

13 Electrical Troubleshooting Manual

13.1 General

INTRODUCTION E1KB0010

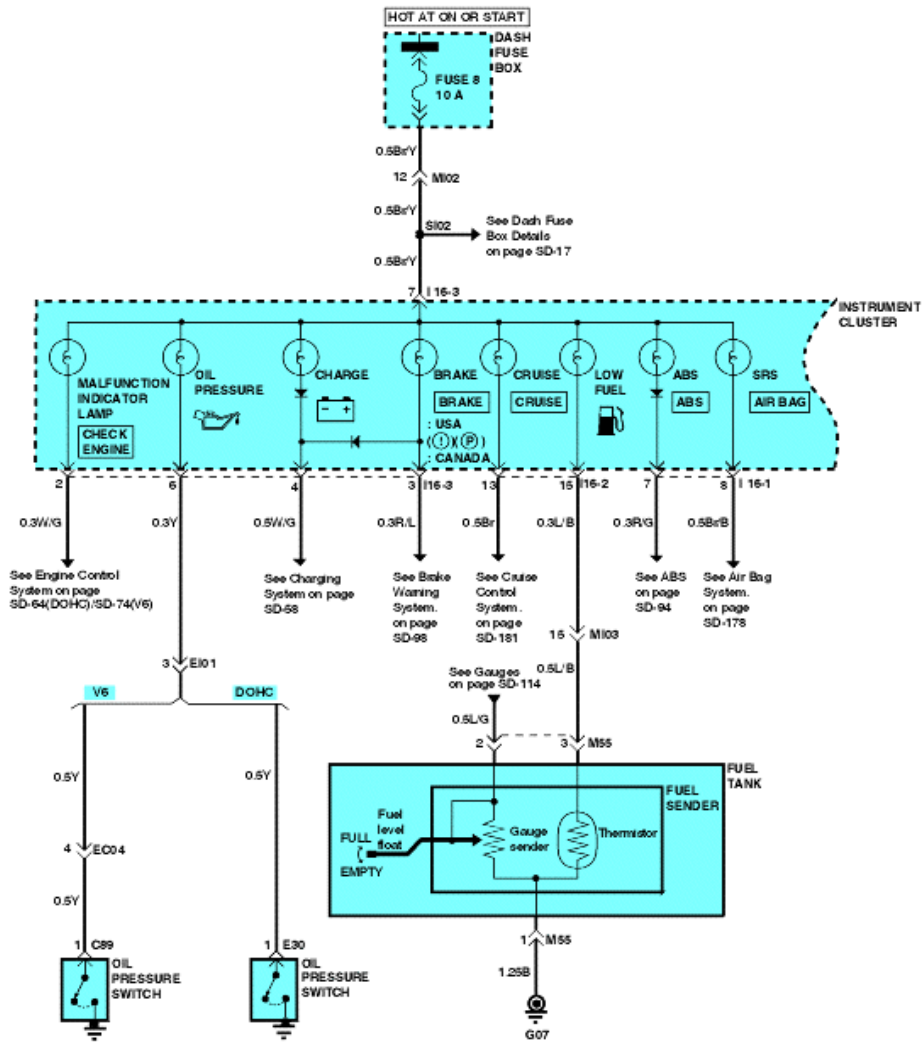
This Manual consists of five major diagnostic sections for electrical problem troubleshooting.

- Schematic diagrams
- Component location indexes
- Component locations
- Connector configurations
- Harness layouts

SCHEMATIC DIAGRAM

The starting point of each system section is the schematic diagram. These diagrams show how all the components work together, such as electrical current paths from power source to ground (via electrical load), switch connections at each position, and other related circuit functions.

It is important to fully understand how a circuit works prior to troubleshooting and diagnosis.



COMPONENT LOCATION INDEXES

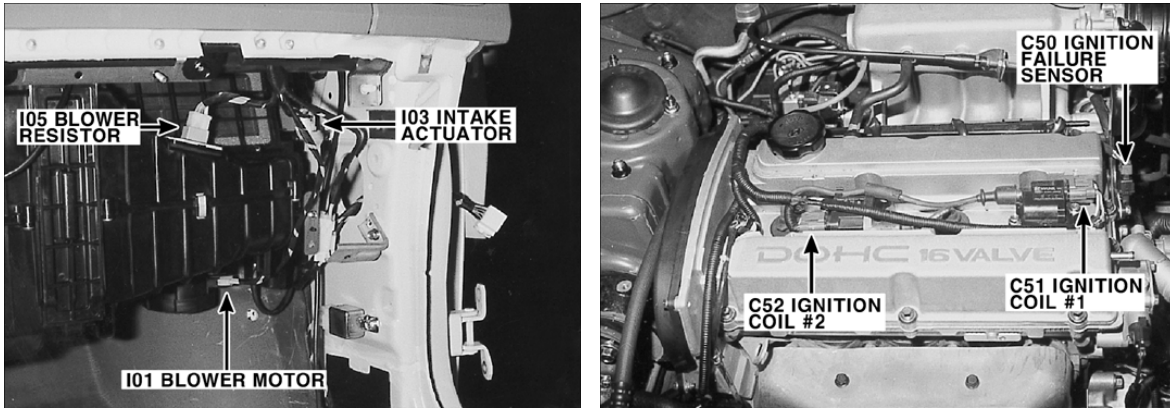
When you want to locate the schematic components on the vehicle, use the Component Location Index which follows each schematic. A Component Location Index lists major components, connectors, grounds, diodes, and their physical location and page reference.

Almost all components, connectors or grounds, and diodes shown on a schematic can be pinpointed visually by using the Component Location Illustrations.

Components	Location Reference Page
I12 Digital clock	CL-15
I16-1 Instrument cluster	CL-15
M55 Fuel sender	CL-19
M56 Fuel pump	CL-19
C34 Engine coolant temperature sender	CL-5, CL-8
Connectors	
MI01/MI02/MI03	CL-21
MC02	CL-21
CC02	CL-8
Grounds	
G04	CL-23
G07	CL-23
Diodes	
Z01	CL-24
Z02	CL-24

COMPONENT LOCATIONS

Component Locations make it easy to find the schematic components on the vehicle shown in the Component Location Index.



CONNECTOR CONFIGURATIONS

This section shows the cavity or terminal locations in all the multi-pin connectors shown in the schematic diagrams. It will help you to locate check points, together with the wire colors and terminal numbers in the schematic. The configuration drawings show the connector view as seen from a component after the harness connector has been disconnected. When more than one connector is connected to a component, the connectors are all shown together. Both halves of in-line connectors are shown together.

D15	D35	D16	D36	D17	D37	
						BLANK
MD05	MD06					
				BLANK		BLANK

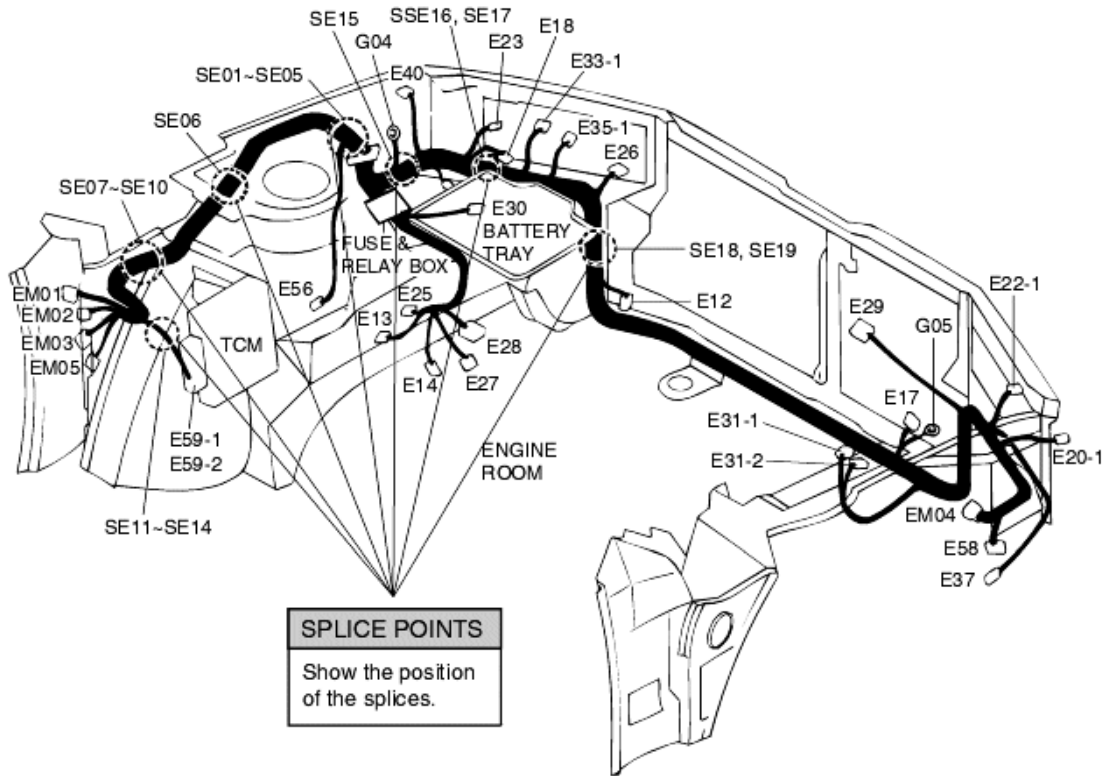
CONNECTOR VIEW AND NUMBERING ORDER

1. CONNECTOR VIEW			
	Female	Male	Remarks
Actual Illustration			<p>It is not the shape of the connector housing, but the connector pin that distinguishes between male or female connectors.</p> <p>When numbering female and male connectors, refer to the numbering order in the following table.</p> <p>Some connectors may not follow this method of numbering order.</p> <p>For individual detailed numbering, refer to the CONNECTOR CONFIGURATIONS.</p>
Illustration in the Shop manual			

2. NUMBERING ORDER		
	Numbering order	Remarks
Female Connector		Numbered in order from upper right to lower left
Male Connector		Numbered in order from upper left to lower right

HARNESS LAYOUTS

Harness layouts show the routing of the major wiring harnesses, the in-line connectors and the splices between the major harnesses. These layouts will make electrical troubleshooting easier.



