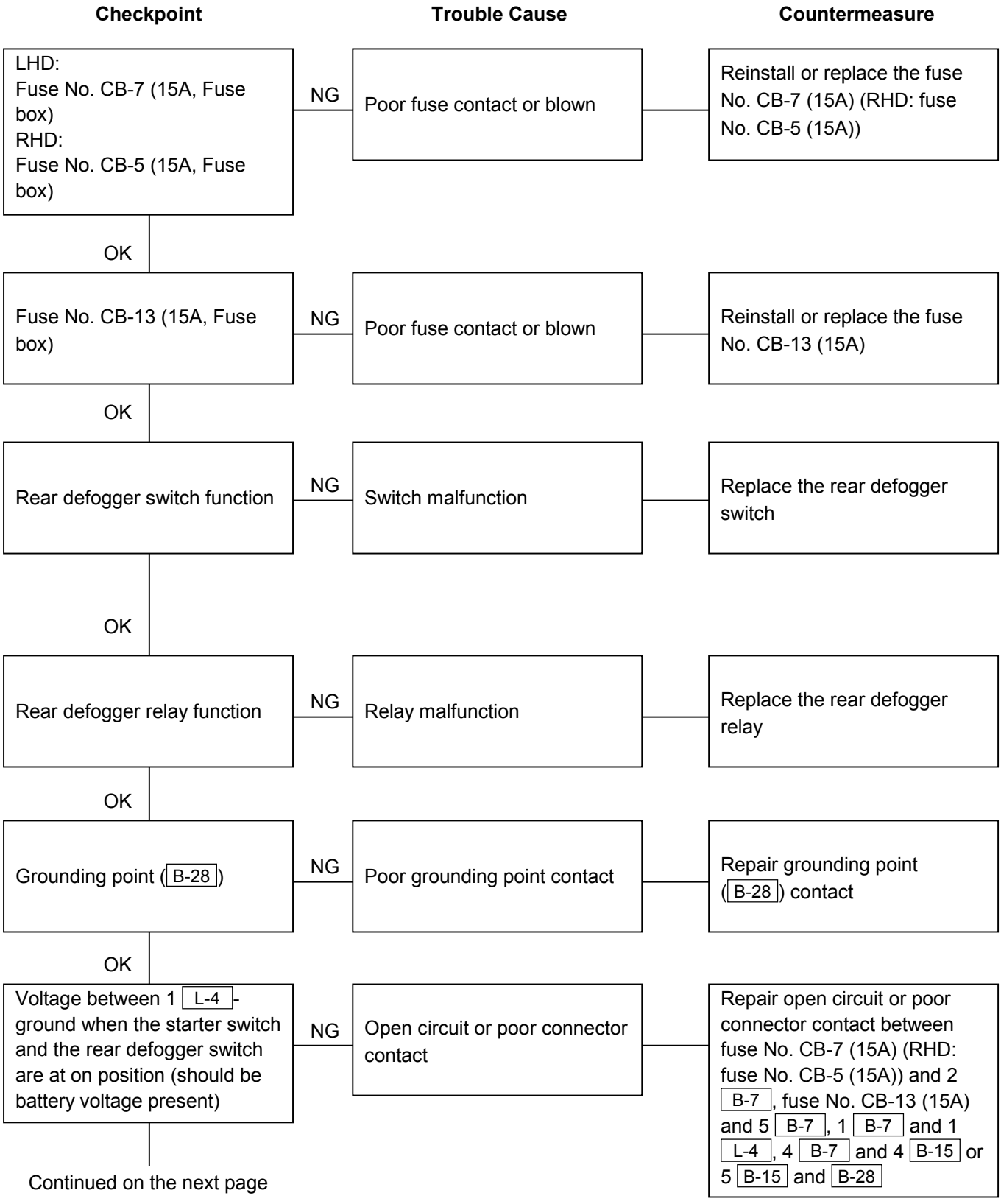


CIRCUIT DIAGRAM (RHD)

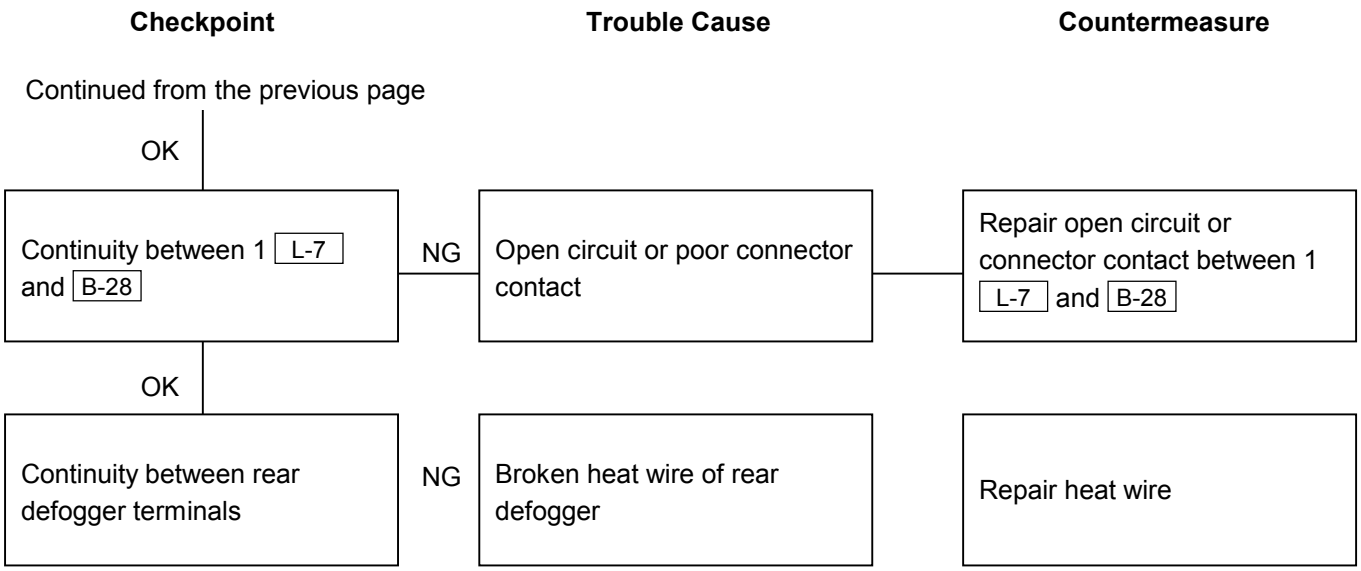


TROUBLE SHOOTING

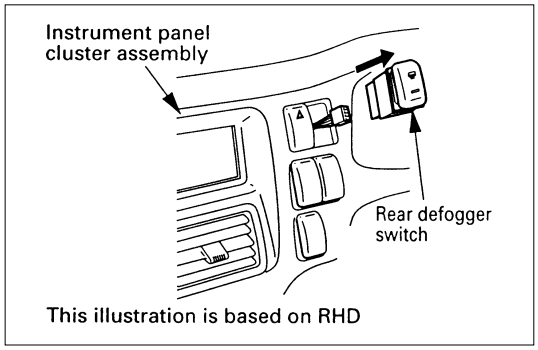
Rear defogger inoperative



Continued on the next page


Checkpoint
Trouble Cause
Countermeasure
Continued from the previous page
OK
Continuity between 1 L-7 and B-28
NG
Open circuit or poor connector contact
Repair open circuit or connector contact between 1 L-7 and B-28
OK
Continuity between rear defogger terminals
NG
Broken heat wire of rear defogger
Repair heat wire

REMOVAL AND INSTALLATION



REAR DEFOGGER SWITCH (Except South Africa, Chile)

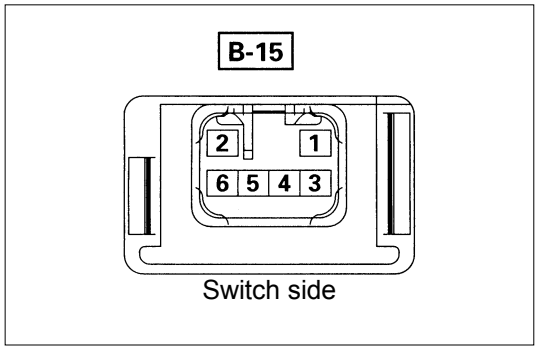
Removal

1. **Instrument Panel Cluster Assembly**
   - Refer to Section 10 “BODY” for instrument panel cluster assembly removal steps.
2. **Rear Defogger Switch**
   - Disconnect the switch connector.
   - To remove the switch, push the lock from the back side of the cluster assembly.

Installation

Follow the removal procedure in the reverse order to install the rear defogger switch.

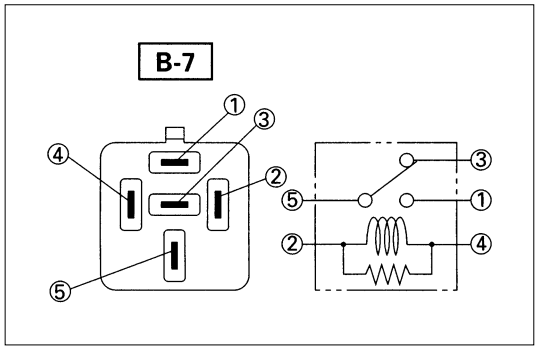
INSPECTION AND REPAIR



REAR DEFOGGER SWITCH

Rear Defogger Switch Connections

Terminal No. / SW position	3	5	4	6	2
ON					
OFF					



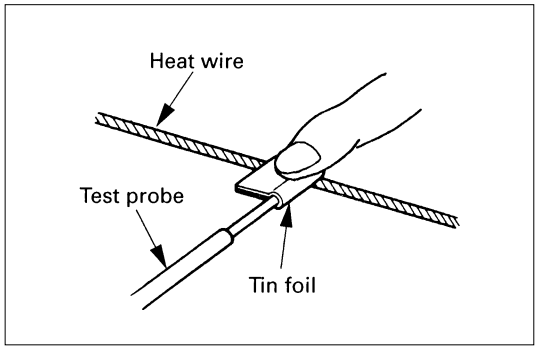
REAR DEFOGGER RELAY

Check continuity between the relay terminals.

①- ⑤..... No continuity

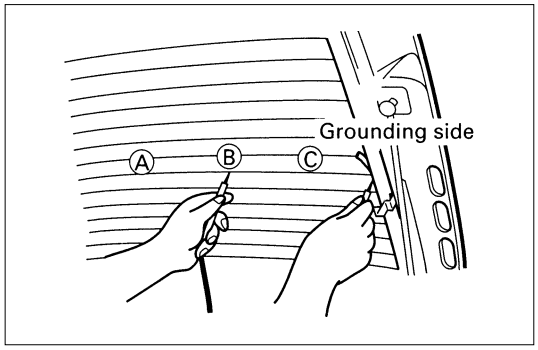
(When battery voltage is applied between ② and ④)

①- ⑤..... Continuity

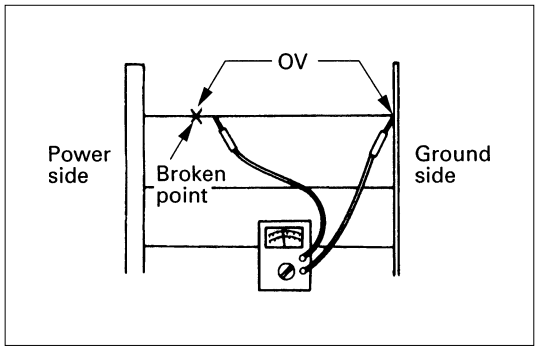


INSPECTION OF REAR DEFOGGER HEAT WIRE

- Heat wires are printed on the inner side of glass.
  To clean, use a soft cloth and wipe horizontally along the wires.
- Never use glass cleaner or equivalent.
- When measuring voltage, wind a piece of tin foil around the tip of the negative probe and press the foil against the wire with your finger as shown.

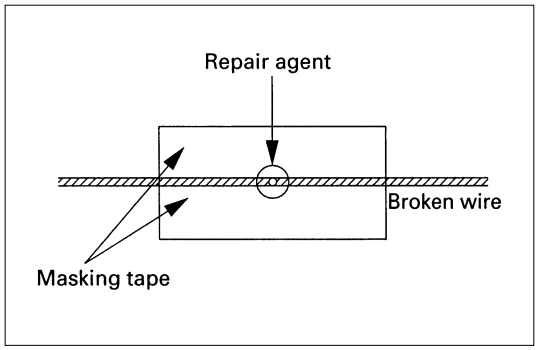


(1) Turn the ignition switch on.
(2) Turn the defogger switch on.
(3) Measure the voltage between the three points on the heat wire and the (-) terminal with a voltmeter.
(4) Check that the voltage becomes smaller from Ⓐ to Ⓑ to Ⓒ.

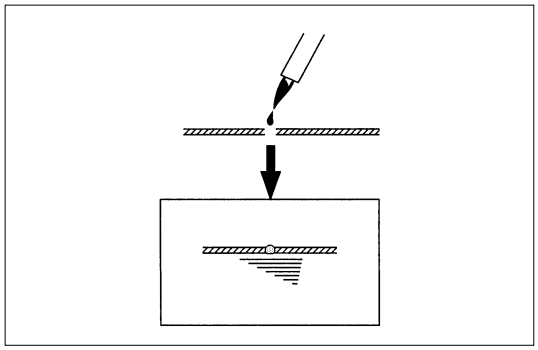


(5) If there is a place where the voltage suddenly changes to 0V, there is a broken wire between there and the power side.
(6) Move the tester probe from the position where the voltage changes to 0V toward the power side and find where the voltage suddenly increases.

REPAIR OF BROKEN HEAT WIRE



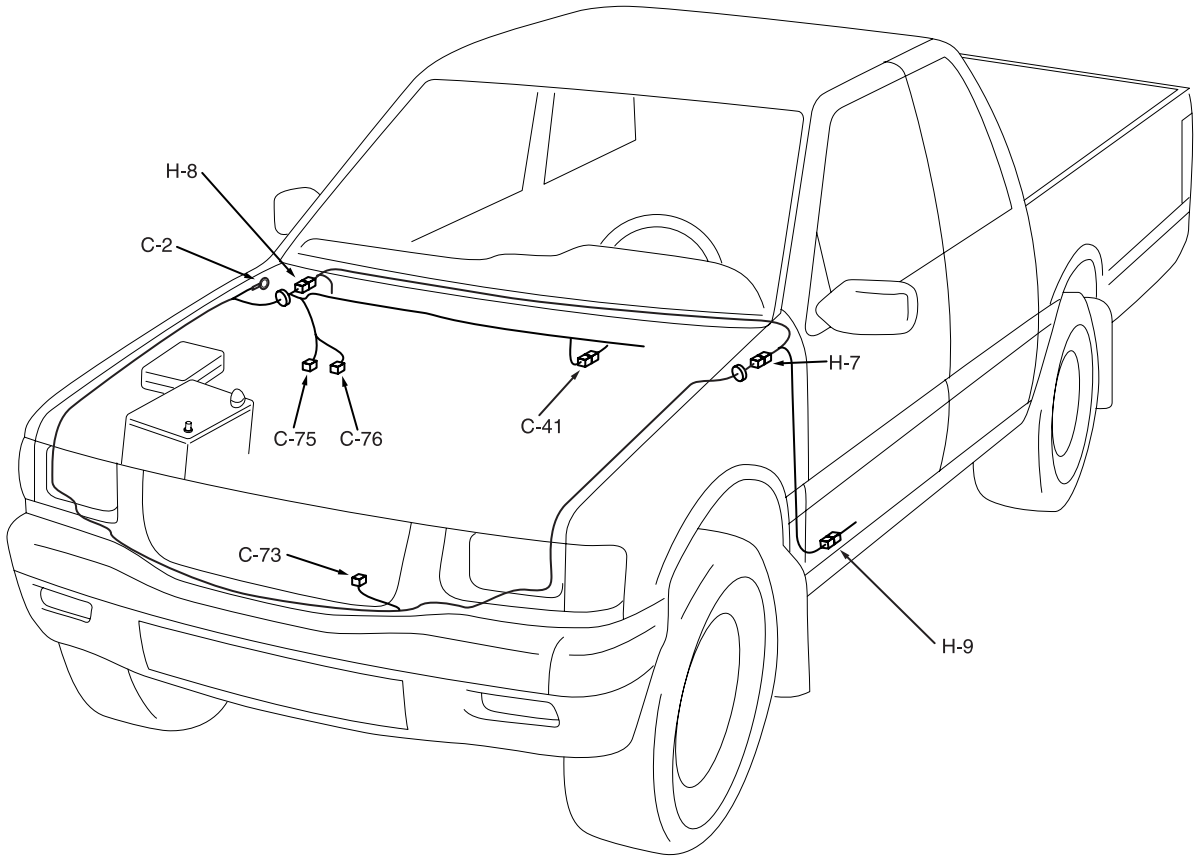
(1) Clean broken wire tips with white gasoline.
(2) Place masking tape along both sides of wire to be repaired.