The symbols and abbreviations explained in this section are used throughout the manual.

SYMBOLS IN SCHEMATIC

Components



A solid line means the entire component is shown.



A broken line indicates only part of the component is shown.

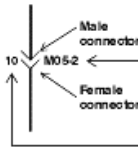


STOP LAMP SWITCH
Closed with pedal depressed

The name of the component appears next to its upper right corner.

Notes about component function follow its name.

Connectors



Connector number

Connector cavity number



This means the connector connects directly to the component.



This indicates the connector connects to a lead (pigtail), wired directly to the component.



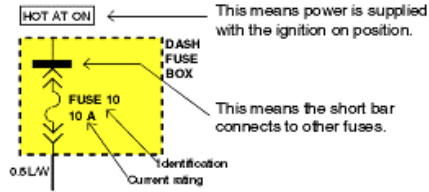
This indicates a screw terminal on the component.

Diode



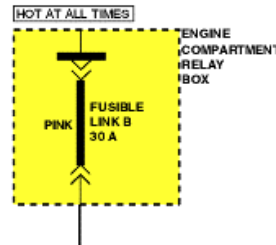
This diode allows current to flow only in the direction of the arrow.

Fuse and Fusible link



This means power is supplied with the ignition on position.

This means the short bar connects to other fuses.

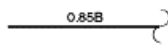


Circuit Breaker

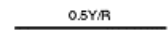


Basically a reusable fuse, a circuit breaker will heat and open if too much current flows through it. Some units automatically reset when cool, others must be manually reset.

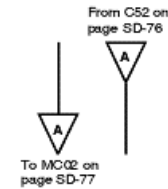
Wires



A wavy line means the wire is broken but is to be continued.



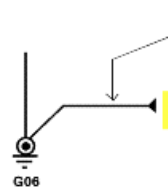
Wire insulation is yellow with a red strip.



Current path is continued on the same page or another page. The arrow shows the direction of current flow. You should look for the "A" in the marked position.

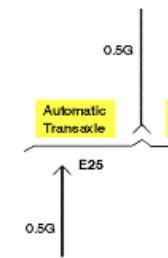


A wire connects to another circuit. The wire is shown again on that circuit which the arrow is pointing.



A broken line means only some of the circuit is shown; refer to the circuit listed for the complete schematic.

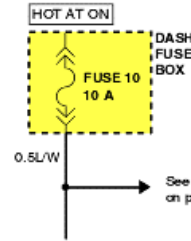
See Ground Distribution on page SD-23



Wire choices for options or different models are labeled and shown with a "choice" bracket like this.



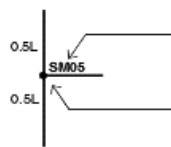
This dashed line means the RED and YELLOW/BLUE wires are both in connector E35.



See Power Distribution on page SD-15

Where separate wires join, only the splice is shown; for details on the additional wiring, refer to the circuit listed.

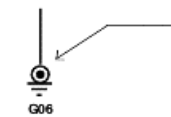
Splices



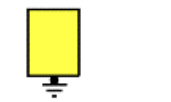
Splice number

Splices are numbered and shown as a dot with circle. The exact location and connection of these splices may vary among vehicles.

Ground - "G"

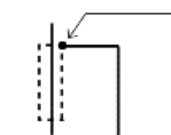


This symbol means the end of the wire is attached to a metal part of the vehicle.



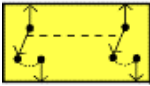
This ground symbol (dot and 3 lines overlapping the component) means the housing of the component is attached to a metal part of the vehicle.

Shield Wire



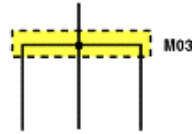
This represents RFI (Radio Frequency Interference) Shielding around a wire. The shielding is always connected to ground.

Switches



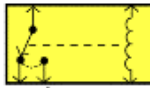
These switches move together: a dashed line shows a mechanical connection between them.

Joint Connectors

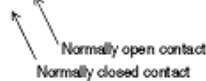


This is a connector showing the joining wires.

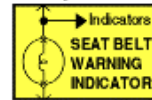
Relays



This is a relay shown with no current flowing through its coil. When a current flows through coil, contact will toggle.



Indicator



This indicates seat belt warning indicator continues to other indicators within instrument cluster.

This is an indicator which displays the lighted symbol.

WIRE COLOR ABBREVIATIONS

The following abbreviations are used to identify wire colors in the circuit schematics :

Symbol	Color of wire	Symbol	Color of wire
B	Black	O	Orange
Br	Brown	P	Pink
G	Green	Pp	Purple
Gr	Gray	R	Red
L	Blue	T	Tawny
Lg	Light green	W	White
Ll	Light blue	Y	Yellow

HARNESS CLASSIFICATION

Electrical wiring connectors are classified according to the wiring parts in the Harness Layouts.

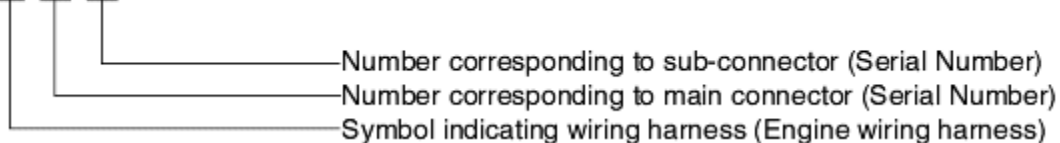
Harness name	Location	Symbol
Engine harness	Engine compartment	E
Main, Air Bag harness	Passenger compartment	M
Control harness	Engine compartment	C
Rear and Trunk lid (Tail gate) harness	Rear and Trunk lid	R
Instrument harness	Under crash pad	I
Door harness	Door	D

CONNECTOR IDENTIFICATION

A connector identification symbol consists of a wiring harness location classification symbol corresponding to a wiring harness location and number corresponding to the connector. These connector locations can be found in the HARNESS LAYOUTS.

For example :

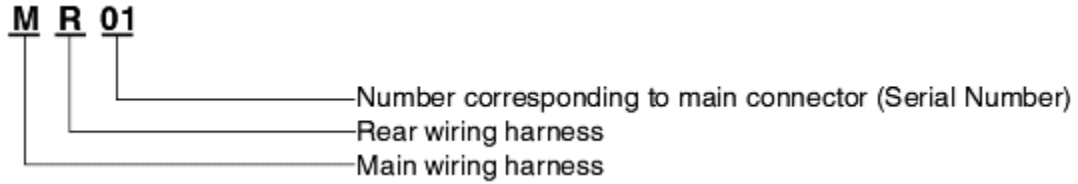
E 10 -1



NOTE

Connectors which connect each wiring harness are represented by the following symbols.

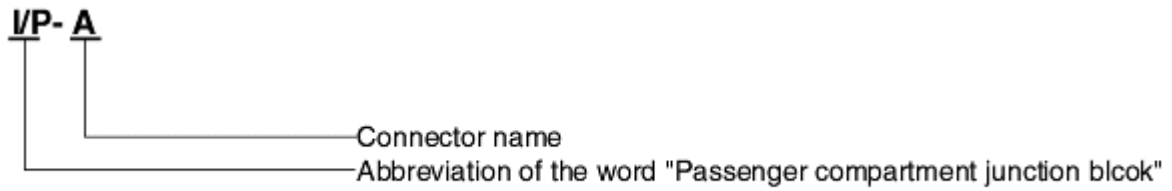
For example :



JUNCTION BLOCK IDENTIFICATION

A junction block identification symbol consists of a wiring harness location classification symbol corresponding to a wiring harness location and number corresponding to the connector in the junction block.

For example :



TROUBLESHOOTING PROCEDURES

The following five-step troubleshooting procedure is recommended.

1. **Verify the customer's complaints**

Turn on all the components in the problem circuit to check the accuracy of the customer's complaints. Note the symptoms. Do not begin disassembly or testing until you have narrowed down the probable causes.

2. **Read and analyze the schematic diagram**

Locate the schematic for the problem circuit. Determine how the circuit is supposed to work by tracing the current paths from the power source through the system components to ground. If you do not understand how the circuit should work, read the circuit operation text. Also check other circuits that share with the problem circuit. The name of circuits that share the same fuse, ground, or switch, for example, are referred to on each diagram. Try to operate any shared circuits you did not check in step 1. If the shared circuit works, the shared wiring is okay, and the cause must be within the wiring used only by the problem circuit. If several circuits fail at the same time, the fuse or ground is a likely cause.