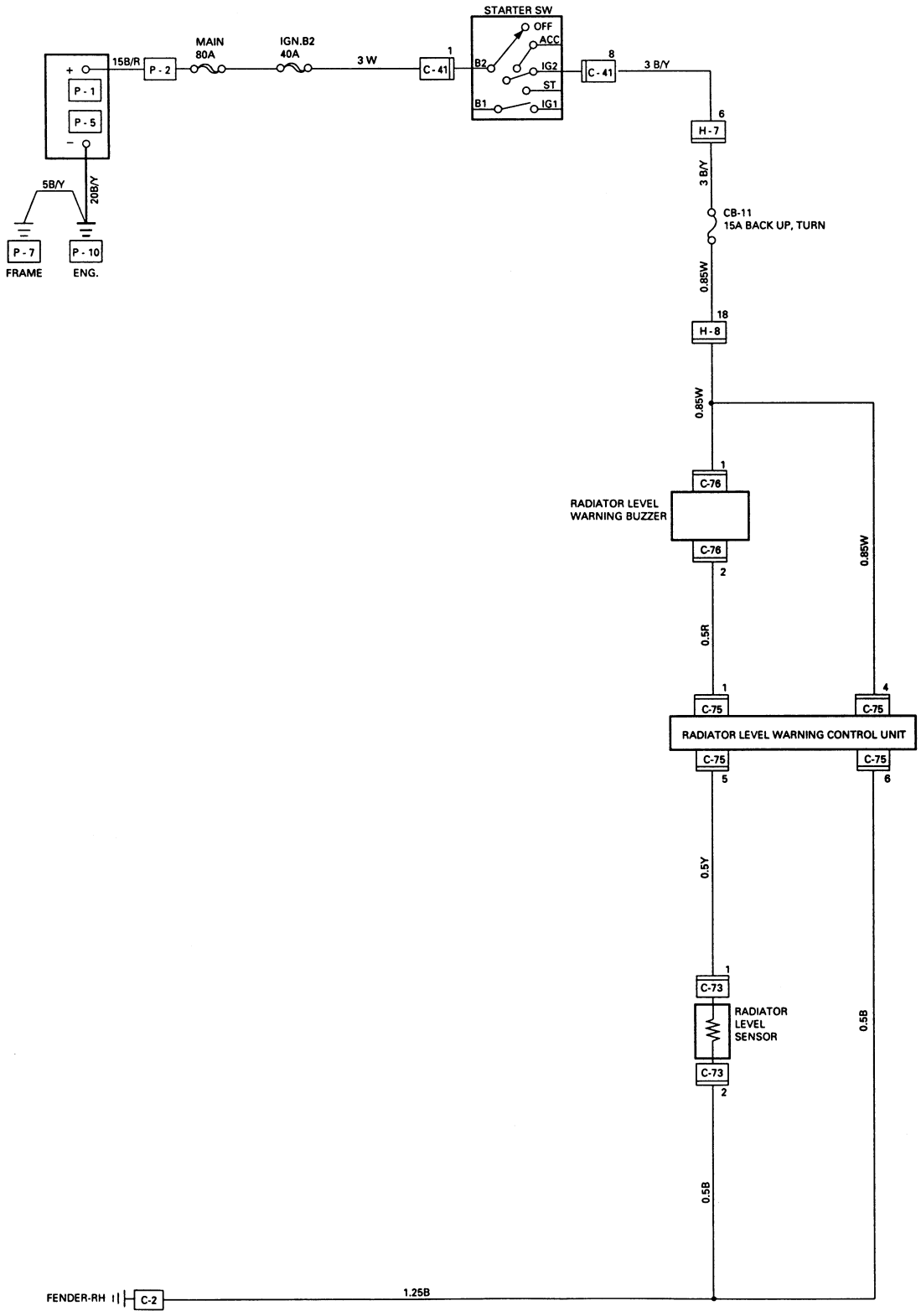
(3) Thoroughly mix the repair agent (Dupont paste No. 4817 or equivalent).
(4) Using a fine tip brush, apply a small amount to the wire.
(5) After a couple of minutes, remove the masking tape.
(6) Allow to stand at least 24 hours.

RADIATOR LEVEL CONTROL WARNING SYSTEM

PARTS LOCATION

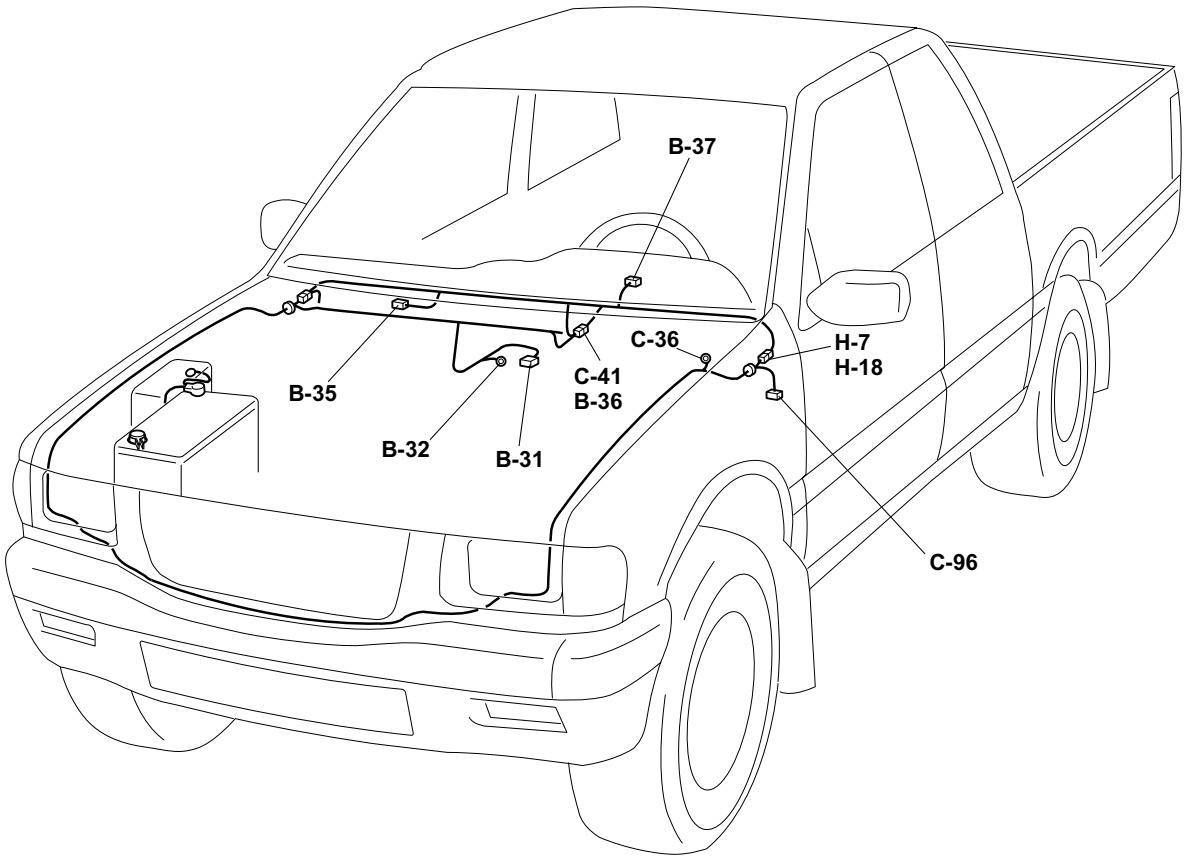


CIRCUIT DIAGRAM

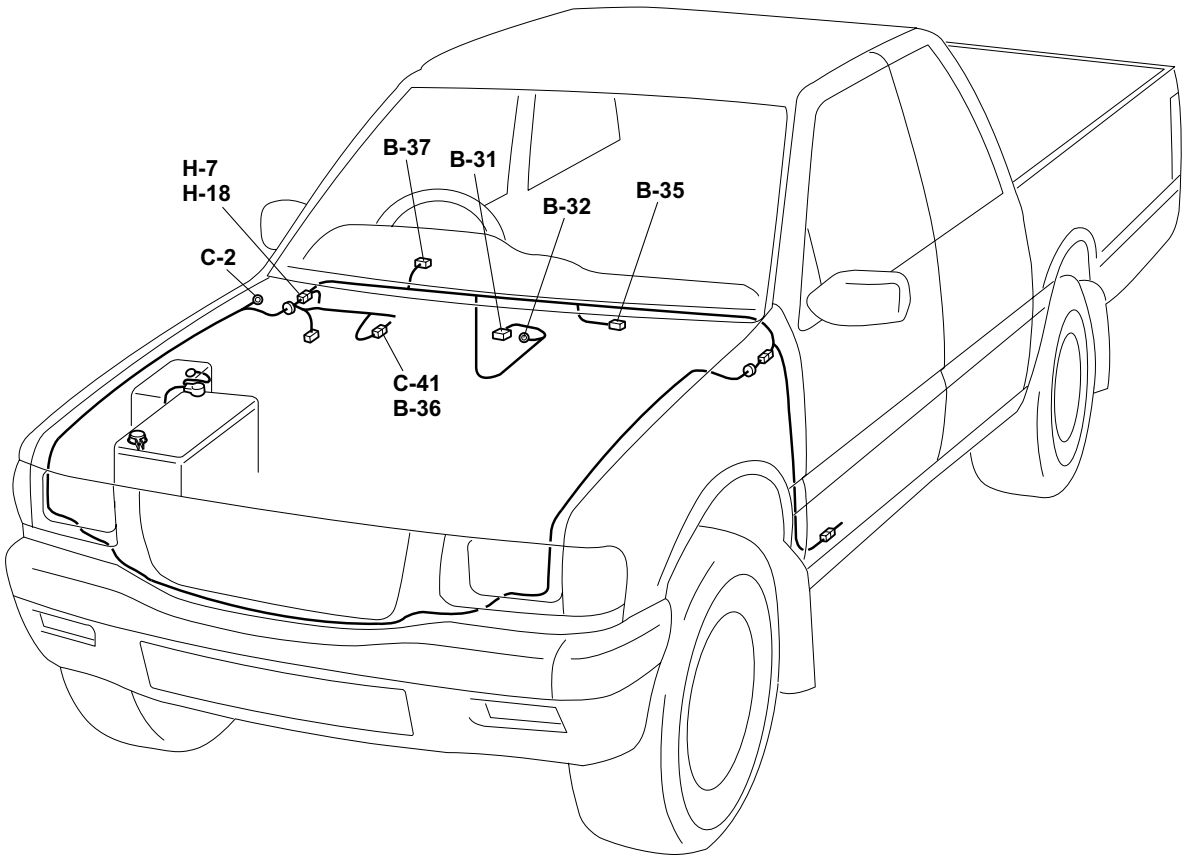


SRS-AIR BAG

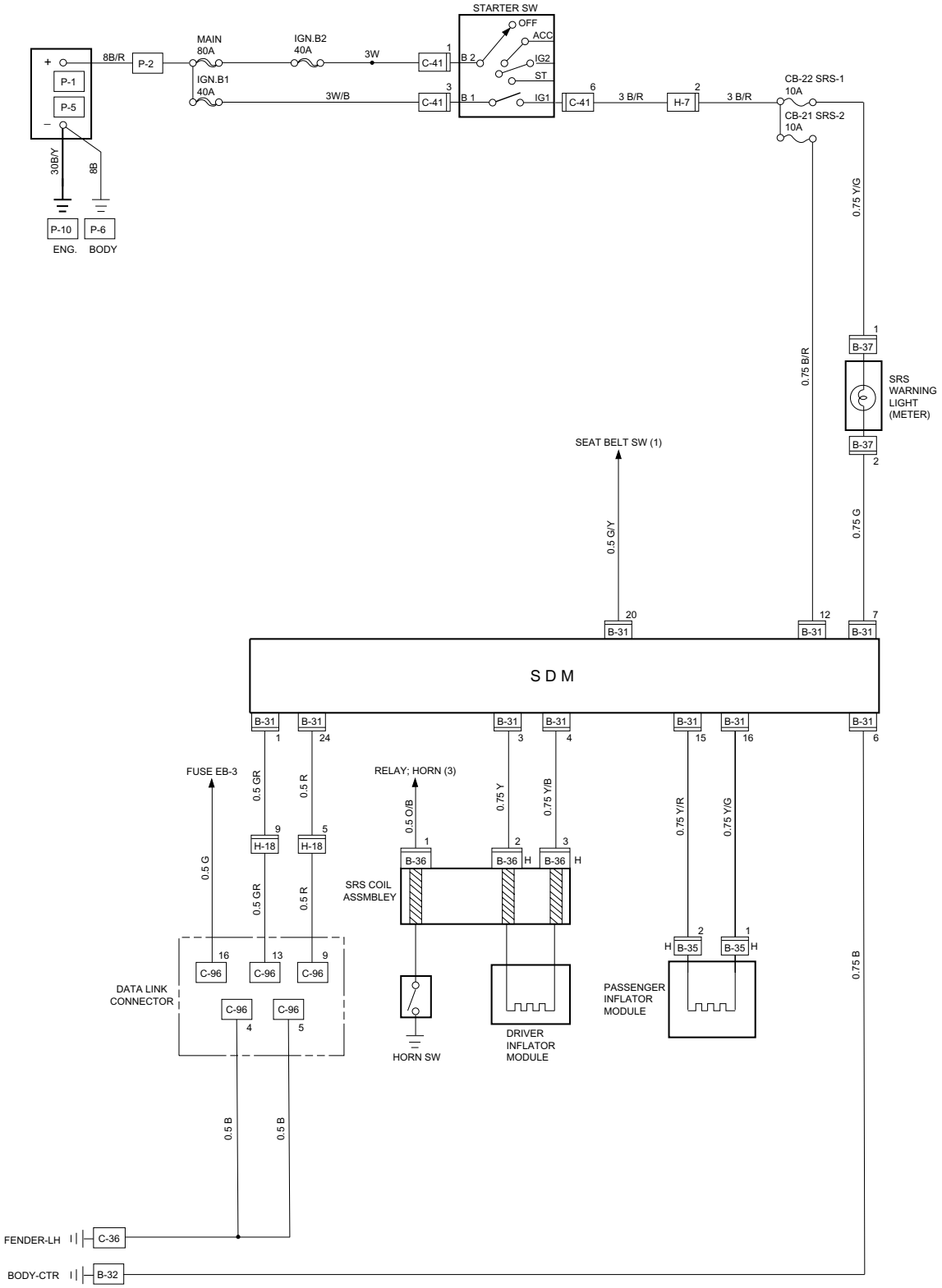
PARTS LOCATION (EC-LHD)



PARTS LOCATION (RHD)

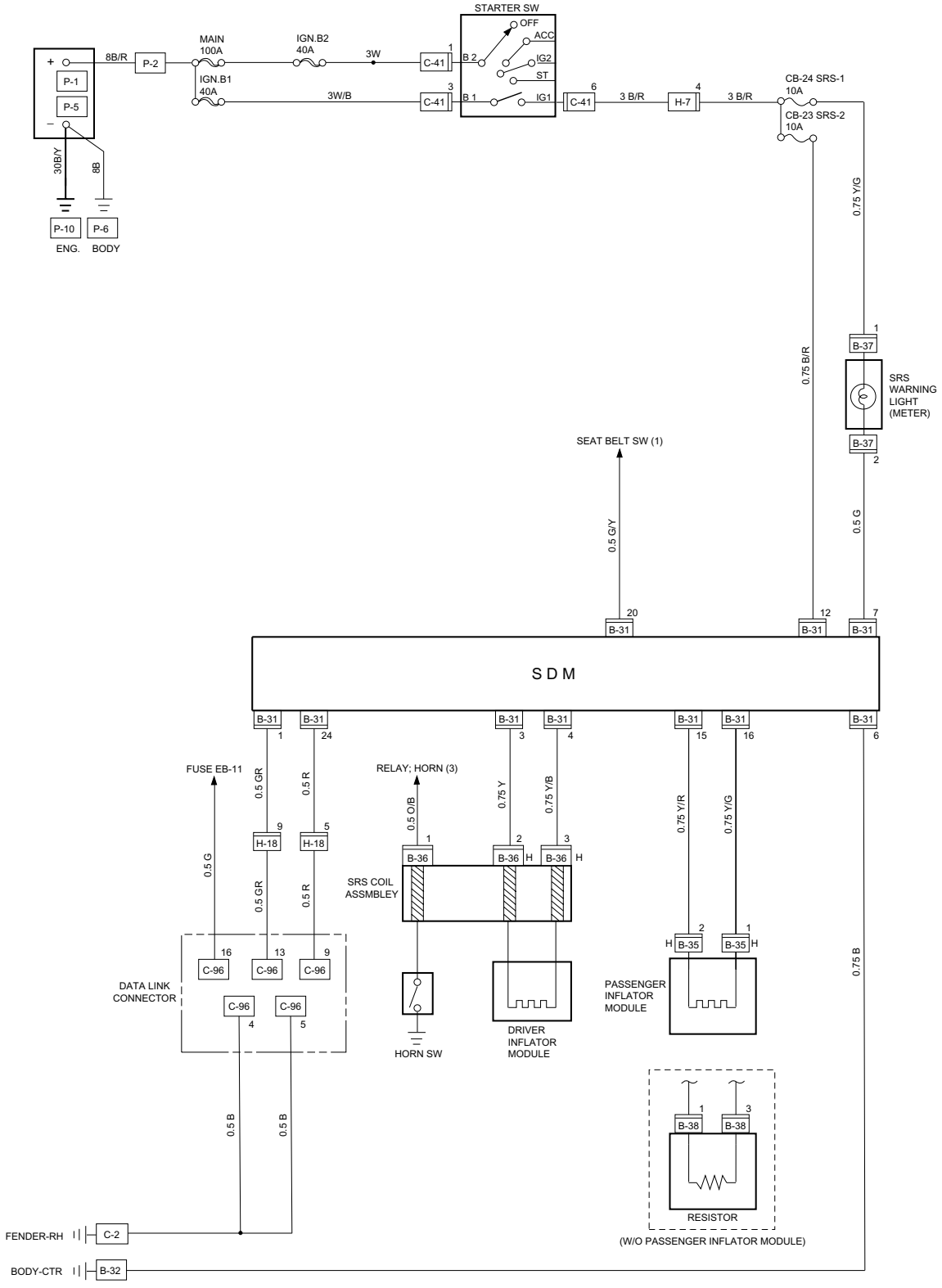


CIRCUIT DIAGRAM (EC-LHD)



The terminals marked with a star (★) are gold plated.