3. **Inspect the circuit/ component with the problem isolated**

Make a circuit test to check the diagnosis you made in step 2. Remember that a logical, simple procedure is the key to efficient troubleshooting. Narrow down the probable causes using the troubleshooting hints and system diagnosis charts. Test for the most likely cause of failure first. Try to make tests at points that are easily accessible.

4. **Repair the problem**

Once the problem is found, make the necessary repairs.

5. **Make sure the circuit works**

Repeat the system check to be sure you have repaired the problem. If the problem was a blown fuse, be sure to test all of the circuits on that fuse.

TROUBLESHOOTING EQUIPMENT

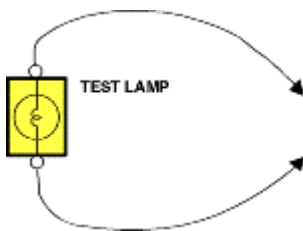
VOLTMETER AND TEST LAMP

Use a test lamp or a voltmeter on circuits without solid-state units and use a test lamp to check for voltage. A test lamp is made up of a 12-volt light bulb with a pair of leads attached. After grounding one lead, touch the other lead to various points along the circuit where voltage should be present. When the bulb goes on, there is voltage at the point being tested.

CAUTION

A number of circuits include solid-state modules, such as the Engine Control Module (ECM), used with computer command control injection. Voltage in these circuits should be tested only with a 10-megaohm or higher impedance digital voltmeter. Never use a test lamp on circuits that contain solid-state modules. Damage to the modules may result.

A voltmeter can be used in place of a test lamp. While a test lamp shows whether the voltage is present or not, a voltmeter indicates how much voltage is present.



SELF-POWERED TEST LAMP AND OHMMETER

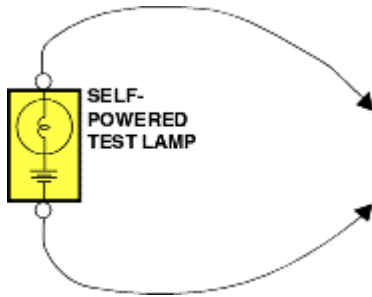
Use a self-powered test lamp or an ohmmeter to check for continuity. A self-powered test lamp is made of a bulb, battery and two leads. That will light a lamp when touched together. Prior to checking the points, first disconnect the battery ground cable or remove the fuse which feeds the circuit you are working on.

CAUTION

Never use a self-powered test lamp on circuits that contain solid state modules. Damage to these modules may result.

An ohmmeter can be used in place of a self-powered test lamp. The ohmmeter shows how much resistance there is between two points along a circuit. Low resistance means good continuity.

Circuits which include any solid-state devices should be tested only with a 10-megaohm or higher impedance digital multimeter. When measuring resistance with a digital multimeter, the battery negative terminal should be disconnected. Otherwise, there may be incorrect readings. Diodes and solid-state devices in a circuit can make an ohmmeter give a false reading. To find out if a component is affecting a measurement, take one reading, reverse the leads and take a second reading. If different, the solid-state device is affecting the measurement.



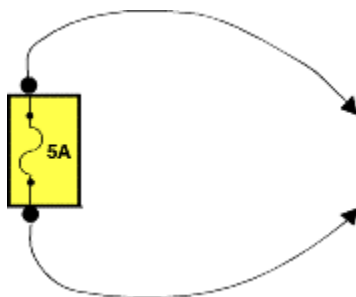
JUMPER WIRE WITH FUSE

Use a jumper wire with a fuse to by-pass an open circuit.

A jumper wire is made up of an in-line fuse holder connected to a set of test leads. This tool is available with small clamp connectors providing adaptation to most connectors without damage.

CAUTION

Do not use a fuse with a higher rating than the specified fuse that protects the circuit being tested. Do not use this tool in any situation to substitute an input or output at the solid-state control module, such as ECM, TCM, etc.



SHORT FINDER

A short finder is available to locate a short to ground. The short finder creates a pulsing magnetic field in the shorted circuit and shows you the location of the short through body trim or sheet metal.

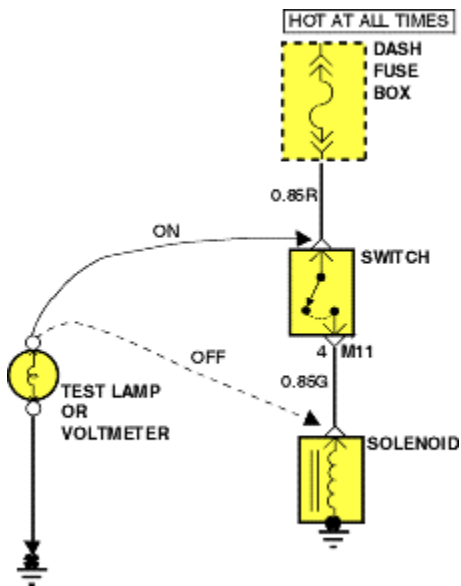
TROUBLESHOOTING TEST

TESTING FOR VOLTAGE

This test measures voltage in a circuit. When testing for voltage at a connector, you do not have to separate the two halves of the connector. Instead, probe the connector from the back (backprobe). Always check both sides of the connector because dirt and corrosion between its contact surfaces can cause electrical problems.

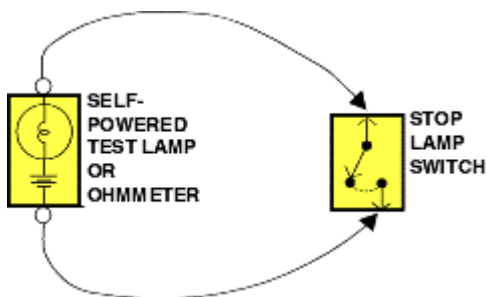
1. Connect one lead of a test lamp or voltmeter to a ground. If you are using a voltmeter, be sure it is the voltmeter's negative test lead you have connected to ground.

2. Connect the other lead of the test lamp or voltmeter to a selected test point (connector or terminal).
3. If the test lamp glows, there is voltage present. If you are using a voltmeter, note the voltage reading. Too close a loss of more than 1 volt from specification indicates a problem.



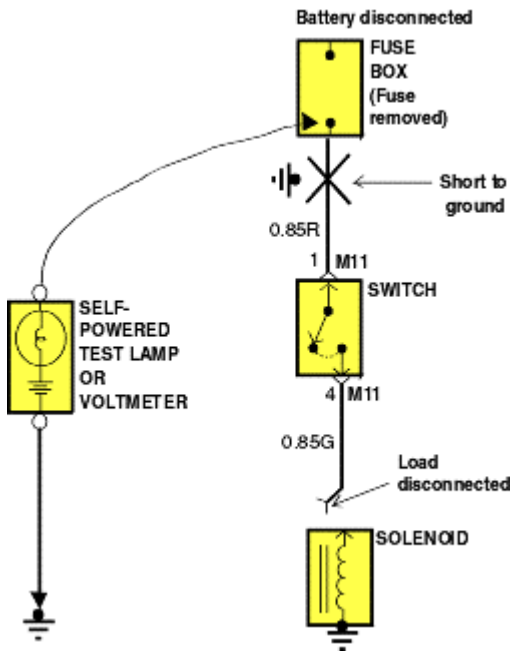
TESTING FOR CONTINUITY

1. Disconnect the battery negative terminal.
2. Connect one lead of a self-powered test lamp or ohmmeter to one end of the part of the circuit you wish to test. If you are using an ohmmeter, hold the leads together and adjust the ohmmeter to read zero ohms.
3. Connect the other lead to the other end.
4. If the self-power test lamp glows, there is continuity. If you are using an ohmmeter, low or zero resistance means good continuity.



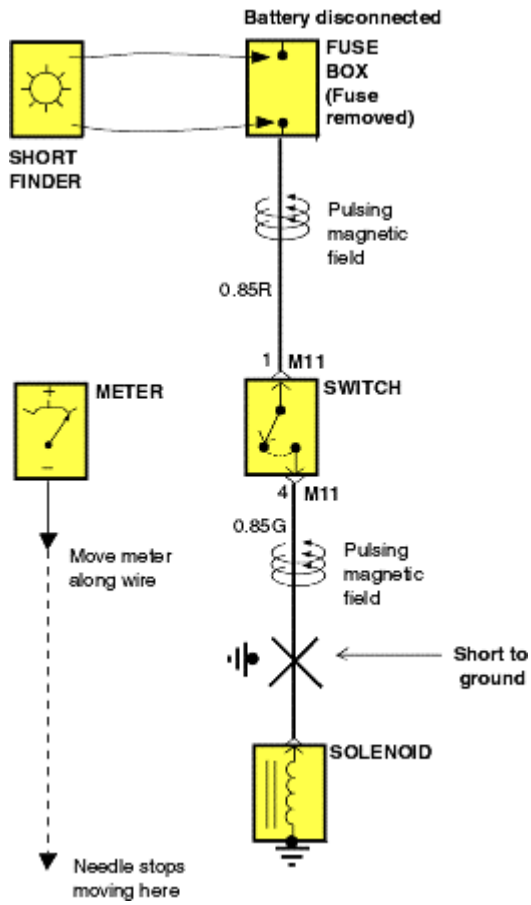
TESTING FOR SHORT TO GROUND

1. Disconnect the battery negative terminal.
2. Connect one lead of a self-powered test lamp or an ohmmeter to the fuse terminal on the load side.
3. Connect the other lead to a ground.
4. Beginning near the fuse block move the harness from side to side. Continue this procedure (about six inches apart) while watching the self-powered test lamp or ohmmeter.
5. When the self-powered test lamp glows, or ohmmeter registers, there is a short to a ground in the wiring near that point.



TESTING FOR A SHORT WITH A SHORT FINDER

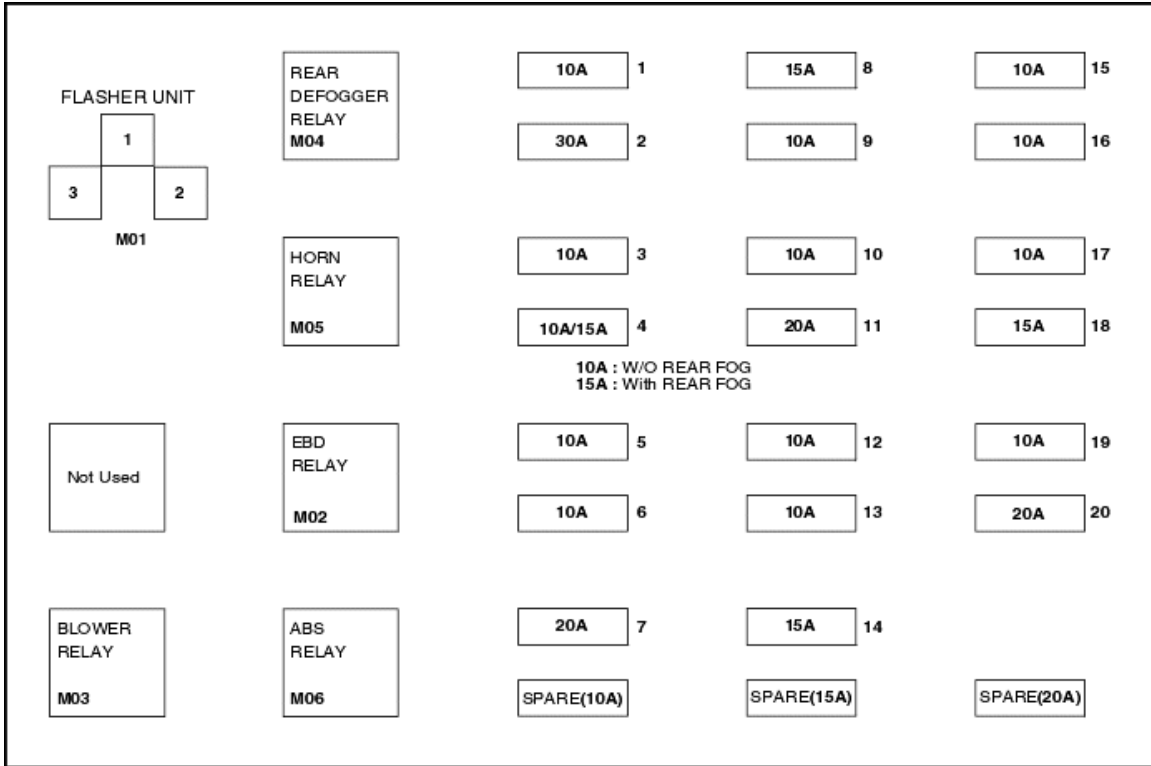
1. Remove the blown fuse. Leave the battery connected.
2. Connect the short finder across the fuse terminals.
3. Close all switches in series in the circuit that are being testing.
4. Turn on the short circuit locator. It sends pulses of current to the short. This creates a pulsing magnetic field around the wiring between the fuse box and the short.
5. Beginning at the fuse box, slowly move the short finder along the circuit wiring. The meter will show current pulses through sheet metal and body trim. As long as the meter is between the fuse and the short, the needle will move with each current pulse. Once the meter is moved past the point of the short, the needle will stop moving. Check around this area to locate the cause of the short circuit.



13.2 Schematic Diagram

FUSE & RELAY INFORMATION E21C0010

PASSENGER COMPARTMENT RELAY & FUSE BOX LAYOUT



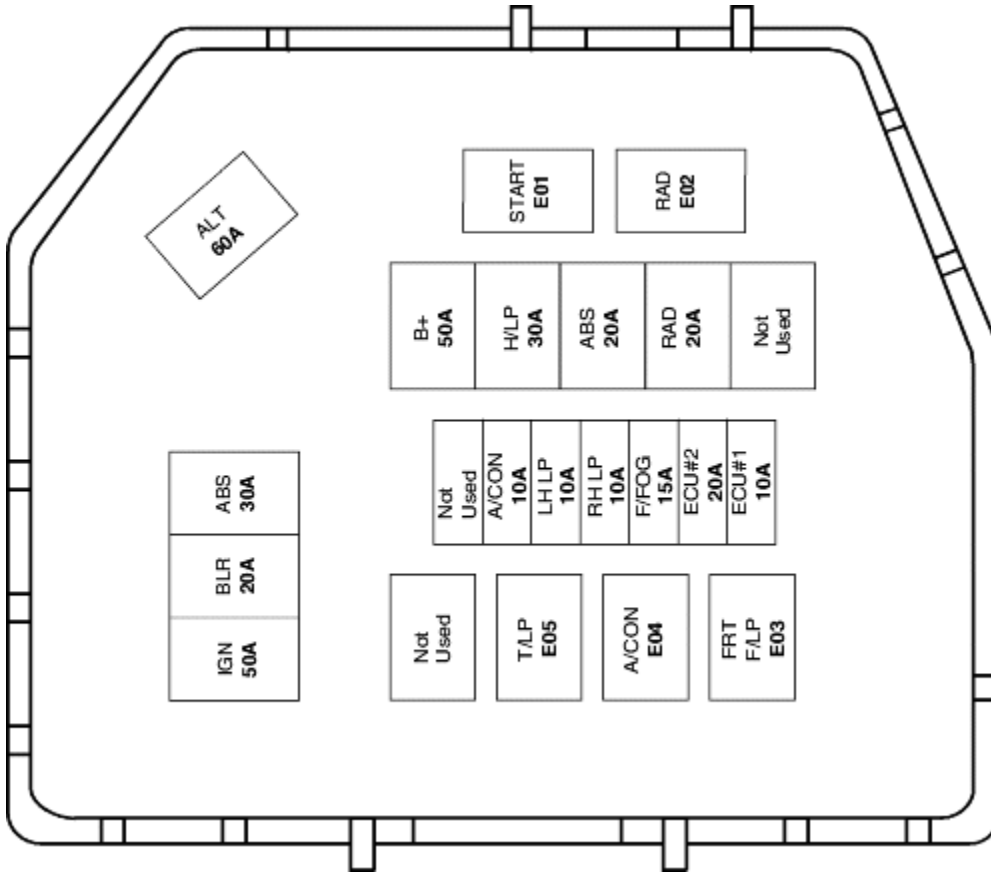
CIRCUIT

Fuse Amperages

Circuit

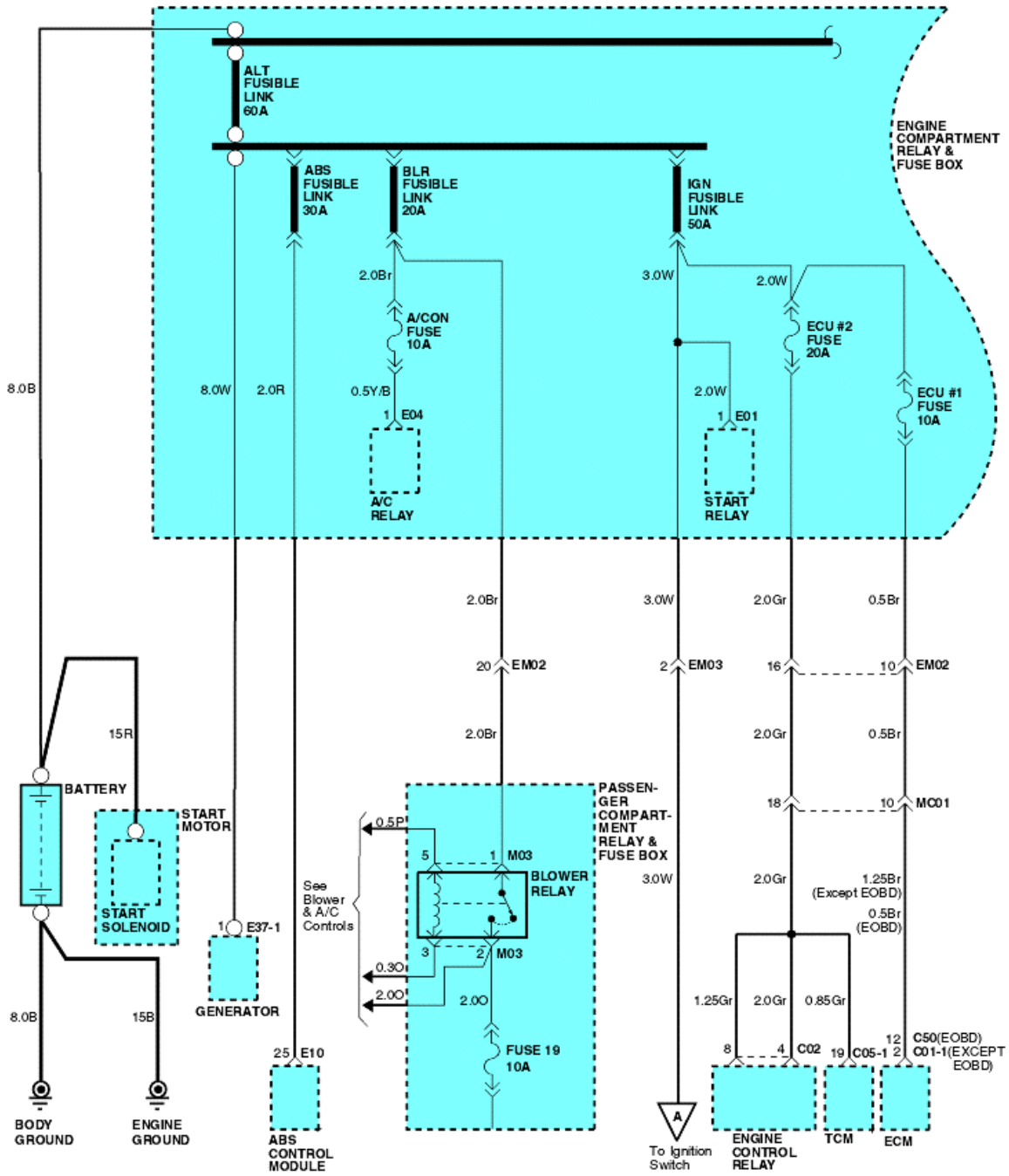
Fuse	Amperages	Circuit
1	10A	Horn
2	30A	Power window
3	10A	ABS
4	10A/15A	Left head lamp, rear fog lamp, DRL control
5	10A	Right head lamp, DRL control
6	10A	Blower, rear window defogger
7	20A	Wiper, washer
8	15A	Power door lock, door warning control
9	10A	Hazard warning, data link connector
10	10A	Stop lamp, shif & key lock control
11	20A	Rear window defogger
12	10A	Digital clock, audio, room lamp, instrument cluster, rear fog lamp, luggage room lamp
13	10A	Digital clock, audio, A/T interlock control
14	15A	Seat warmer, cigarette lighter
15	10A	Back-up lamp, generator, TCM, turn signal
16	10A	ABS, instrument cluster, seat belt timer, EBD, A/T interlock control
17	10A	Instrument cluster
18	15A	Air bag
19	10A	A/C & blower control
20	20A	ECM, Ignition coil