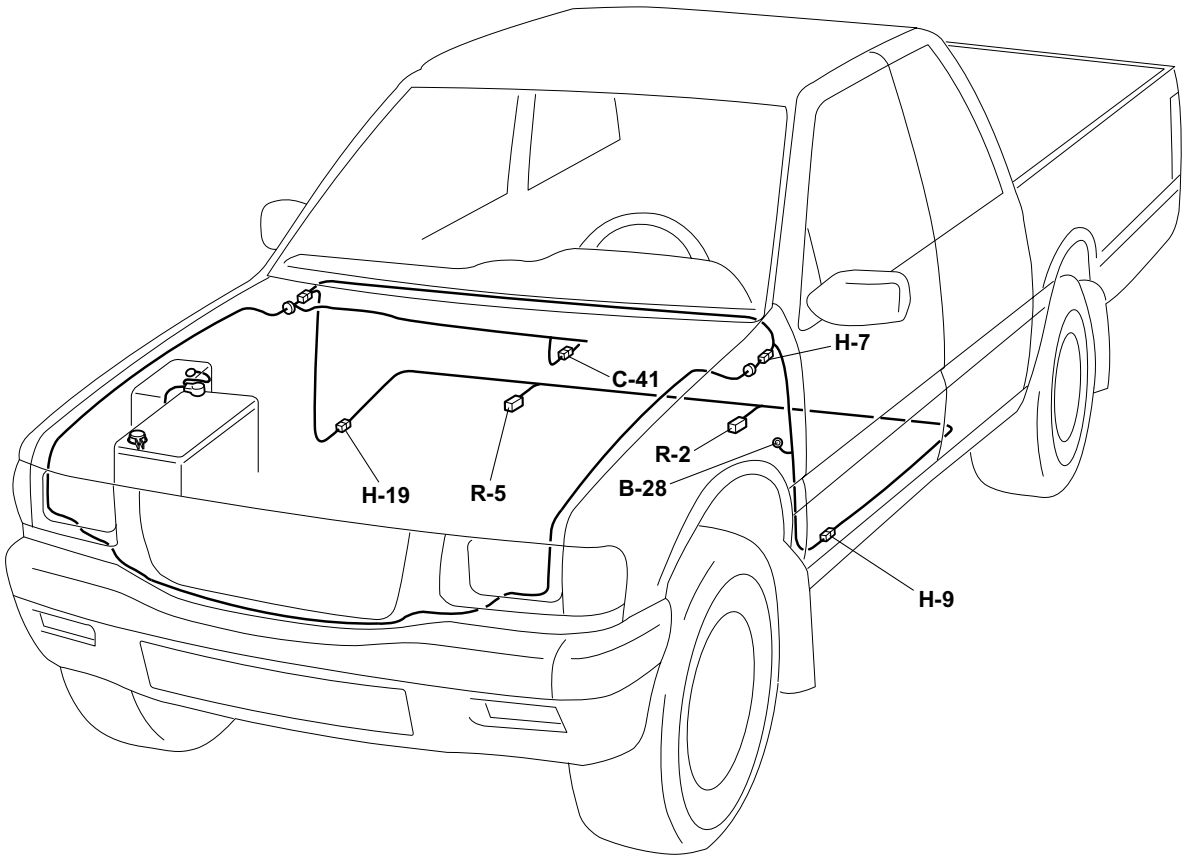
CIRCUIT DIAGRAM (RHD)



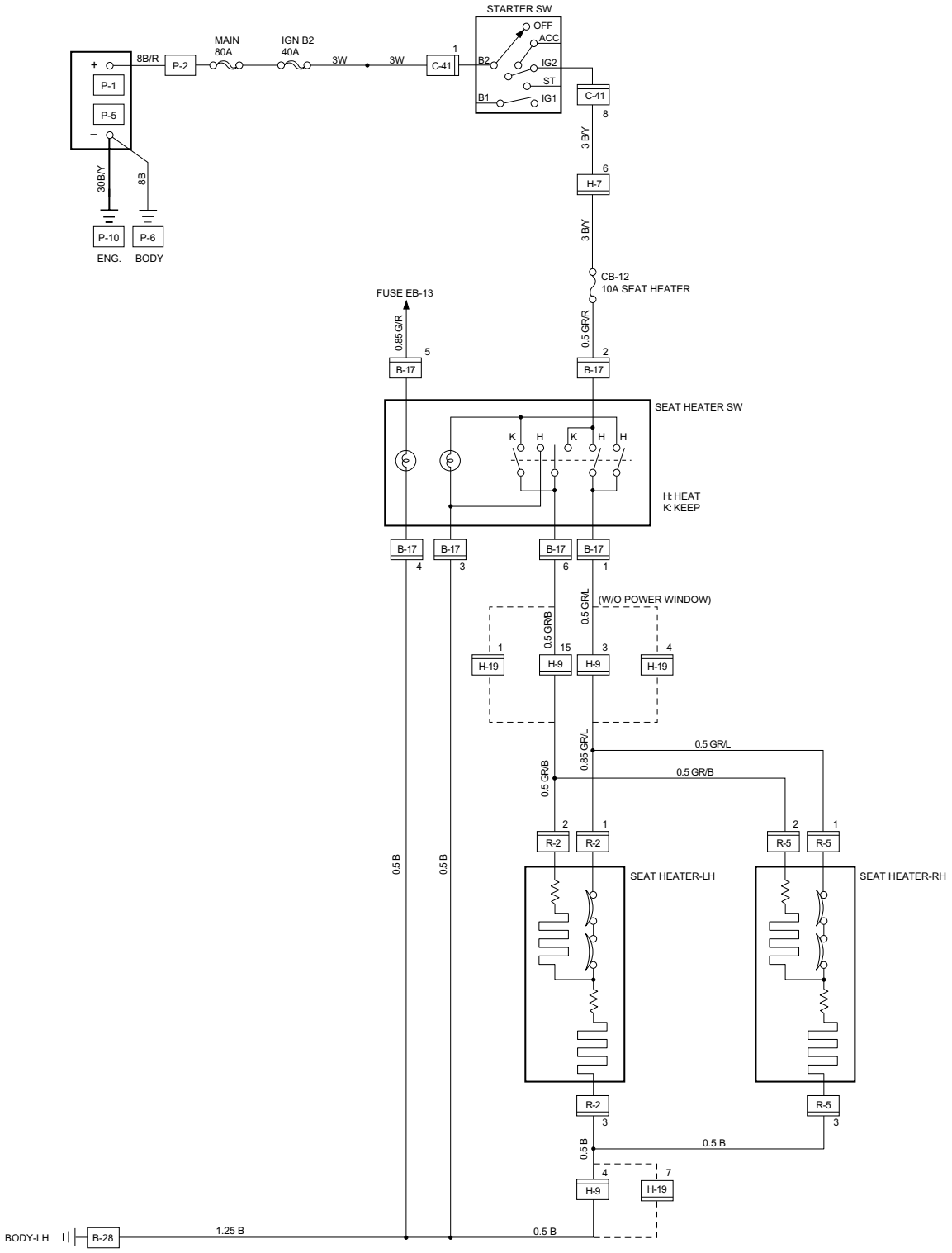
The terminals marked with a star (★) are gold plated.

SEAT HEATER

PARTS LOCATION (EC-LHD)

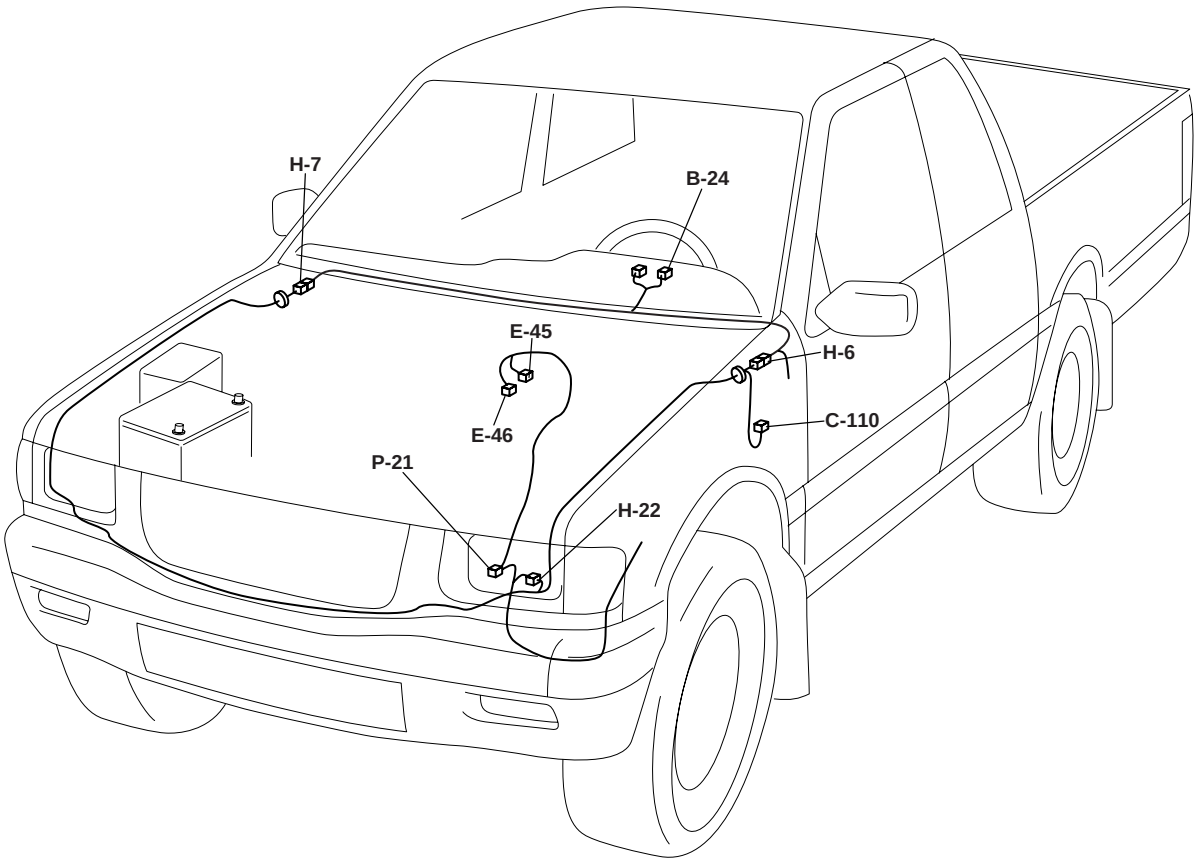


CIRCUIT DIAGRAM

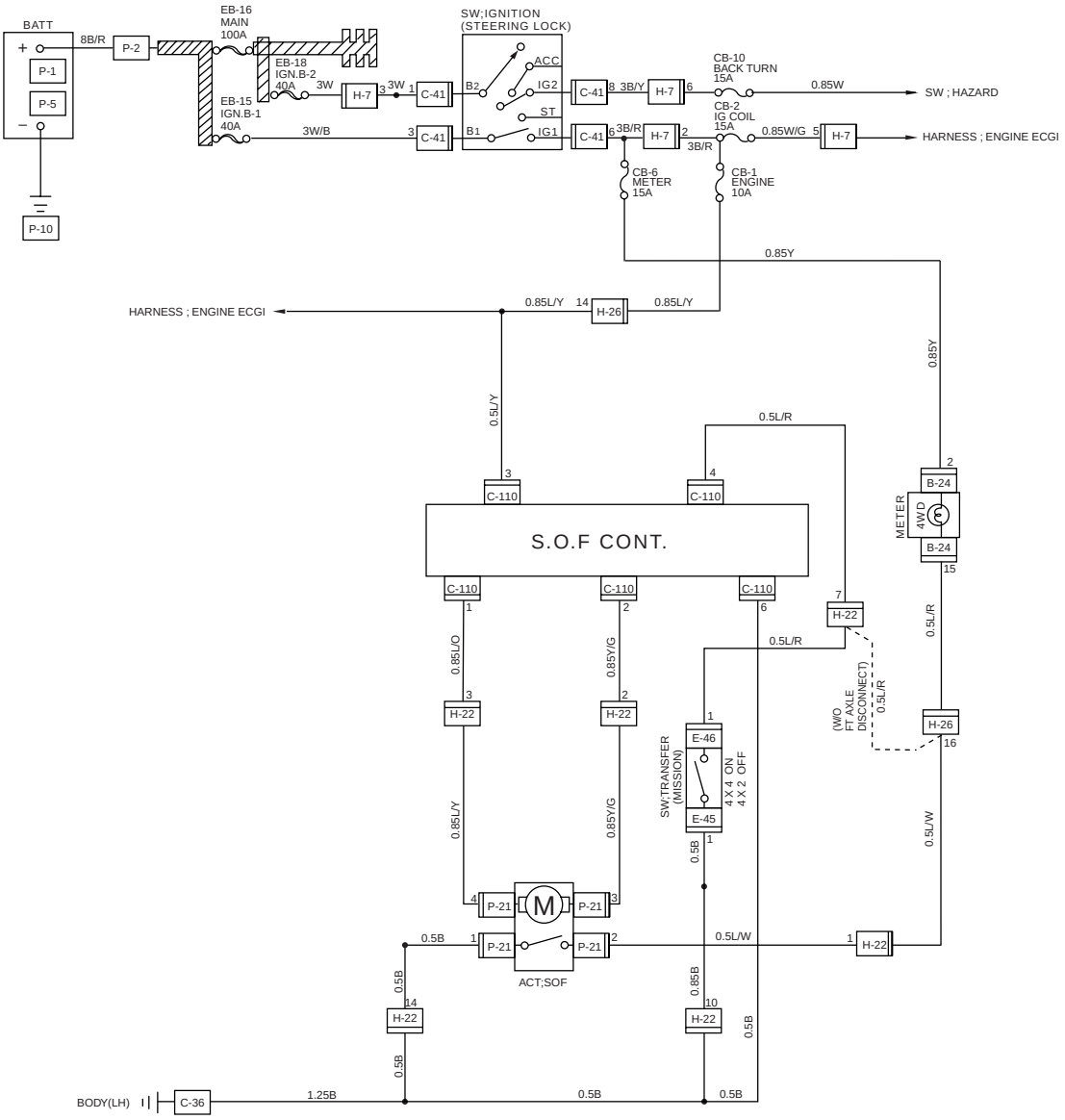


SHIFT ON THE FLY

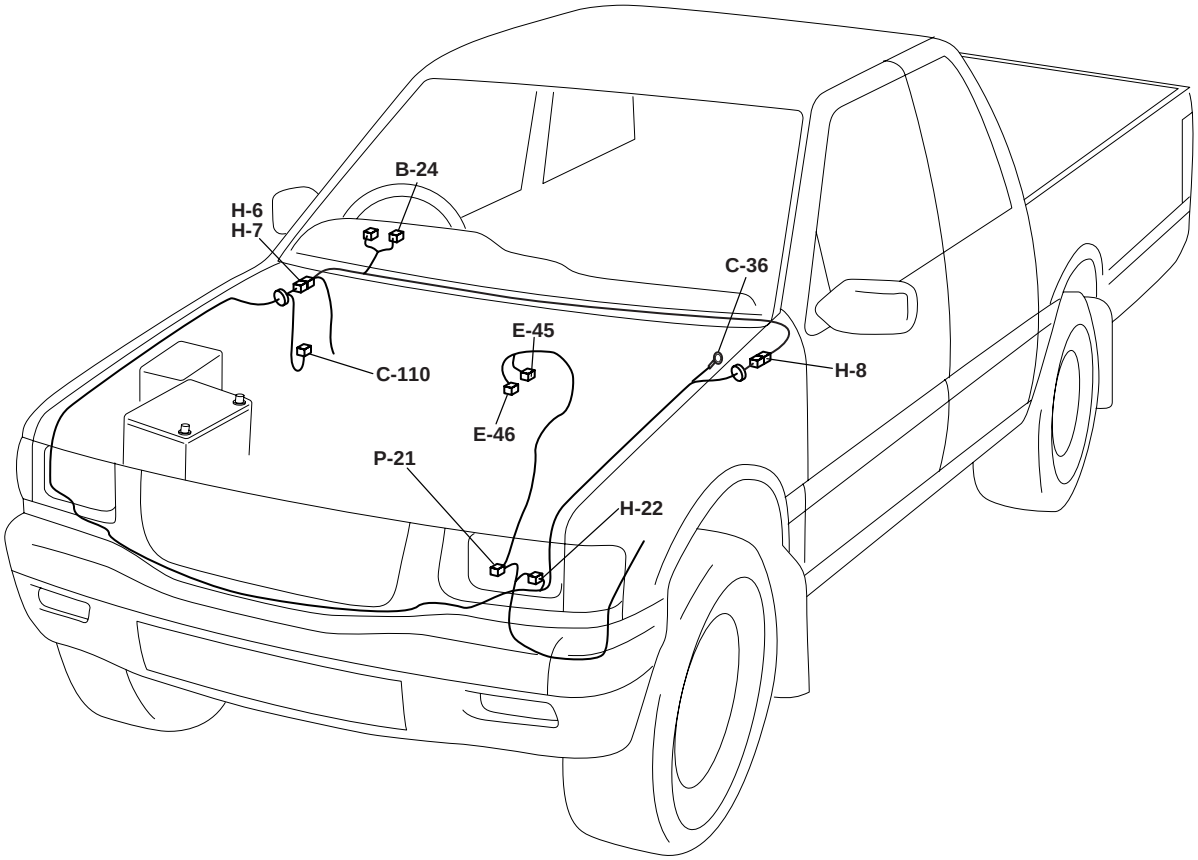
PARTS LOCATION (6VD1-LHD)



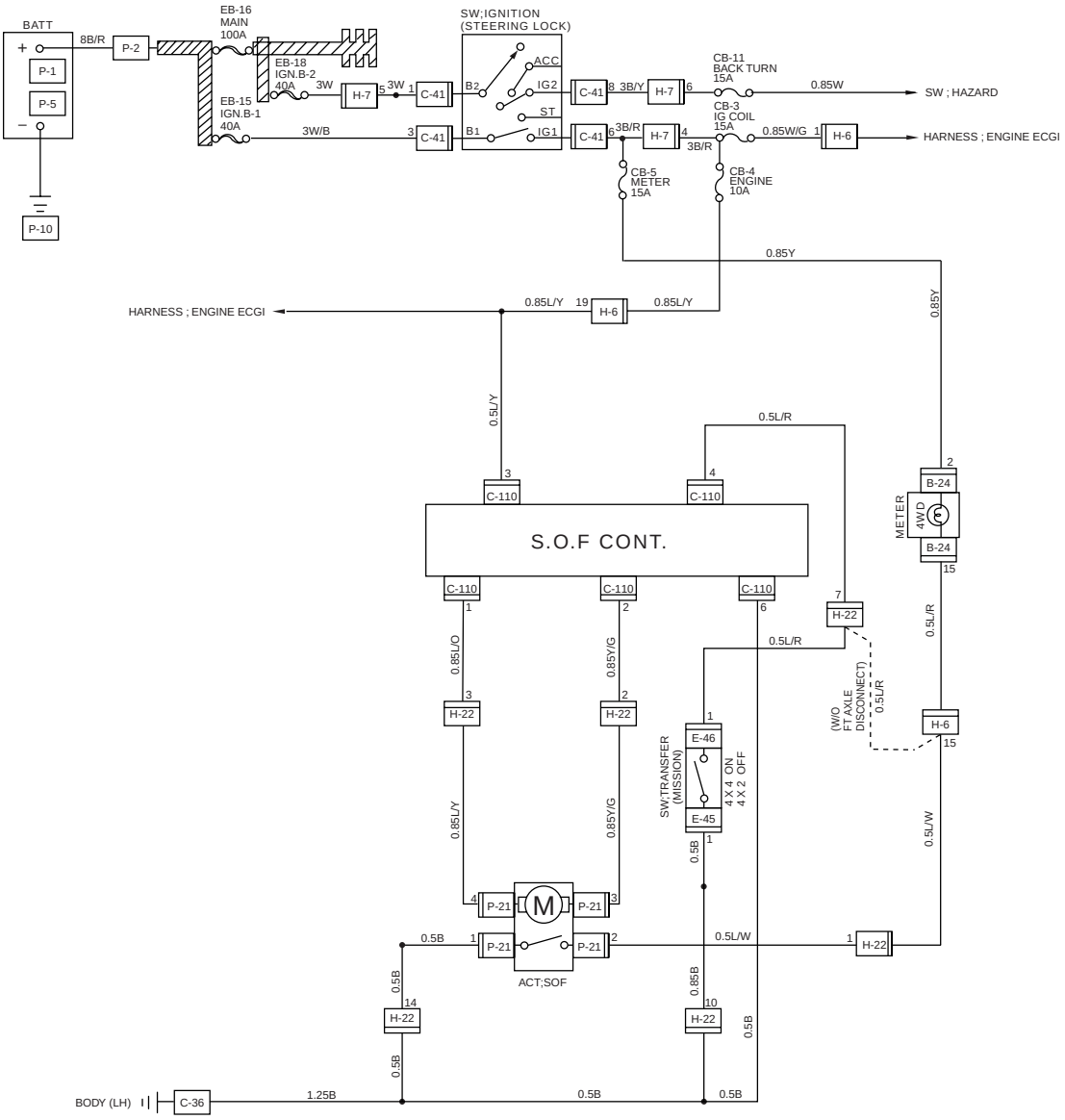
CIRCUIT DIAGRAM



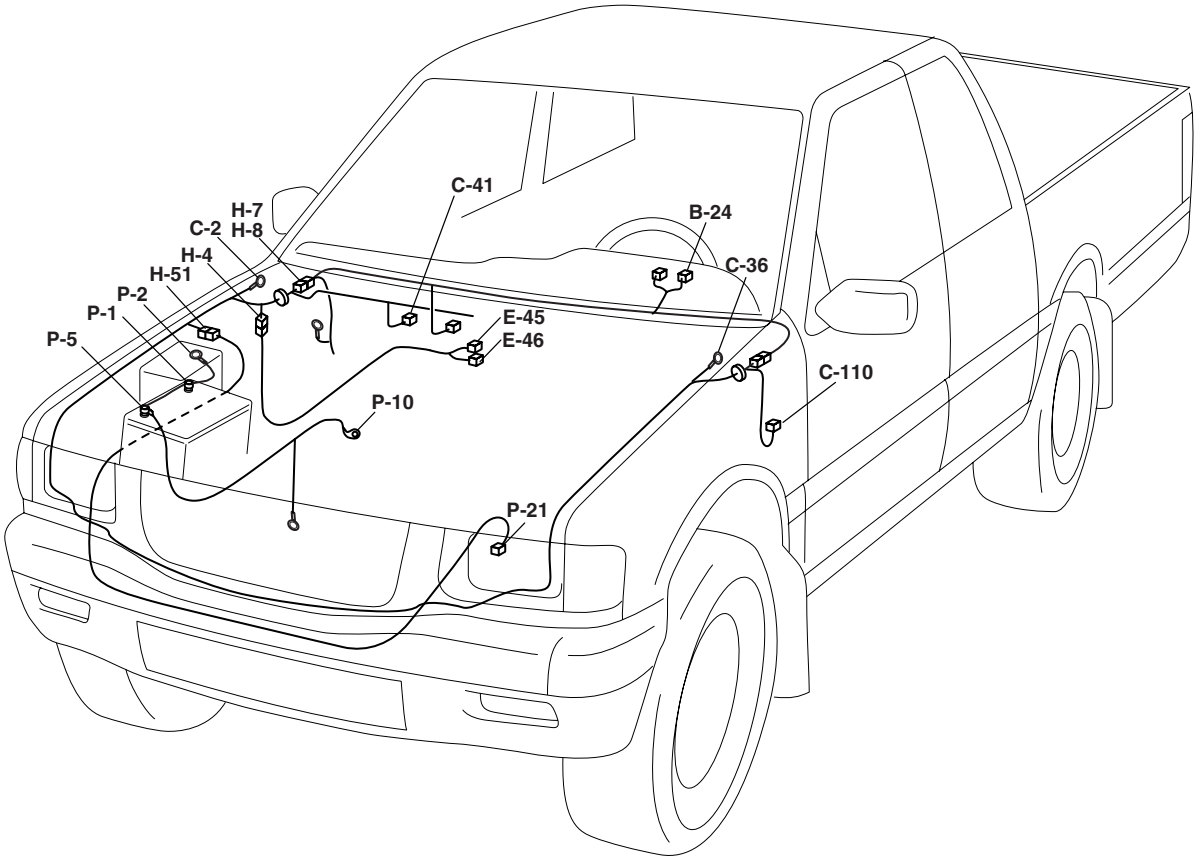
PARTS LOCATION (6VD1-RHD)



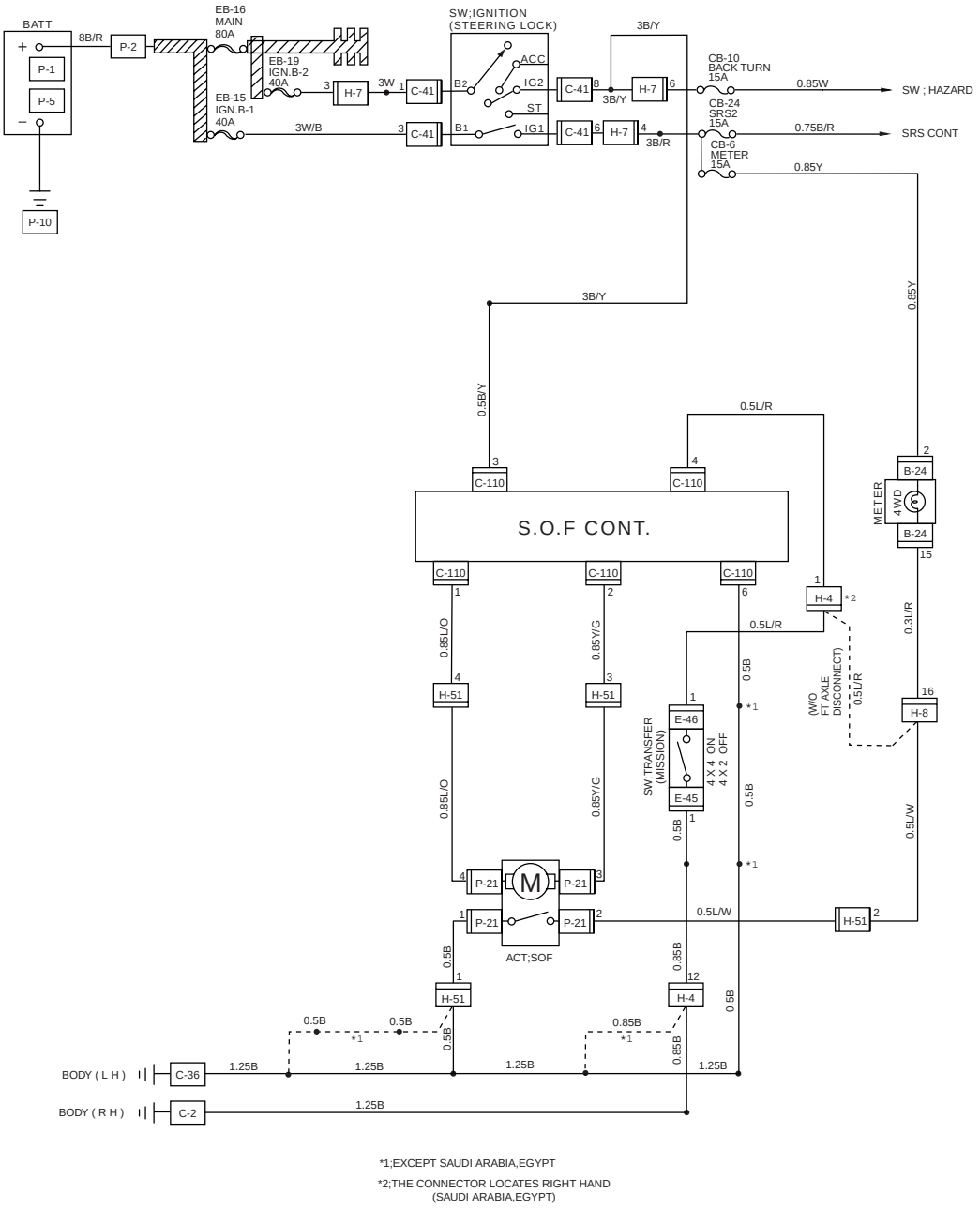
CIRCUIT DIAGRAM



PARTS LOCATION (4JB1-LHD)