ENGINE COMPARTMENT RELAY & FUSE BOX
LAYOUT



FUSE & RELAY INFORMATION

Description	Amperages	Circuit protected	Remark
Fusible link			
ALT	60A	Generator	
ABS	30A	ABS control	
BLR	20A	Blower control	
IGN	50A	Ignition power source	
B+	50A	Battery power source	
H/LP	30A	Lamps	
ABS	20A	ABS control	
RAD	20A	Radiator fan control	
Fuse			
A/CON	10A	A/CON controls	
LH LP	10A	Left tail lamps	
RH LP	10A	Right tail lamps	
F/FOG	15A	Front fog lamps	
ECM #2	20A	Engine control relay	
ECU #1	10A	ECM	



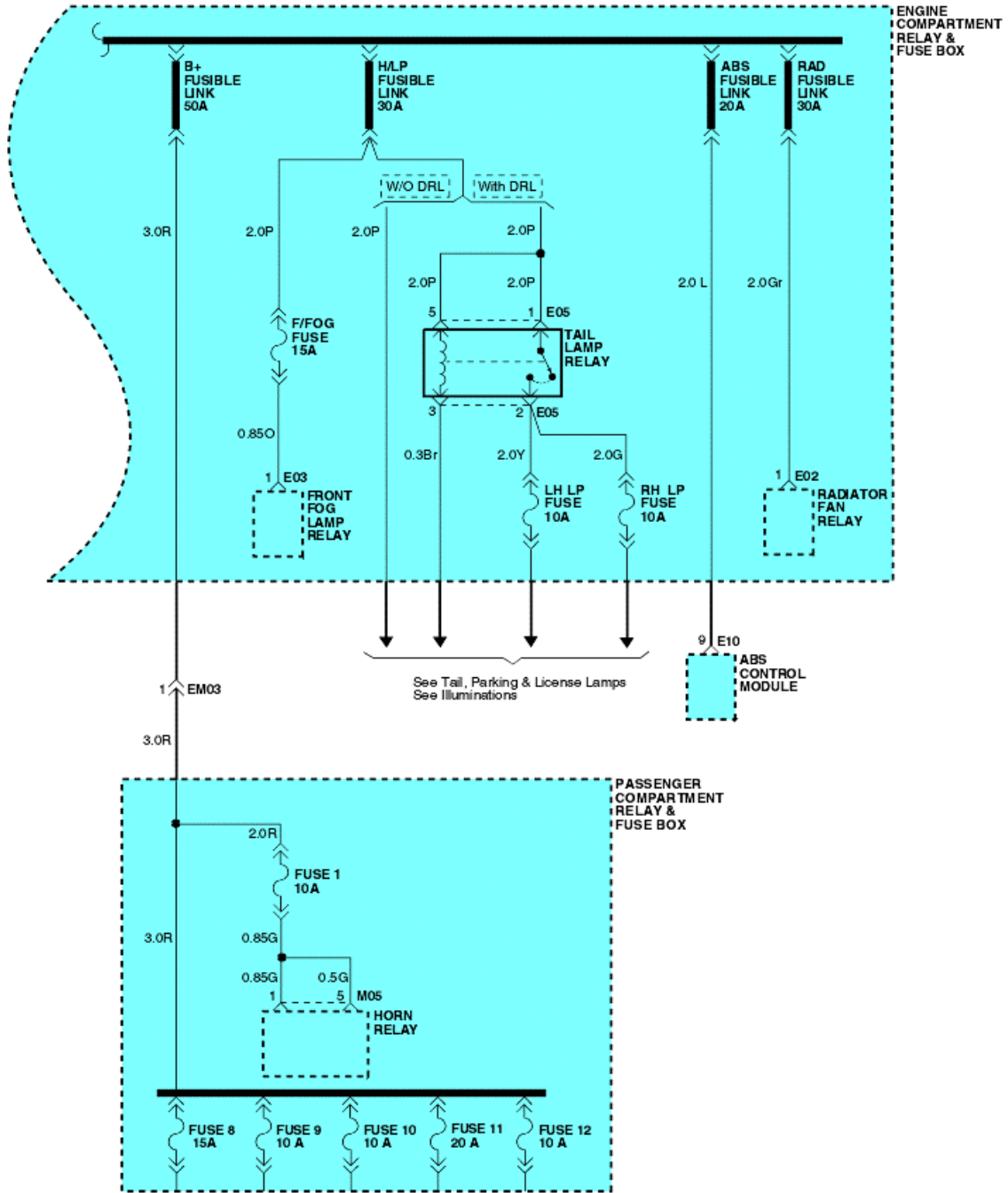
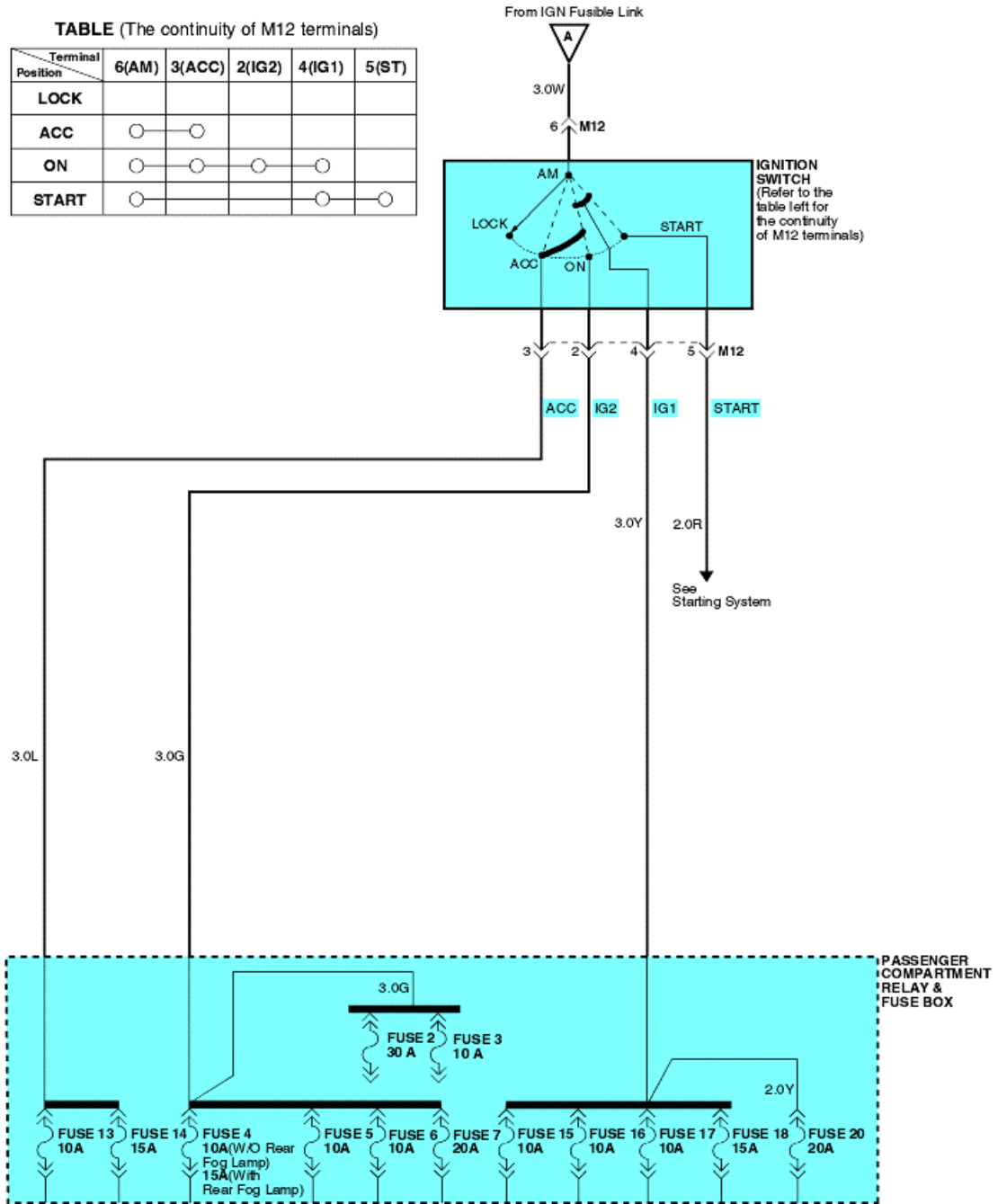
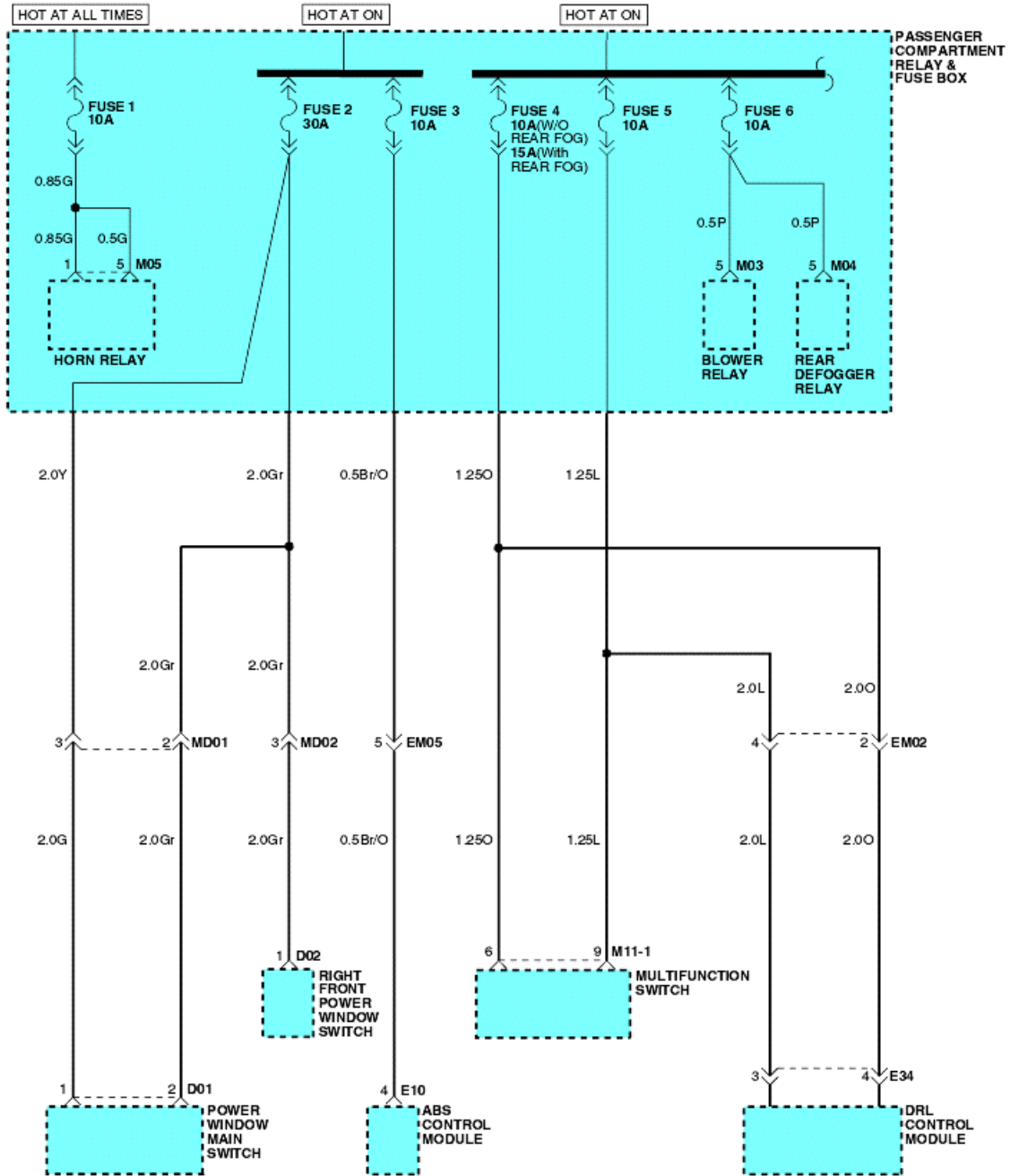