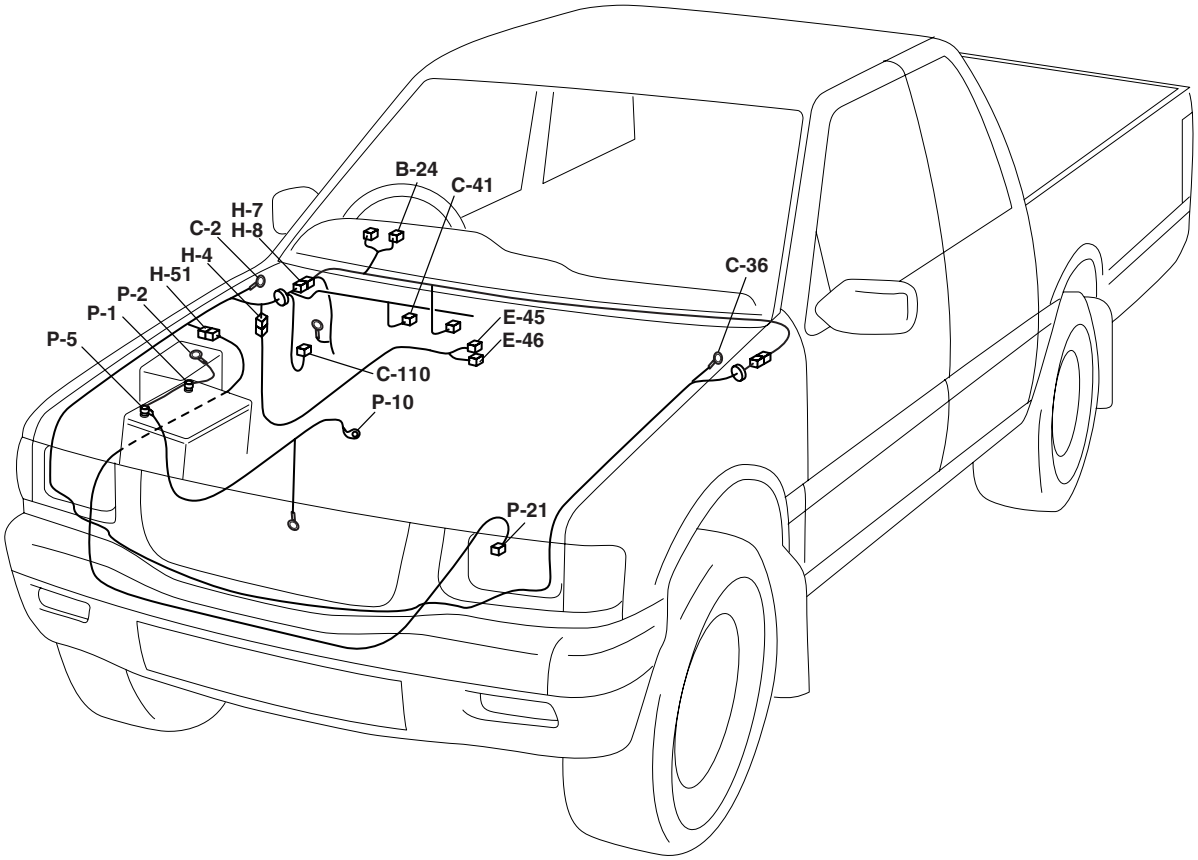
CIRCUIT DIAGRAM



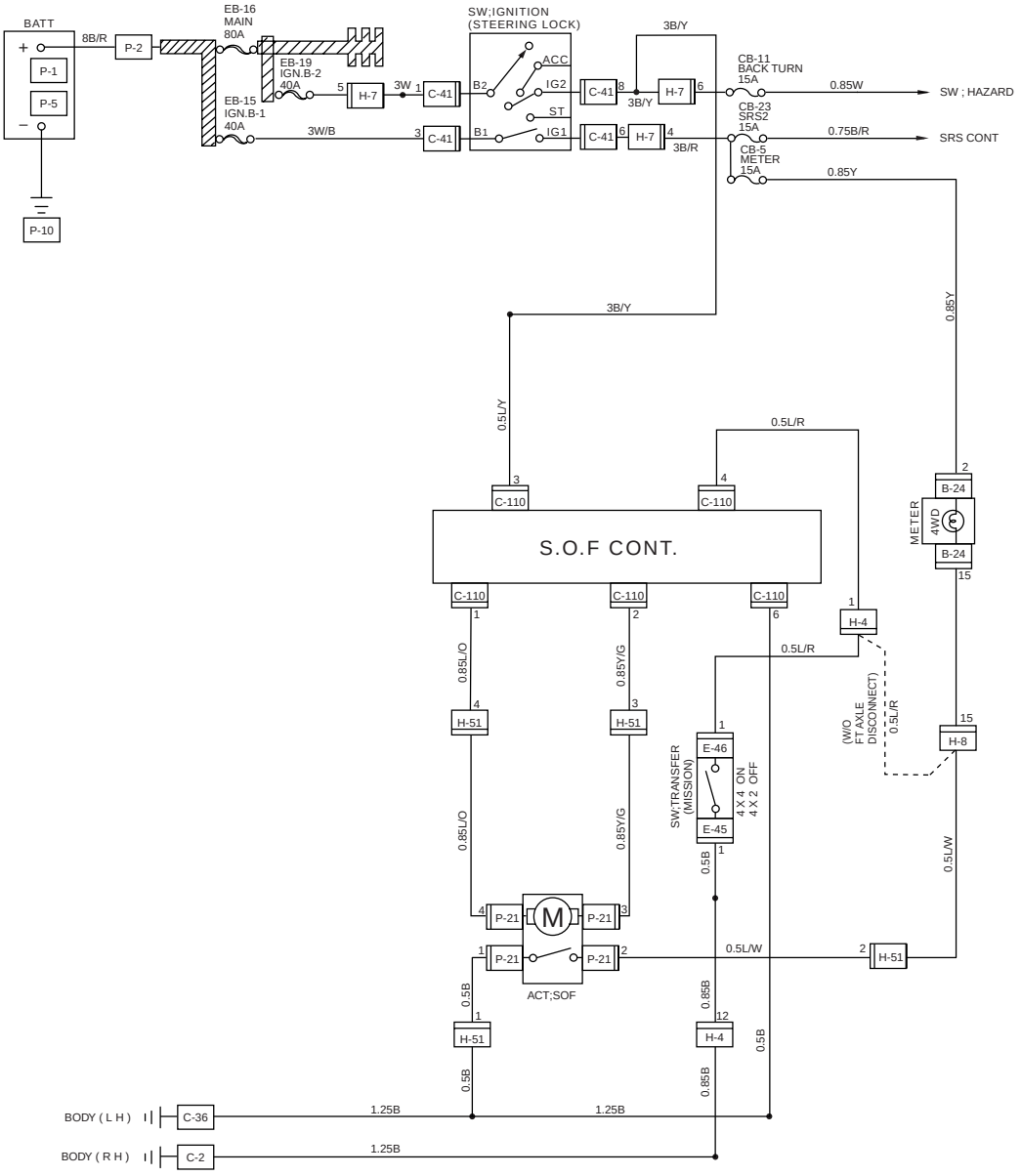
*1;EXCEPT SAUDI ARABIA,EGYPT

*2;THE CONNECTOR LOCATES RIGHT HAND
(SAUDI ARABIA,EGYPT)

PARTS LOCATION (4JB1-RHD)

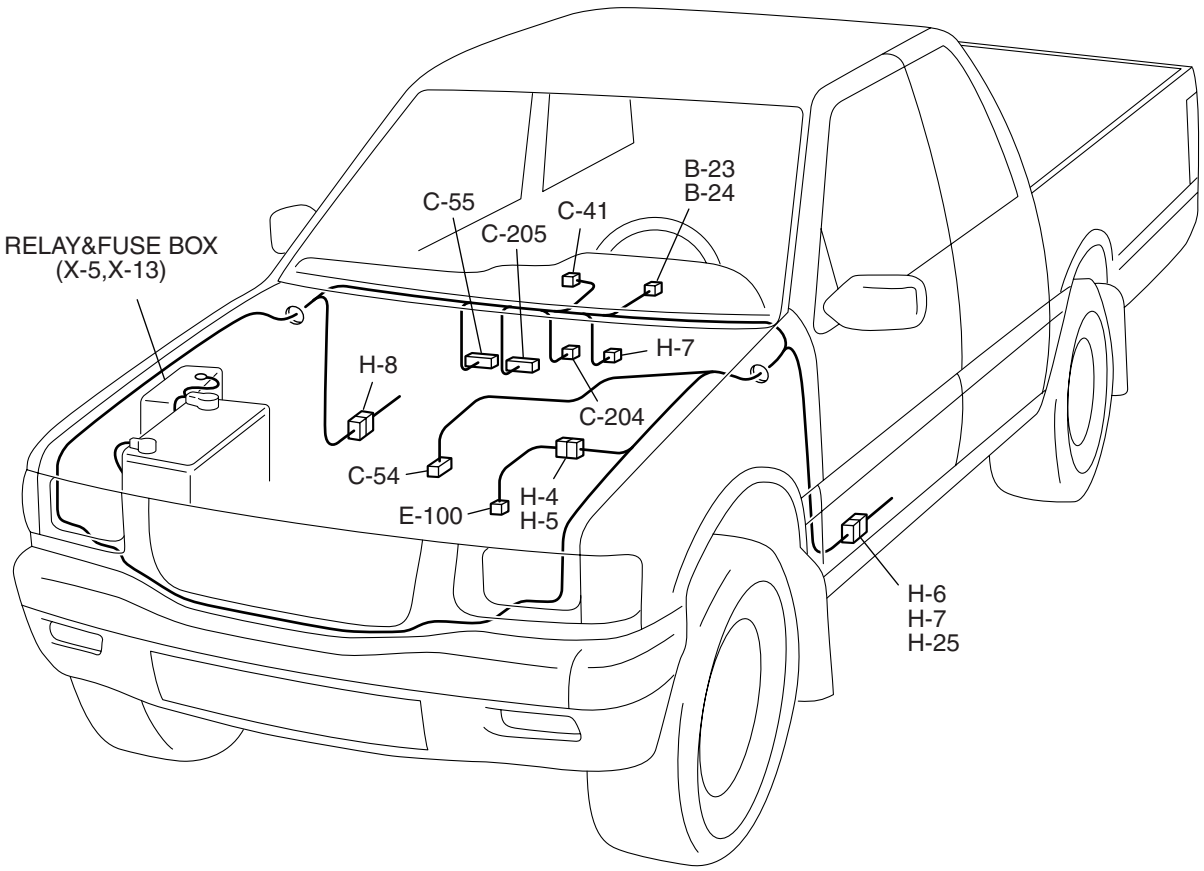


CIRCUIT DIAGRAM

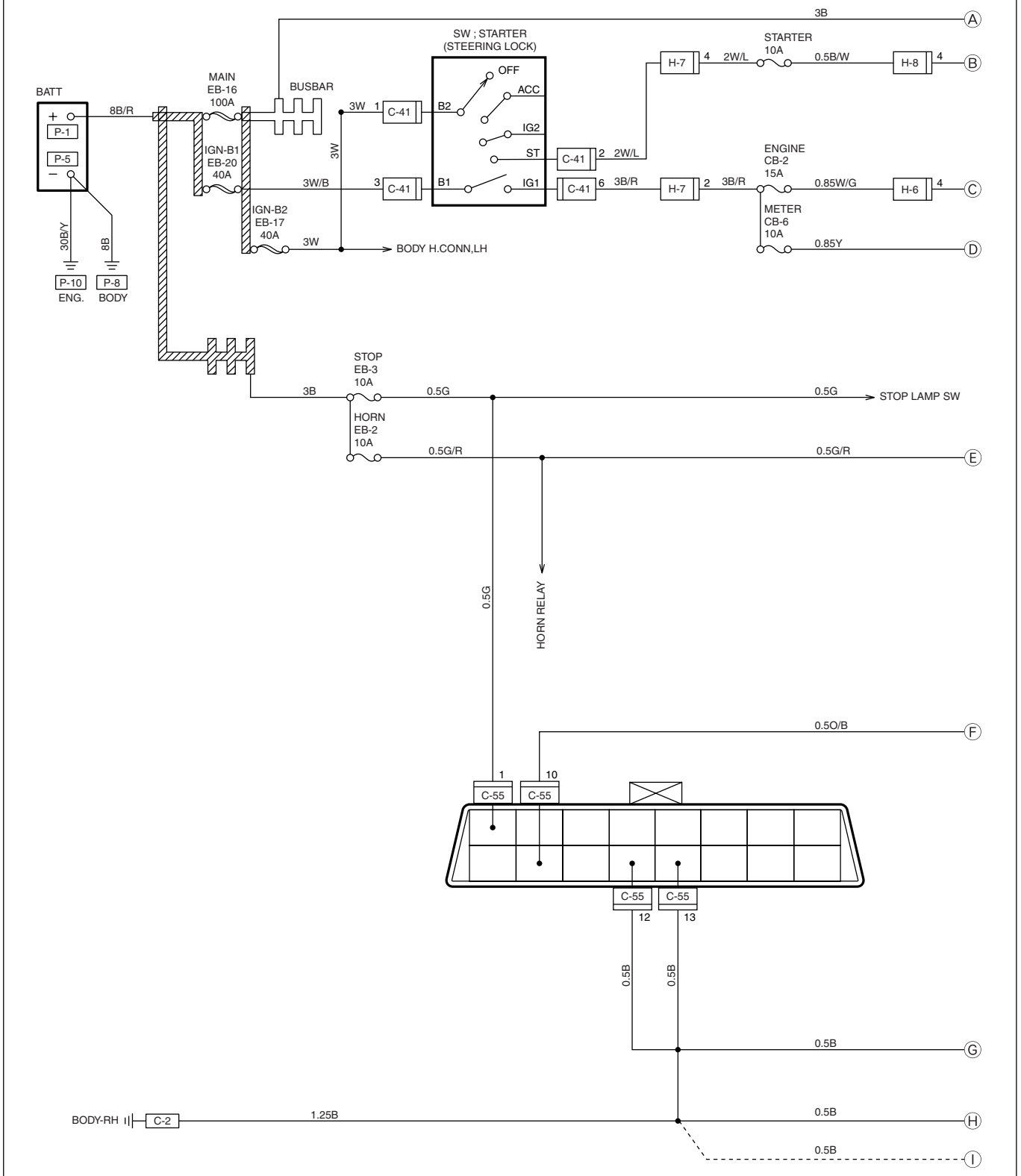


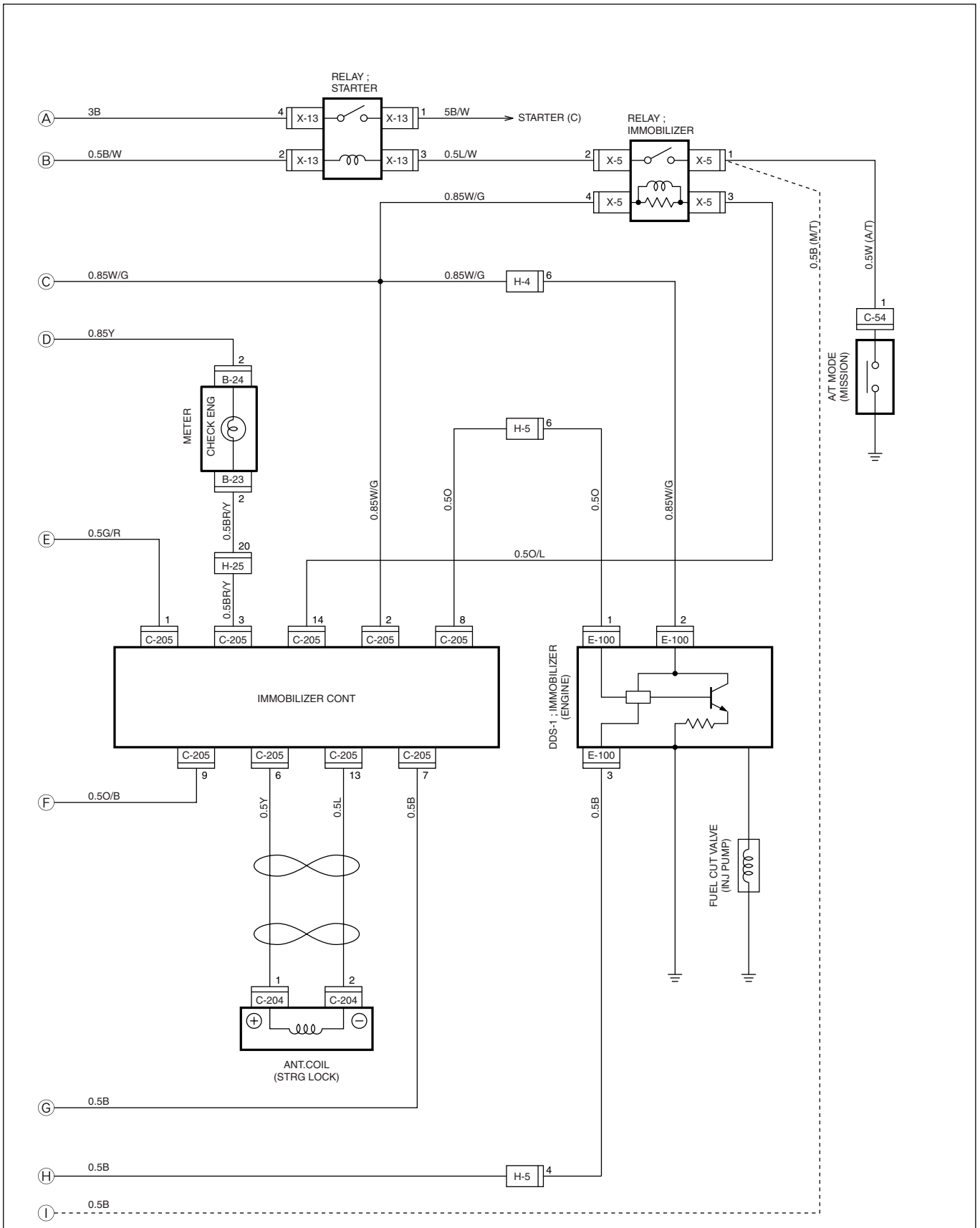
IMMOBILIZER

PARTS LOCATION (EC-LHD)



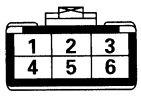
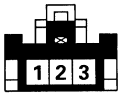
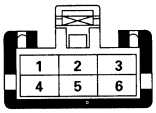
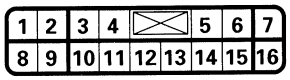
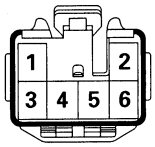
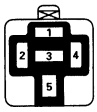
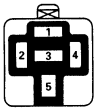
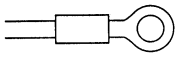
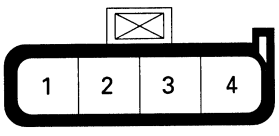
CIRCUIT DIAGRAM

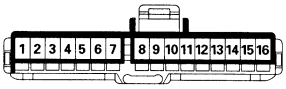
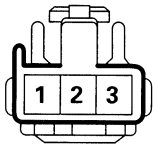
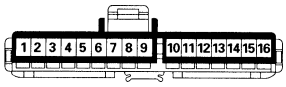
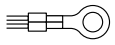
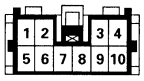
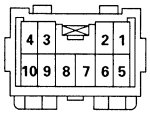
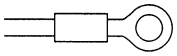
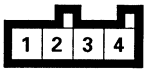
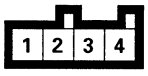


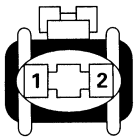
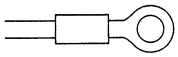
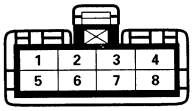
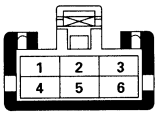
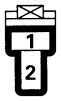
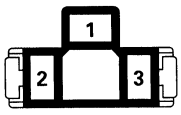
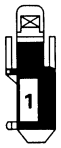

RELAY ; STARTER
RELAY ; IMMOBILIZER
A
3B
X-13
4
X-13
1
5B/W
STARTER (C)
B
0.5B/W
2
X-13
X-13
3
0.5L/W
2
X-5
X-5
1
4
X-5
X-5
3
0.85W/G
0.5B (M/T)
0.5W (A/T)
C
0.85W/G
0.85W/G
H-4
6
C-54
1
A/T MODE (MISSION)
D
0.85Y
2
B-24
METER
CHECK ENG
B-23
2
H-5
6
0.5BR/Y
0.85W/G
0.5O
0.5O
0.85W/G
E
0.5G/R
20
H-25
0.5O/L
0.5BR/Y
1
3
14
2
8
1
2
C-205
C-205
C-205
C-205
C-205
E-100
E-100
IMMOBILIZER CONT
DDS-1 ; IMMOBILIZER (ENGINE)
C-205
C-205
C-205
C-205
E-100
9
6
13
7
3
F
0.5O/B
0.5Y
0.5L
0.5B
0.5B
FUEL CUT VALVE (INJ PUMP)
1
2
C-204
C-204
ANT.COIL (STRG LOCK)
G
0.5B
H
0.5B
H-5
4
I
0.5B

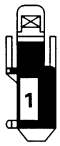
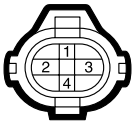
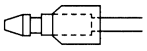
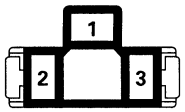
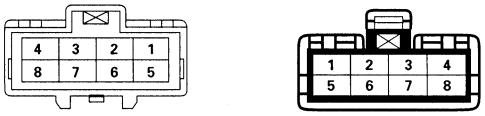
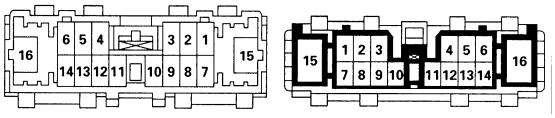
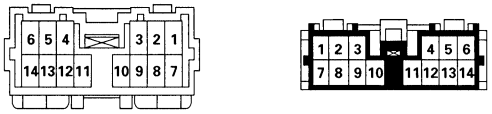
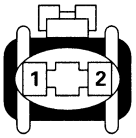
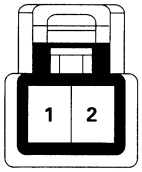
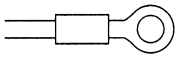
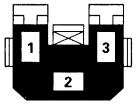
See the IMM-WE-0101 workshop manual for failure diagnosis of the IMMOBILIZER system.

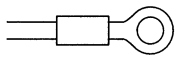
CONNECTOR LIST (HEC ENGINE MODEL)

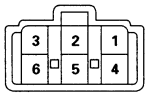
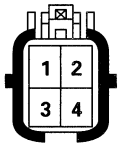
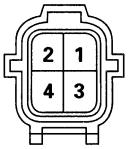
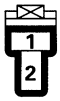
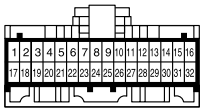
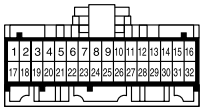
No.	Connector face	No.	Connector face
B-1		B-11	
B-2		B-12	
B-3		B-13	
B-4	**NOT USED**	B-14	
B-5		B-15	
B-6	**NOT USED**	B-16	
B-7		B-17	**NOT USED**
B-8		B-18	**NOT USED**
B-9		B-19	
B-10		B-20	

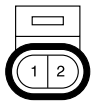
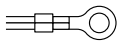
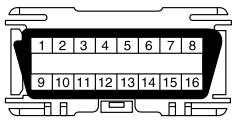
No.	Connector face	No.	Connector face
B-21		B-31	**NOT USED**
B-22		B-32	**NOT USED**
B-23		B-33 (RHD)	
B-24		B-34	
B-25	**NOT USED**		
B-26	 		
B-27	**NOT USED**		
B-28			
B-29			
B-30			

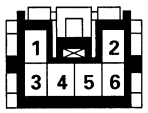
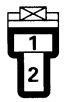
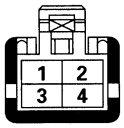
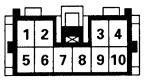
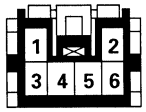
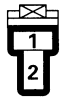
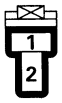
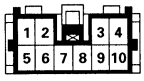
No.	Connector face	No.	Connector face
C-1		C-11	**NOT USED**
C-2		C-12	**NOT USED**
C-3		C-13	**NOT USED**
C-4		C-14	**NOT USED**
C-5	**NOT USED**	C-15	**NOT USED**
C-6	**NOT USED**	C-16	**NOT USED**
C-7	**NOT USED**	C-17	
C-8	**NOT USED**	C-18	
C-9	**NOT USED**	C-19	
C-10	**NOT USED**	C-20	

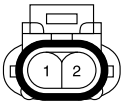
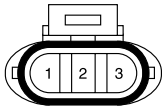
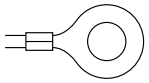
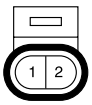
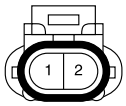
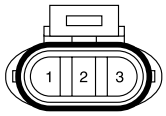
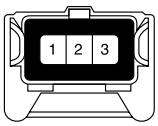
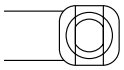
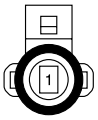
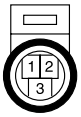
No.	Connector face	No.	Connector face
C-21		C-37	
C-22		C-38	**NOT USED**
C-23	**NOT USED**	C-39 (LHD)	
C-24		C-39 (RHD)	
C-25		C-40	**NOT USED**
C-26		C-41	
C-27		C-42	
C-28 ~ C-34	**NOT USED**	C-43	
C-35		C-44	
C-36		C-45	

No.	Connector face	No.	Connector face
C-46	**NOT USED**	C-60	**NOT USED**
C-47		C-61	**NOT USED**
C-48		C-62	**NOT USED**
C-49	**NOT USED**	C-63	**NOT USED**
C-50	**NOT USED**	C-64	**NOT USED**
C-51	**NOT USED**	C-65	**NOT USED**
C-52	**NOT USED**	C-66	**NOT USED**
C-53 ~ C-57	**NOT USED**	C-67	**NOT USED**
C-58	**NOT USED**	C-68	**NOT USED**
C-59	**NOT USED**	C-69	**NOT USED**

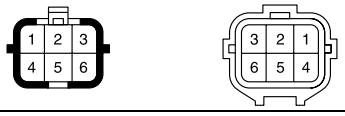
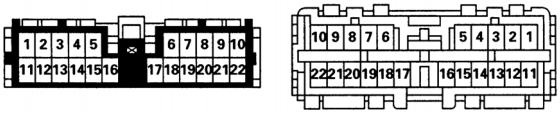
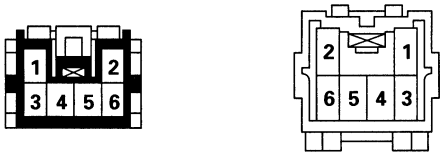
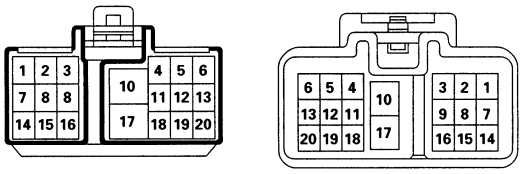
No.	Connector face	No.	Connector face
C-70	**NOT USED**	C-80	**NOT USED**
C-71	**NOT USED**	C-81	**NOT USED**
C-72	**NOT USED**	C-82	**NOT USED**
C-73 (LHD)		C-83	**NOT USED**
C-74	**NOT USED**	C-84	**NOT USED**
C-75 (LHD)		C-85	 
C-76 (LHD)		C-86	
C-77	**NOT USED**	C-87	
C-78	**NOT USED**	C-88	**NOT USED**
C-79	**NOT USED**	C-89	**NOT USED**

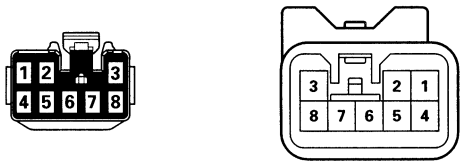
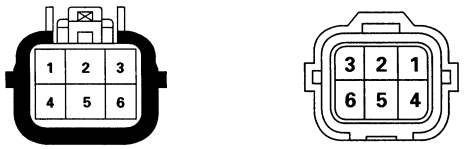
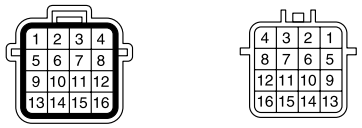
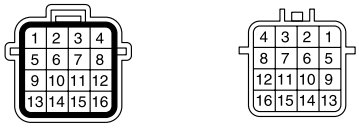
No.	Connector face	No.	Connector face
C-90	**NOT USED**		
C-91	**NOT USED**		
C-92			
C-93			
C-94			
C-95			
C-96			

No.	Connector face	No.	Connector face
D-1		D-11	
D-2		D-12	
D-3		D-13	
D-4		D-14	
D-5		D-15	
D-6		D-16	
D-7		D-17	
D-8		D-18	
D-9			
D-10			

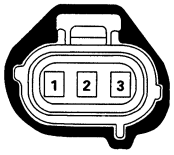
No.	Connector face	No.	Connector face
E-1 ~ E-4		E-14	
E-5		E-15	
E-6		E-16	
E-7		E-17	
E-8		E-18	
E-9			
E-10			
E-11			
E-12			
E-13			

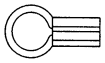
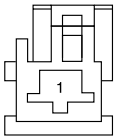
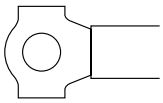
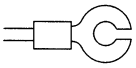
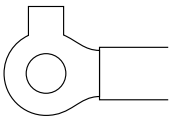
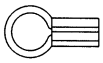
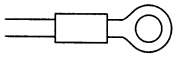
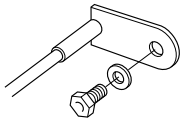
No.	Connector face	No.	Connector face
F-1			
F-2			
F-3	**NOT USED**		

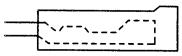
No.	Connector face	No.	Connector face
H-1		H-8 (RHD)	
H-2	**NOT USED**	H-9	
H-3	**NOT USED**	H-10	 (WITHOUT POWER WINDOW AND POWER DOOR LOCK)
H-4	**NOT USED**	H-10	 (WITH POWER WINDOW AND POWER DOOR LOCK)
H-5 (LHD)		H-11	
H-5		H-12	
H-6		H-13	 (WITHOUT POWER WINDOW AND POWER DOOR LOCK)
H-7 (LHD)		H-13	 (WITH POWER WINDOW AND POWER DOOR LOCK)
H-7 (RHD)		H-14	**NOT USED**
H-8 (LHD)		H-15	

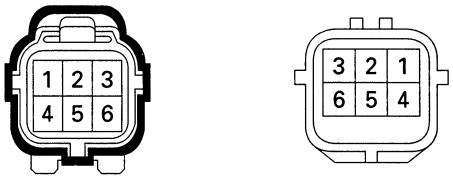
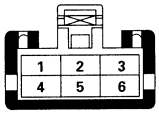
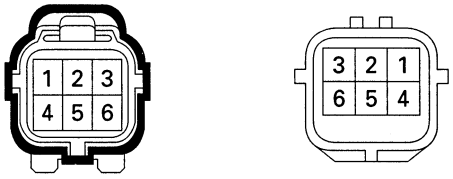
No.	Connector face	No.	Connector face
H-16			
H-17			
H-18	**NOT USED**		
H-19			
H-20			
H-21	**NOT USED**		

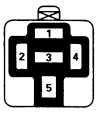
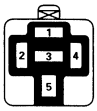
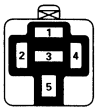
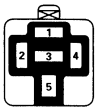
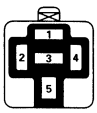
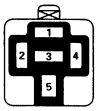
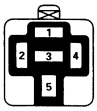
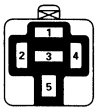
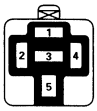
No.	Connector face	No.	Connector face
L-1			
L-2			
L-3			
L-4			
L-5			
L-6			
L-7			
L-8			
L-9			

No.	Connector face	No.	Connector face
M-1	**NOT USED**	M-13	**NOT USED**
M-2	**NOT USED**	M-14	**NOT USED**
M-3	**NOT USED**		
M-4	**NOT USED**		
M-5 ~ M-7	**NOT USED**		
M-8			
M-9			
M-10			
M-11			
M-12			

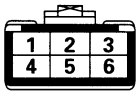
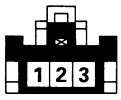
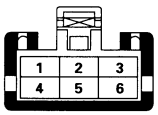
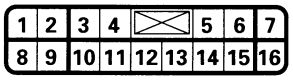
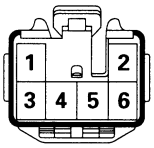
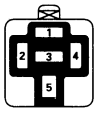
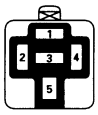
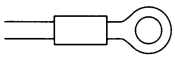
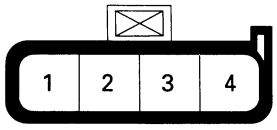
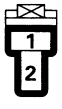
No.	Connector face	No.	Connector face
P-1		P-11	
P-2	**NOT USED**	P-12	
P-3		P-13	
P-4			
P-5			
P-6	**NOT USED**		
P-7			
P-8	**NOT USED**		
P-9	**NOT USED**		
P-10			

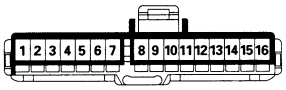
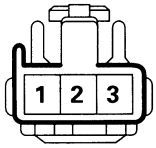
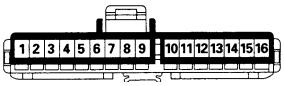
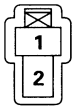
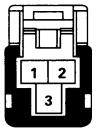
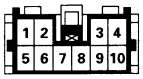
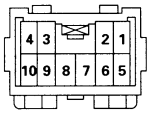
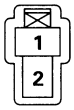
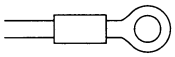
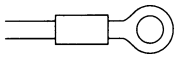
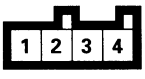
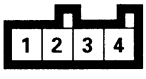
No.	Connector face	No.	Connector face
R-1			
R-2	**NOT USED**		
R-3			
R-4			
R-5	**NOT USED**		
R-6			

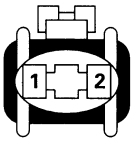
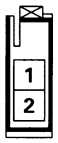
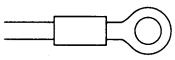
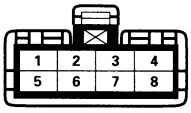
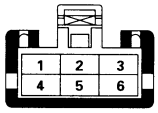
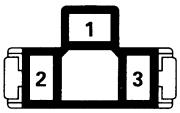
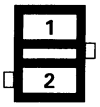
No.	Connector face	No.	Connector face
T-1			
T-1			
T-2	**NOT USED**		
T-3			
T-4			
T-5	**NOT USED**		
T-6			

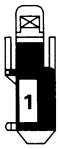
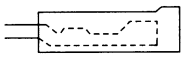
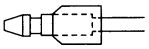
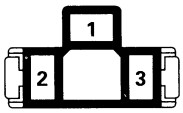
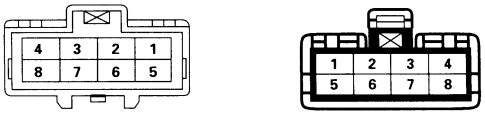
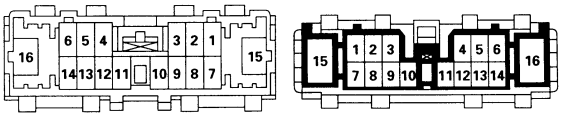
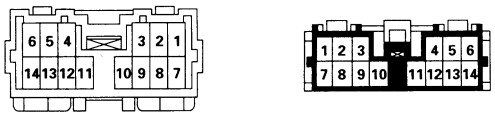
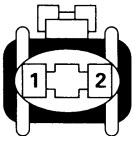
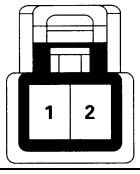
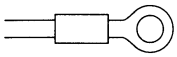
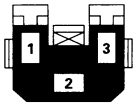
No.	Connector face	No.	Connector face
X-1		X-11	**NOT USED**
X-2		X-12	**NOT USED**
X-3		X-13	**NOT USED**
X-4		X-14	**NOT USED**
X-5	**NOT USED**	X-15	
X-6		X-16	
X-7			
X-8	**NOT USED**		
X-9			
X-10	**NOT USED**		