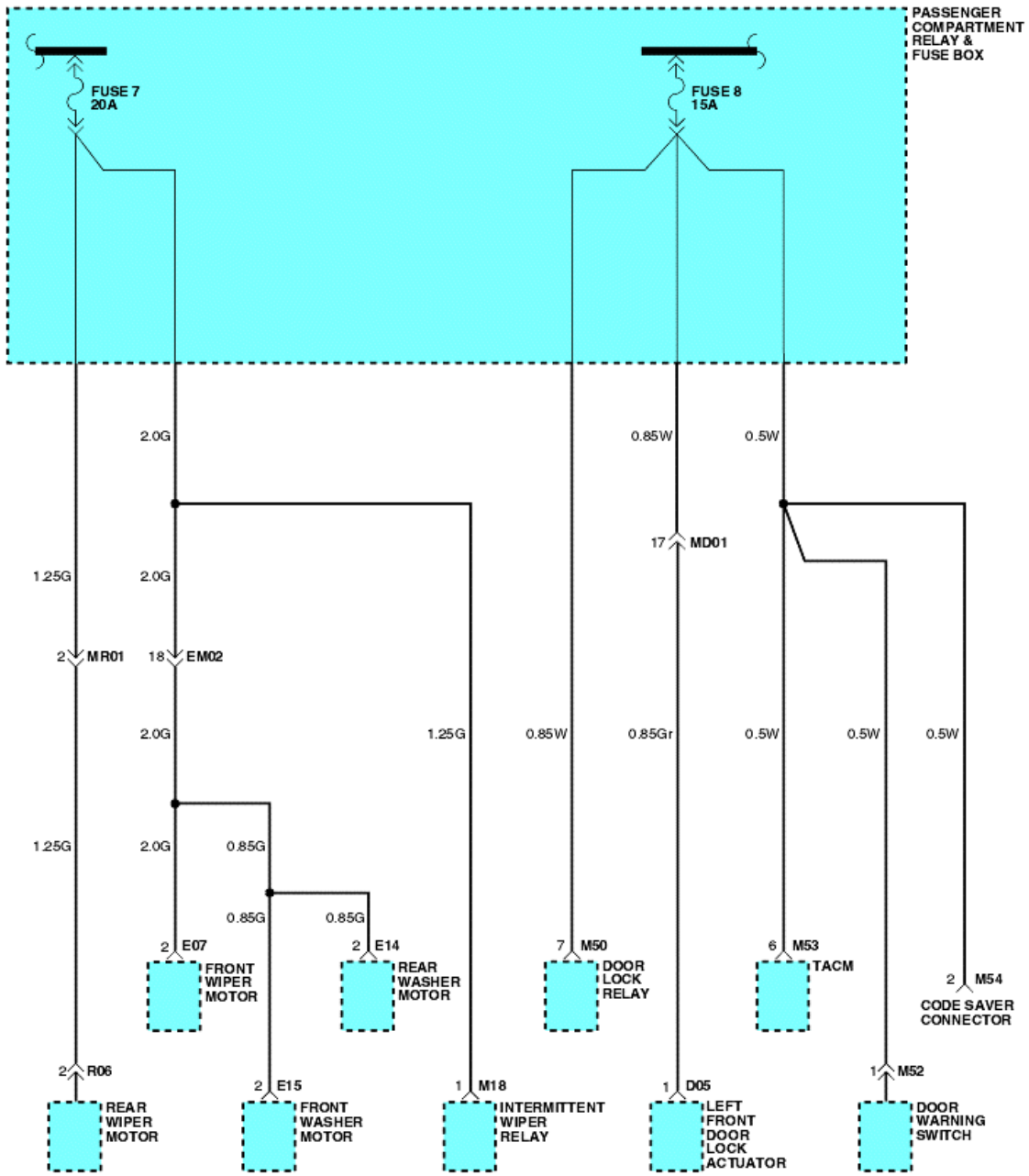
TABLE (The continuity of M12 terminals)