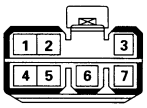
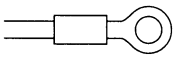
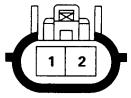
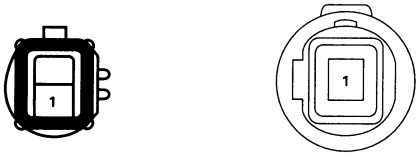
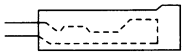
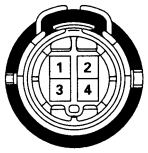
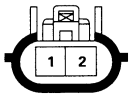
CONNECTOR LIST (6VD1 ENGINE MODEL)

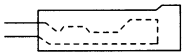
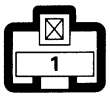
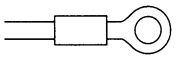
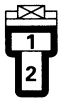
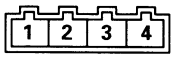
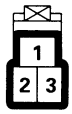
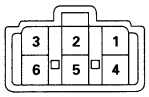
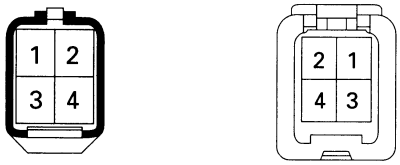
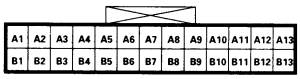
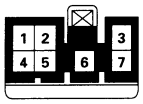
No.	Connector face	No.	Connector face
B-1		B-11	
B-2		B-12	
B-3		B-13	
B-4	**NOT USED**	B-14	
B-5	**NOT USED**	B-15	
B-6	**NOT USED**	B-16	
B-7		B-17	**NOT USED**
B-8		B-18	**NOT USED**
B-9		B-19	
B-10		B-20	

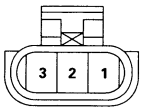
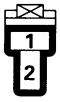
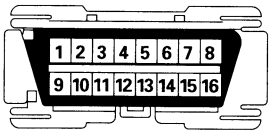
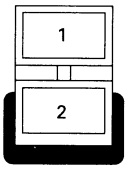
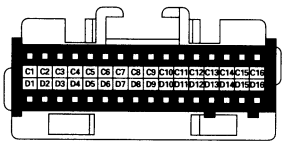
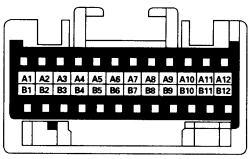
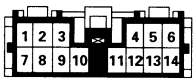
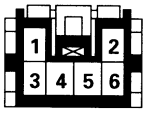
No.	Connector face	No.	Connector face
B-21		B-31	-
B-22		B-32	**NOT USED**
B-23		B-33 (RHD)	
B-24		B-34	
B-25	**NOT USED**	B-35	
B-26	 	B-36	
B-27	**NOT USED**	B-37	
B-28			
B-29			
B-30			

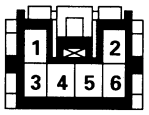
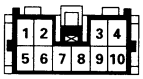
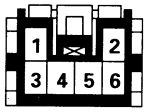
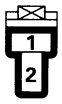
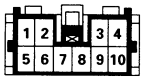
No.	Connector face	No.	Connector face
C-1		C-11	
C-2		C-12	**NOT USED**
C-3		C-13	**NOT USED**
C-4		C-14	**NOT USED**
C-5		C-15	
C-6		C-16	**NOT USED**
C-7		C-17	
C-8	**NOT USED**	C-18	
C-9	**NOT USED**	C-19	
C-10		C-20	

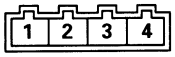
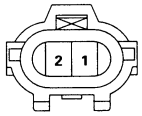
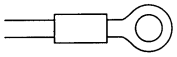
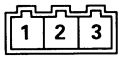
No.	Connector face	No.	Connector face
C-21		C-37	
C-22		C-38	
C-23	**NOT USED**	C-39 (LHD)	
C-24		C-39 (RHD)	
C-25		C-40	
C-26		C-41	
C-27		C-42	
C-28 ~ C-34	**NOT USED**	C-43	
C-35		C-44	
C-36		C-45	

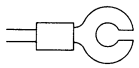
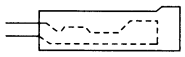
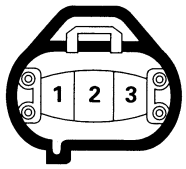
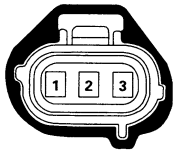
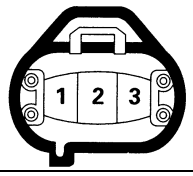
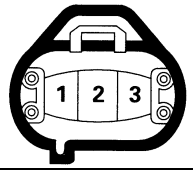
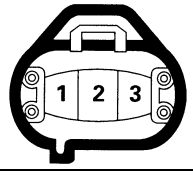
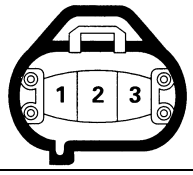
No.	Connector face	No.	Connector face
C-46		C-60	
C-47		C-61	
C-48		C-62	
C-49		C-63	**NOT USED**
C-50	**NOT USED**	C-64	**NOT USED**
C-51		C-65	
C-52		C-66	
C-53 ~ C-57	**NOT USED**	C-67	**NOT USED**
C-58		C-68	
C-59	**NOT USED**	C-69	**NOT USED**

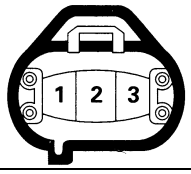
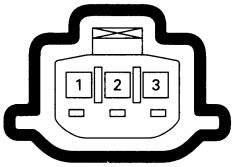
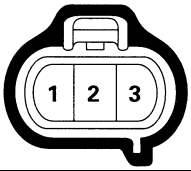
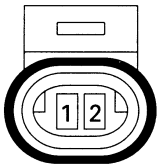
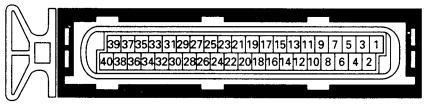
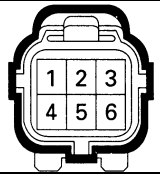
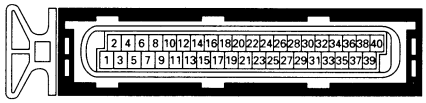
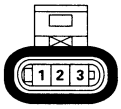
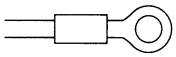
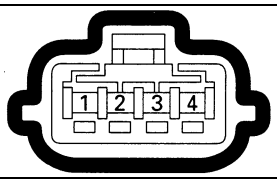
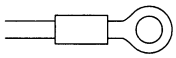
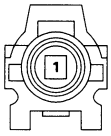
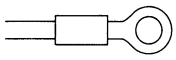
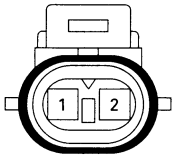
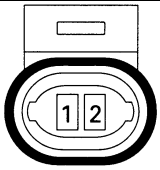
No.	Connector face	No.	Connector face
C-70		C-80	
C-71		C-81	
C-72		C-82	
C-73		C-83	
C-74		C-84	
C-75		C-85	
C-76		C-86	
C-77		C-87	
C-78		C-88	**NOT USED**
C-79		C-89	**NOT USED**

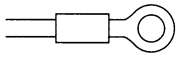
No.	Connector face	No.	Connector face
C-90		C-100	
C-91		C-101	
C-92		C-102	
C-93		C-103	
C-94			
C-95			
C-96			
C-97			
C-98			
C-99			

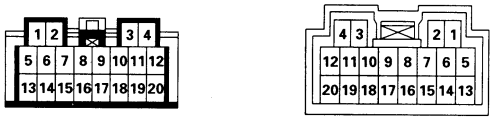
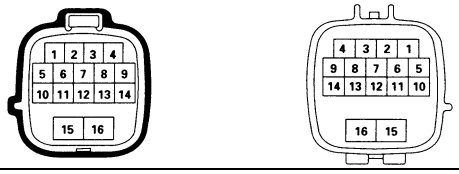
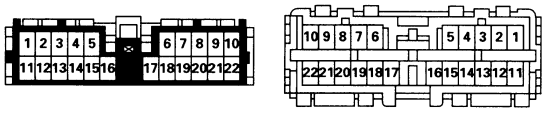
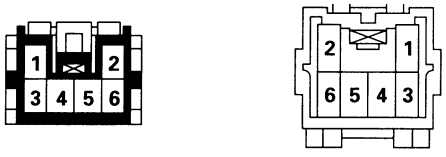
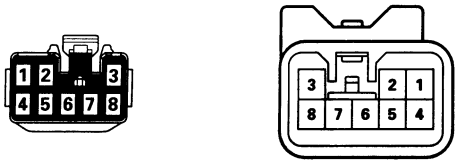
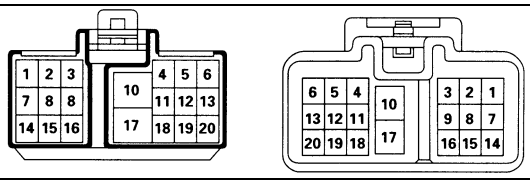
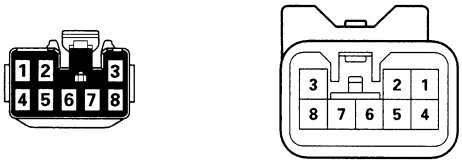
No.	Connector face	No.	Connector face
D-1		D-11	
D-2		D-12	
D-3		D-13	
D-4		D-14	
D-5		D-15	
D-6		D-16	
D-7		D-17	
D-8		D-18	
D-9			
D-10			

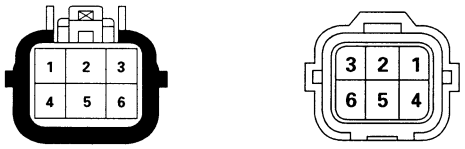
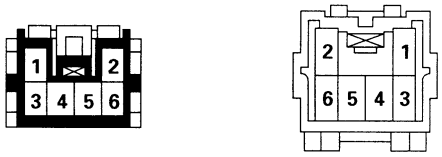
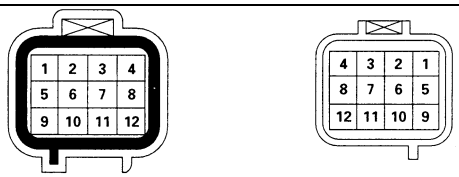
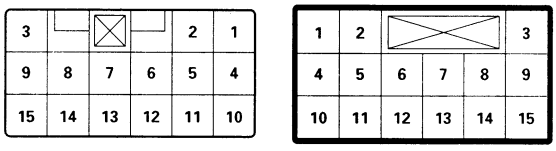
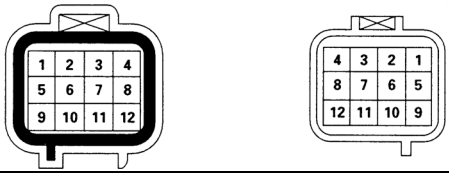
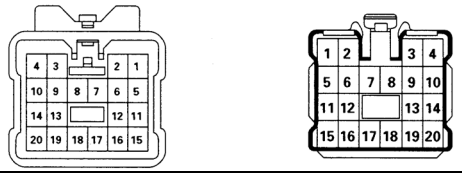
No.	Connector face	No.	Connector face
E-1		E-11	
E-2		E-12	
E-3		E-13	
E-4		E-14	
E-5		E-15	
E-6		E-16	
E-7		E-17	**NOT USED**
E-8		E-18	**NOT USED**
E-9		E-19	
E-10		E-20 ~ E-35	**NOT USED**

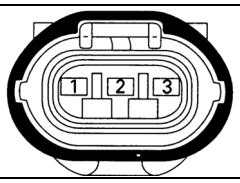
No.	Connector face	No.	Connector face
E-36		E-48	**NOT USED**
E-37		E-49	
E-38 ~ E-40	**NOT USED**	E-50	
E-41		E-51	
E-42		E-52	
E-43		E-53	
E-44		E-54	
E-45		E-55	
E-46		E-56	
E-47	**NOT USED**	E-57	

No.	Connector face	No.	Connector face
E-58		E-68	
E-59		E-69	
E-60		E-70	
E-61		E-71	
E-62		E-72	
E-63		E-73	
E-64		E-74	
E-65			
E-66			
E-67			

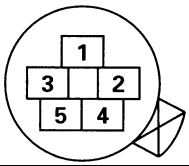
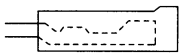
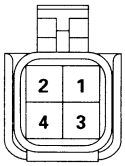
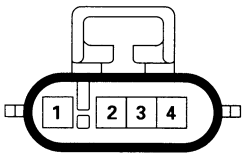
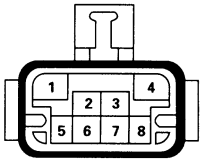
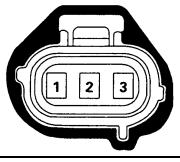
No.	Connector face	No.	Connector face
F-1			
F-2			
F-3			

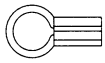
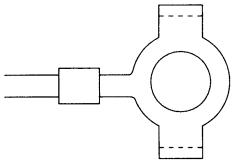
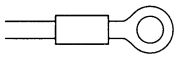
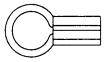
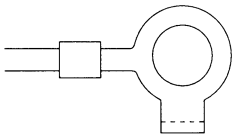
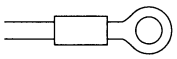
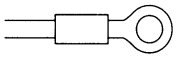
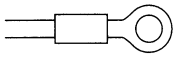
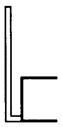
No.	Connector face	No.	Connector face
H-1		H-9	
H-2		H-10	 (WITHOUT POWER WINDOW AND POWER DOOR LOCK)
H-3	**NOT USED**	H-10	 (WITHOUT POWER WINDOW AND POWER DOOR LOCK)
H-4		H-11	
H-5	**NOT USED**	H-12	
H-6		H-13	 (WITHOUT POWER WINDOW AND POWER DOOR LOCK)
H-7 (LHD)		H-13	 (WITHOUT POWER WINDOW AND POWER DOOR LOCK)
H-7 (RHD)		H-14	
H-8 (LHD)		H-15	
H-8 (RHD)		H-16	

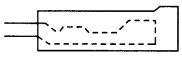
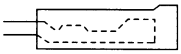
No.	Connector face	No.	Connector face
H-17		H-27	
H-18		H-28	
H-19		H-29	**NOT USED**
H-20		H-30	
H-21		H-31	
H-22		H-32	
H-23		H-33	
H-24		H-34	
H-25		H-35	**NOT USED**
H-26		H-36	

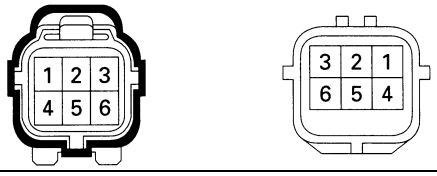
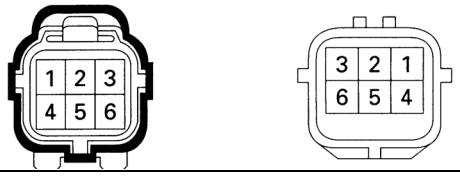
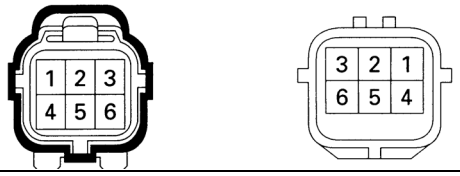
No.	Connector face	No.	Connector face
H-37			
H-38			

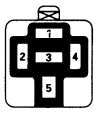
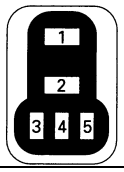
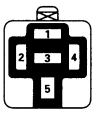
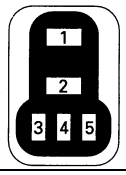
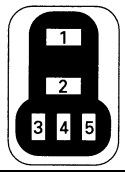
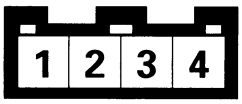
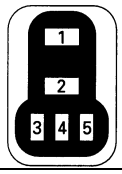
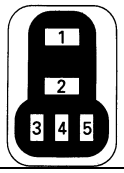
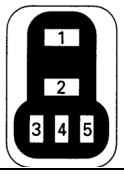
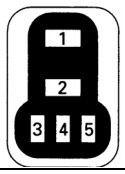
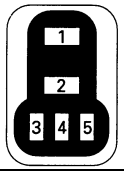
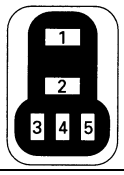
No.	Connector face	No.	Connector face
L-1			
L-2			
L-3			
L-4			
L-5			
L-6			
L-7			
L-8			
L-9			