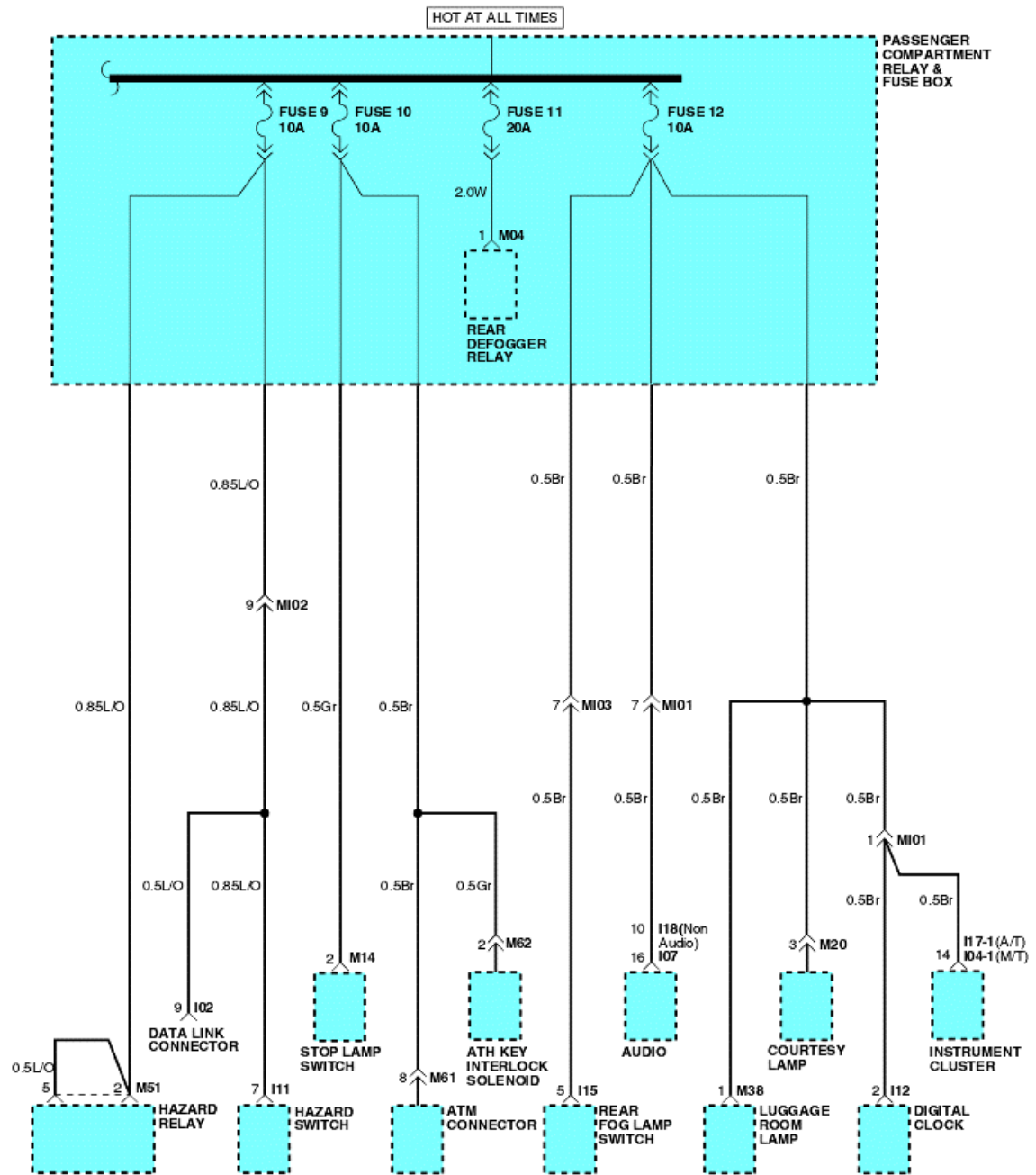
Terminal Position	6(AM)	3(ACC)	2(IG2)	4(IG1)	5(ST)
LOCK					
ACC	○	○			
ON	○	○	○	○	
START	○			○	○