No.	Connector face	No.	Connector face
M-1		M-11	
M-2		M-12	
M-3		M-13	
M-4		M-14	
M-5	**NOT USED**	M-15	
M-6		M-16	
M-7		M-17	
M-8		M-18 ~ M-24	**NOT USED**
M-9		M-25	
M-10			

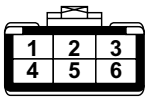
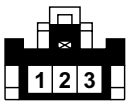
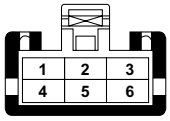
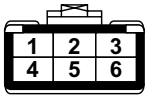
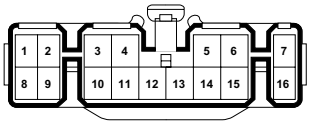
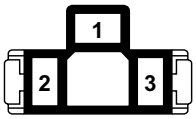
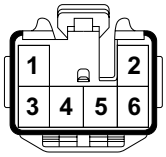
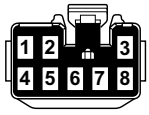
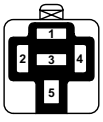
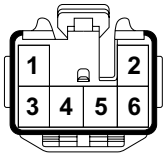
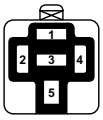
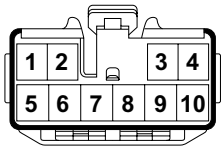
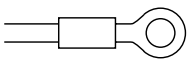
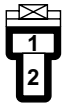
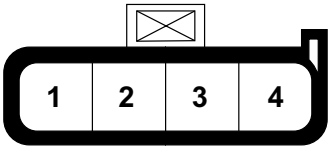
No.	Connector face	No.	Connector face
P-1		P-11	
P-2		P-12	
P-3			
P-4			
P-5			
P-6			
P-7			
P-8			
P-9			
P-10			

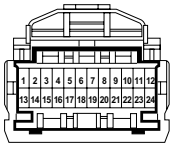
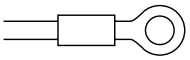
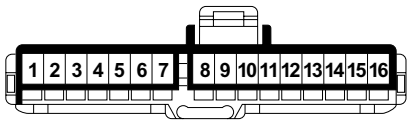
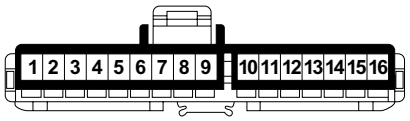
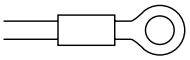
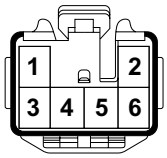
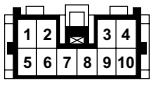
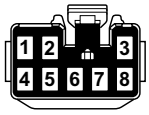
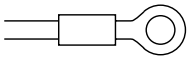
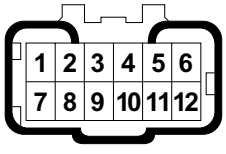
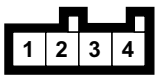
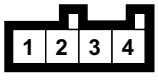
No.	Connector face	No.	Connector face
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R-2	**NOT USED**		
R-3			
R-4			
R-5	**NOT USED**		
R-6			

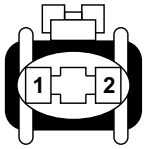
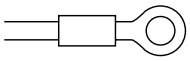
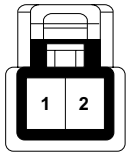
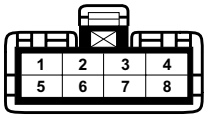
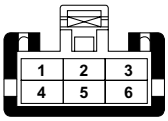
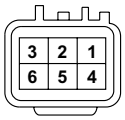
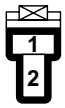
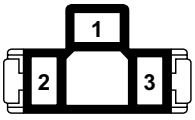
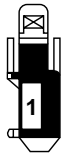
No.	Connector face	No.	Connector face
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T-2	**NOT USED**		
T-3			
T-4	**NOT USED**		
T-5	**NOT USED**		
T-6			

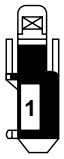
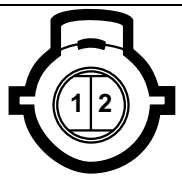
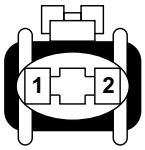
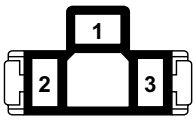
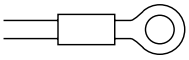
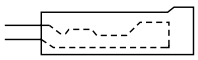
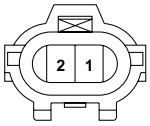
No.	Connector face	No.	Connector face
X-15		X-25	
X-16		X-26	
X-17		X-27	**NOT USED**
X-18		X-28	
X-19			
X-20			
X-21			
X-22			
X-23			
X-24			

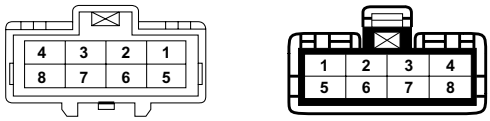
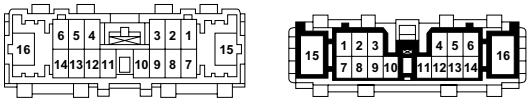
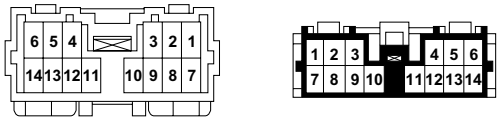
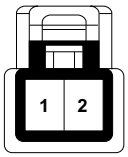
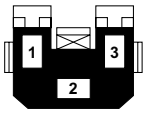
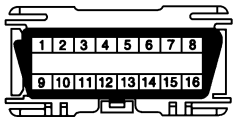
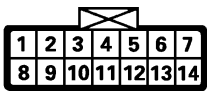
CONNECTOR LIST (4J ENGINE MODEL)

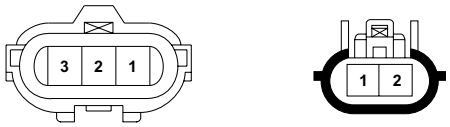
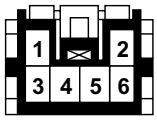
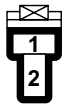
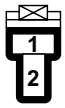
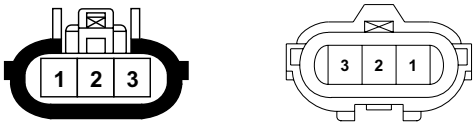
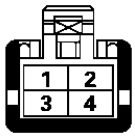
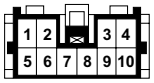
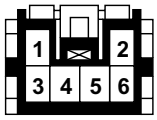
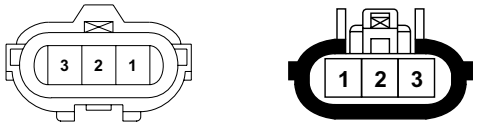
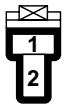
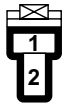
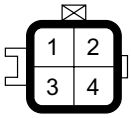
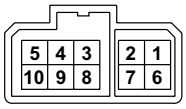
No.	Connector face	No.	Connector face
B-1		B-11	
B-2		B-12	
B-3		B-13	
B-4		B-14	
B-5		B-15	
B-6	**NOT USED**	B-16	
B-7		B-17	
B-8		B-18	
B-9		B-19	
B-10		B-20	

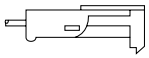
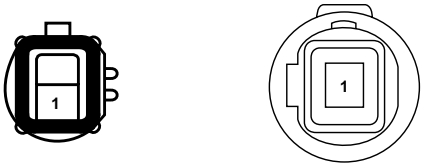
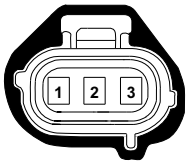
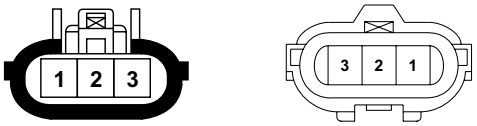
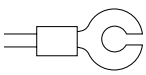
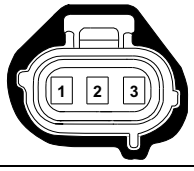
No.	Connector face	No.	Connector face
B-21		B-31	
B-22		B-32	
B-23		B-33	**NOT USED**
B-24		B-34	
B-25		B-35	
B-26		B-36	
B-27		B-37	
B-28		B-38	
B-29			
B-30			

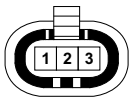
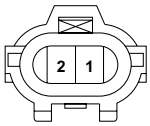
No.	Connector face	No.	Connector face
C-1		C-11	**NOT USED**
C-2		C-12	
C-3		C-13	
C-4		C-14	
C-5	**NOT USED**	C-15	
C-6	**NOT USED**	C-16	 
C-7	**NOT USED**	C-17	
C-8	**NOT USED**	C-18	
C-9	**NOT USED**	C-19	
C-10	**NOT USED**	C-20	

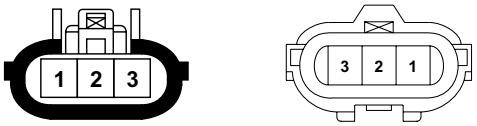
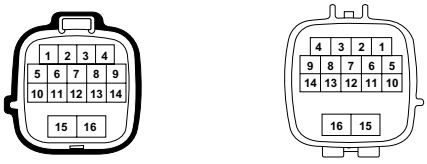
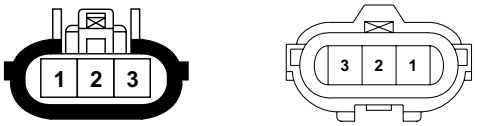
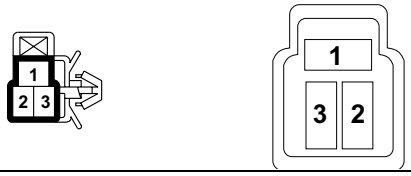
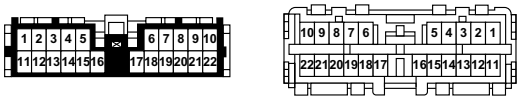
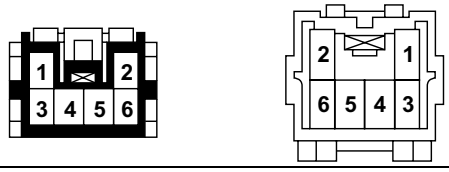
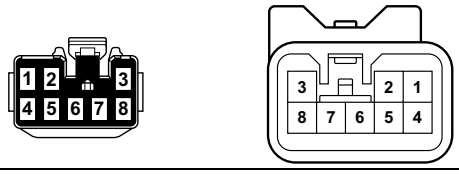
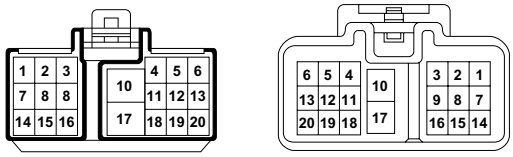
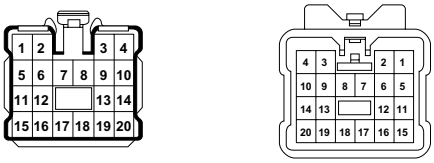
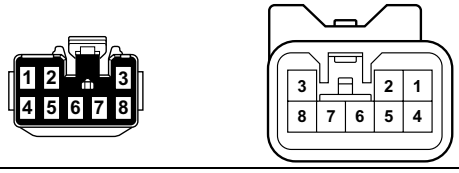
No.	Connector face	No.	Connector face
C-21		C-31	 (GRAY)
C-22		C-32	 (BLUE)
C-23		C-33	NOT USED
C-24		C-34	NOT USED
C-25		C-35	
C-26		C-36	
C-27		C-37	
C-28		C-38	
C-29		C-39	
C-30		C-40	

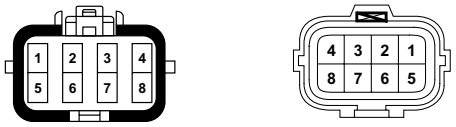
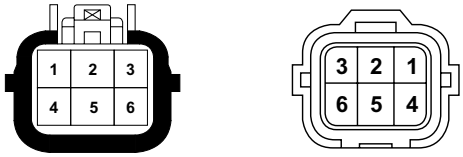
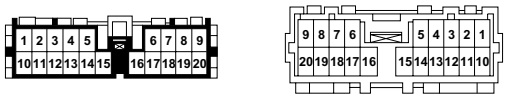
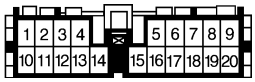
No.	Connector face	No.	Connector face
C-41			
C-42			
C-43			
C-44			
C-45			
C-54			
C-55			
C-204			
C-205			

No.	Connector face	No.	Connector face
D-1		D-11	
D-2		D-12	
D-3		D-13	
D-4		D-14	
D-5		D-15	
D-6		D-16	
D-7		D-17	
D-8		D-18	
D-9			
D-10			

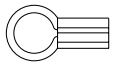
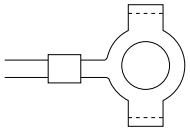
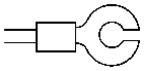
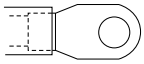
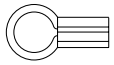
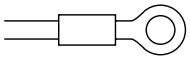
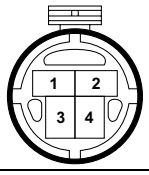
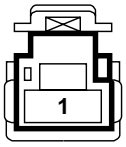
No.	Connector face	No.	Connector face
E-1		E-38 ~ E-41	**NOT USED**
E-2	**NOT USED**	E-42	
E-3		E-43	
E-4	**NOT USED**	E-44	
E-5		E-45	
E-6 ~ E-18	**NOT USED**	E-46	
E-19		E-47	**NOT USED**
E-20 ~ E-35	**NOT USED**	E-48	**NOT USED**
E-36		E-49	
E-37		E-100	

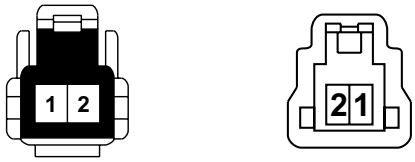
No.	Connector face	No.	Connector face
F-1			
F-2	**NOT USED**		
F-3	**NOT USED**		
F-4	 		

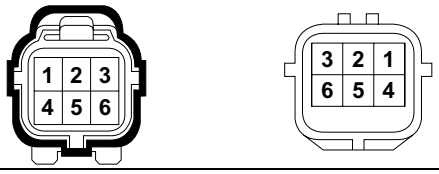
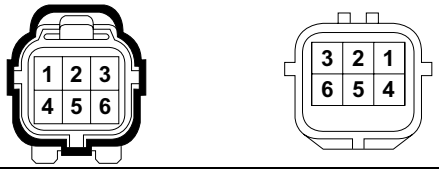
No.	Connector face	No.	Connector face
H-1		H-9	
H-2	**NOT USED**	H-10	 **(W/ POWER WINDOW)**
H-3		H-10	 **(W/O POWER WINDOW)**
H-4		H-11	
H-5		H-12	
H-6		H-13	 **(W/ POWER WINDOW)**
H-7 (LHD)		H-13	 **(W/O POWER WINDOW)**
H-7 (UK)		H-14	
H-8 (LHD)		H-15	
H-8 (UK)		H-16	

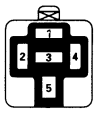
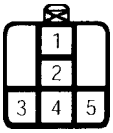
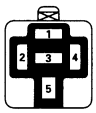
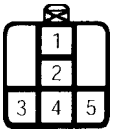
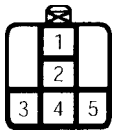
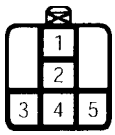
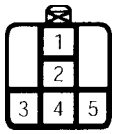
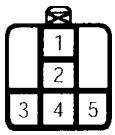
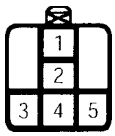
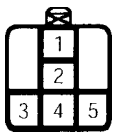
No.	Connector face	No.	Connector face
H-17 (LHD)			
H-17 (UK)			
H-18			
H-19			
H-25			

No.	Connector face	No.	Connector face
L-1			
L-2			
L-3			
L-4			
L-5			
L-6			
L-7			

No.	Connector face	No.	Connector face
P-1		P-10	
P-2			
P-3	 **(4JA1)**		
P-3	 **(4JG2)**		
P-4			
P-5			
P-6			
P-7	**NOT USED**		
P-8			
P-9			

No.	Connector face	No.	Connector face
R-1			
R-2			
R-3			
R-4			
R-5			
R-6			

No.	Connector face	No.	Connector face
T-1			
T-2			
T-3			
T-4			
T-5	**NOT USED**		
T-6			

No.	Connector face	No.	Connector face
X-1		X-11	
X-2		X-12	
X-3		X-13	
X-4	**NOT USED**		
X-5			
X-6			
X-7	**NOT USED**		
X-8			
X-9			
X-10			

MEMO

TFELC-WE-0111

You are requested to order this manual using the manual number that is shown above.

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