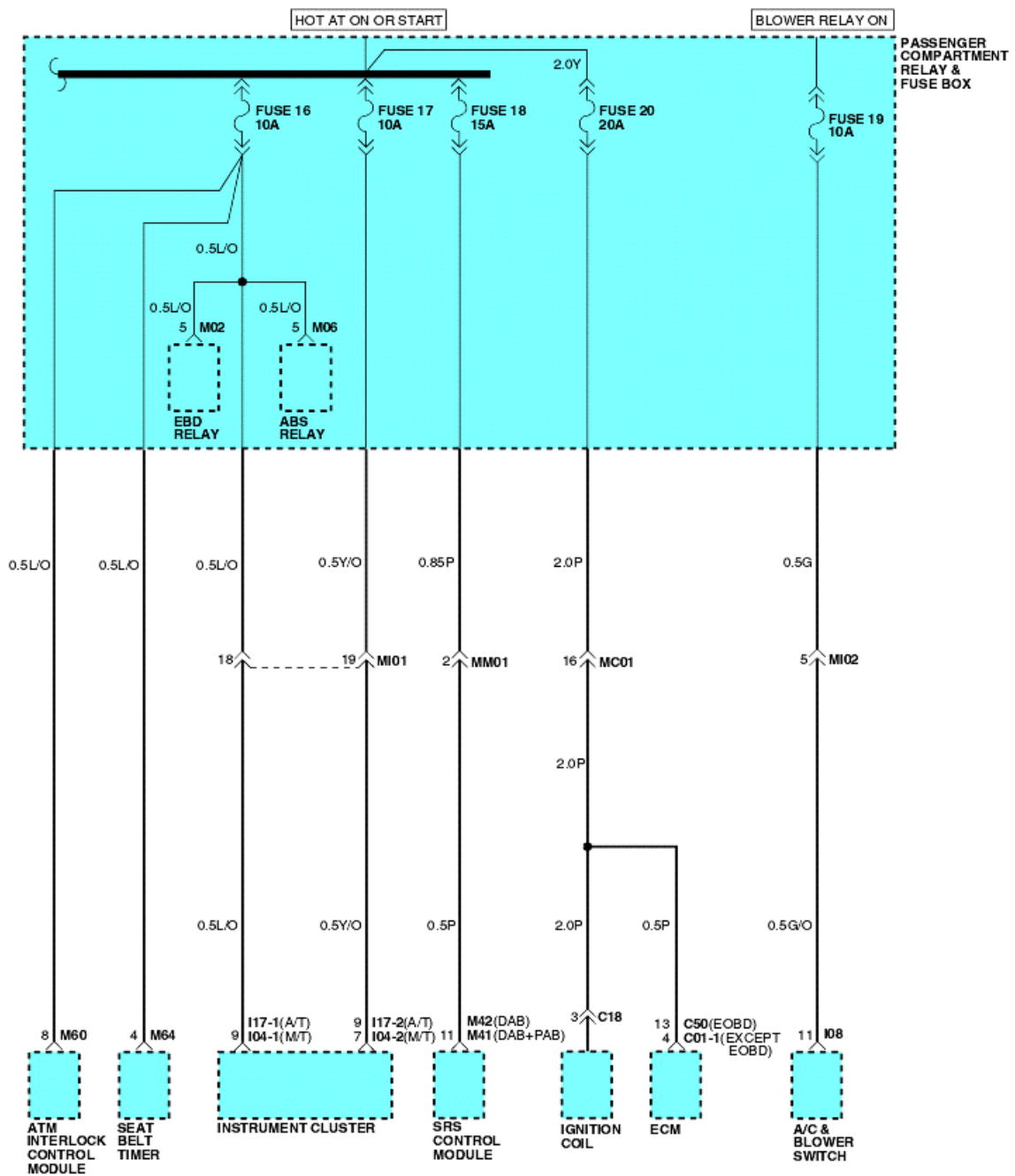


MEMO

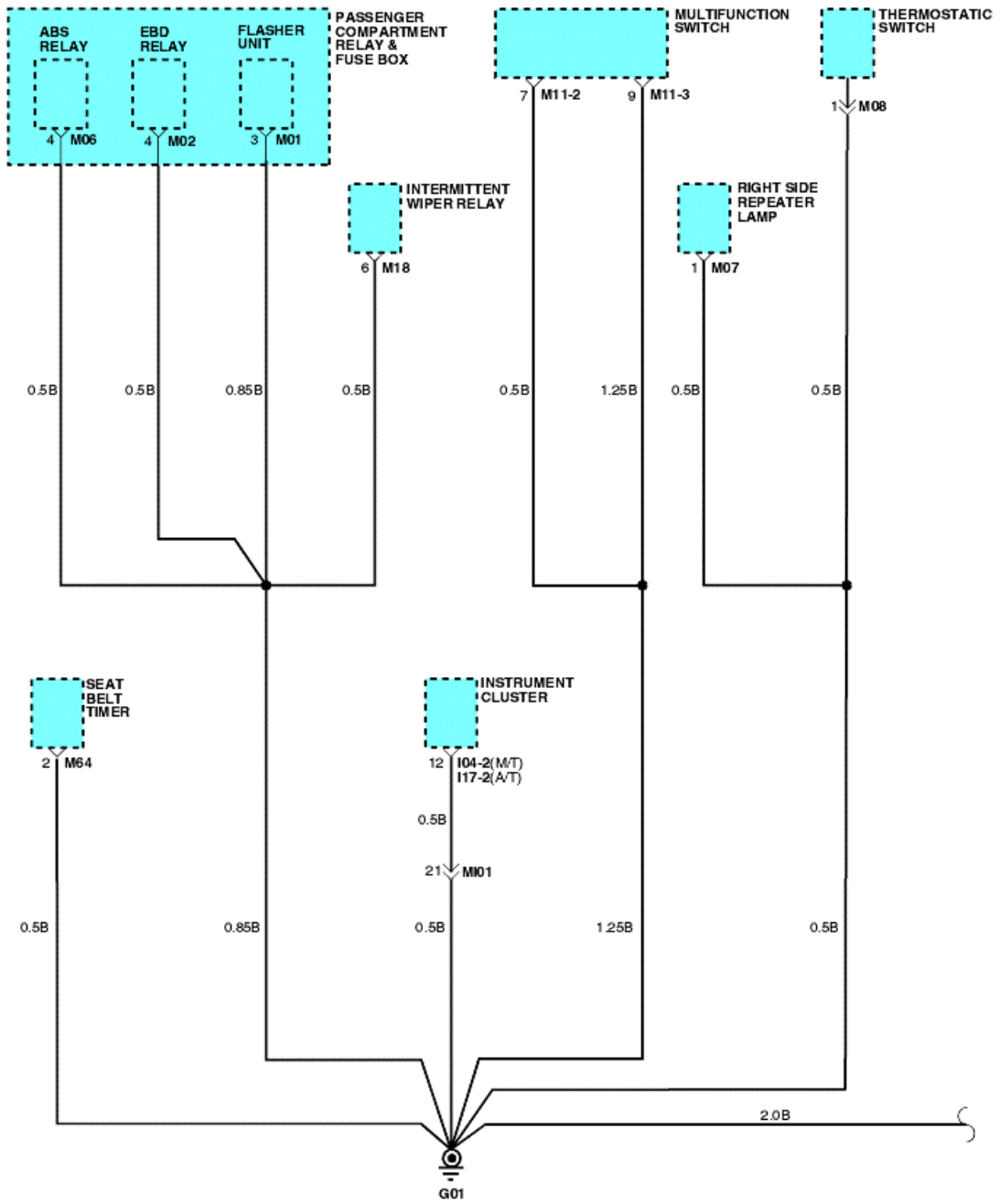


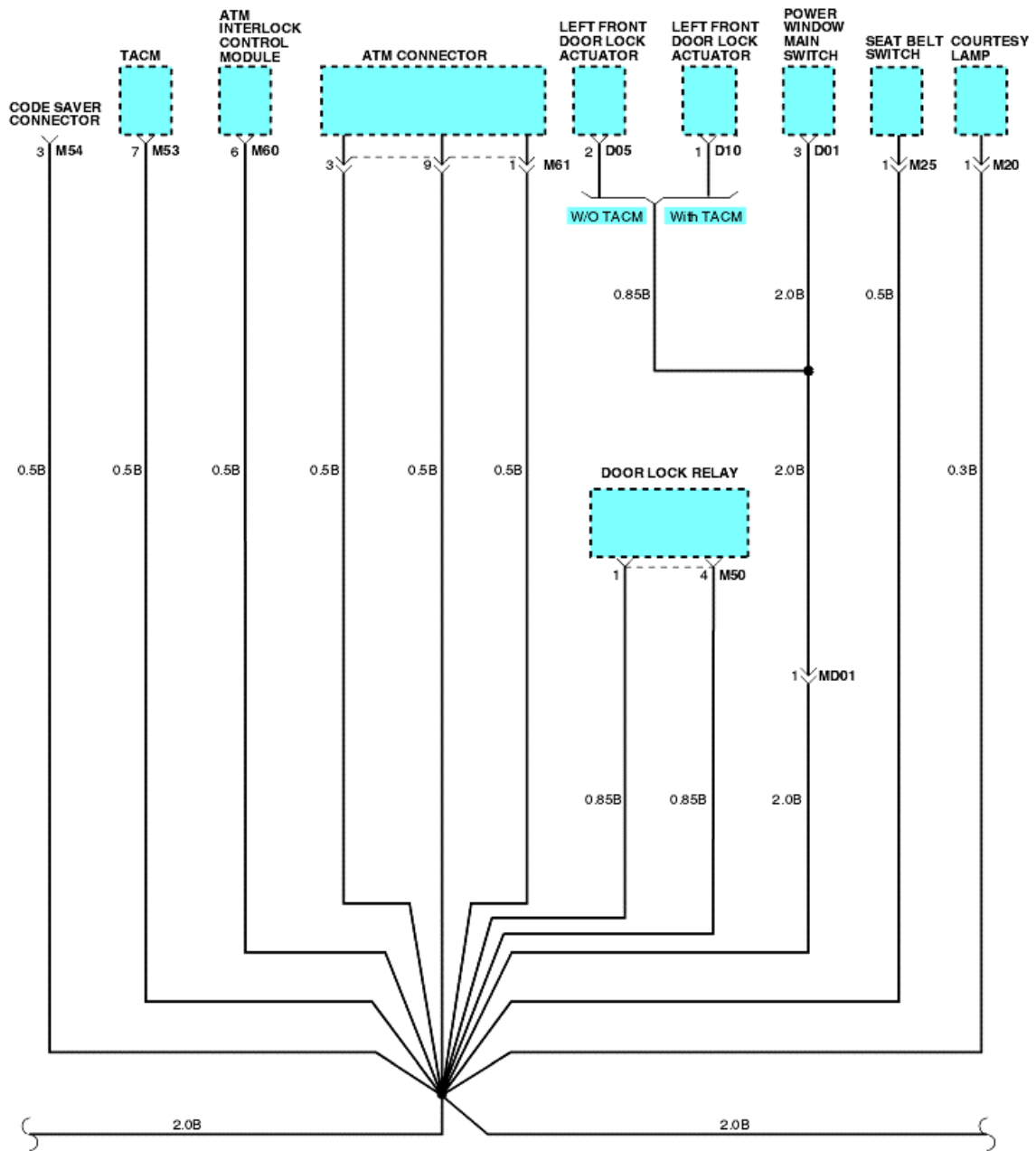


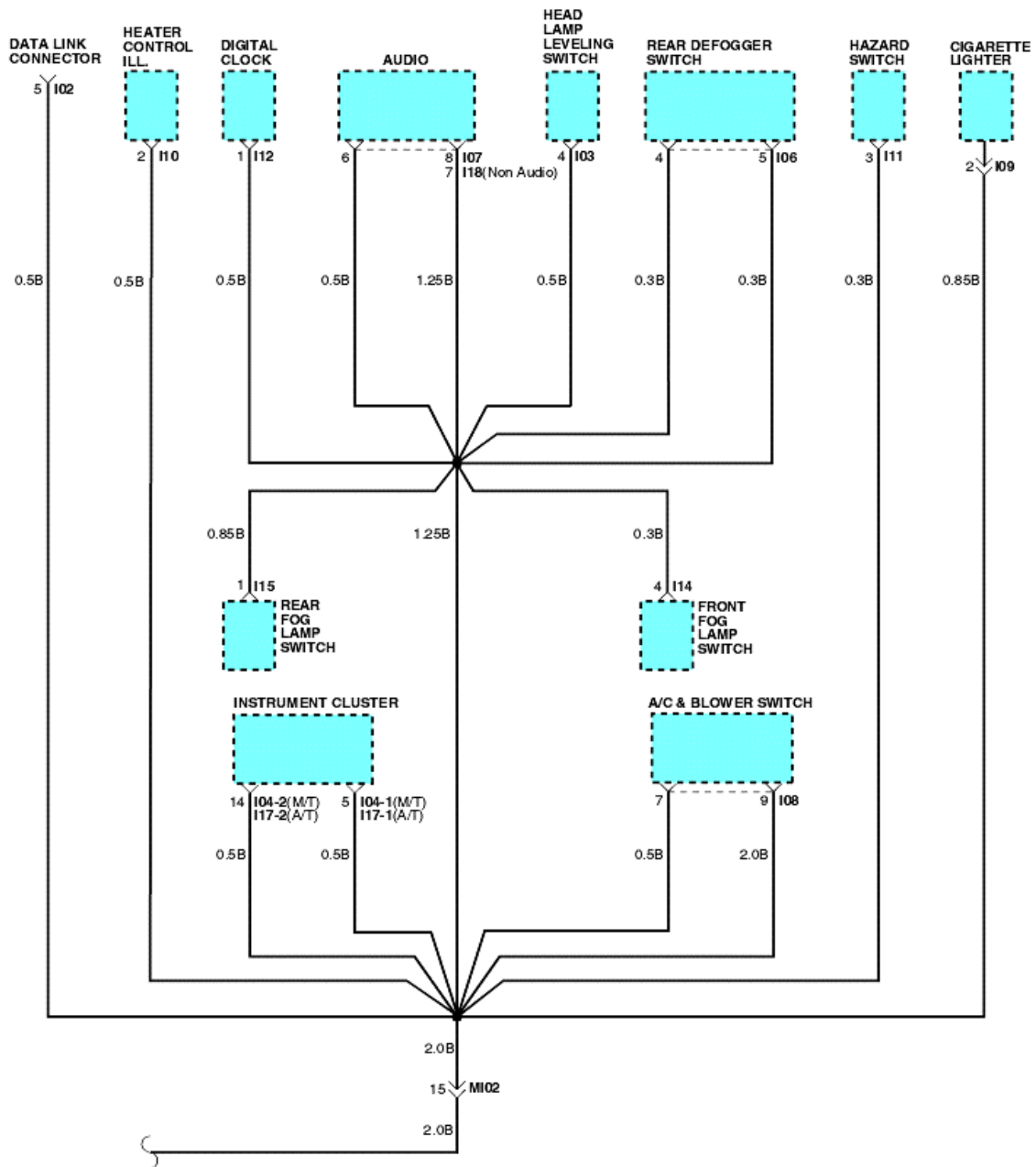


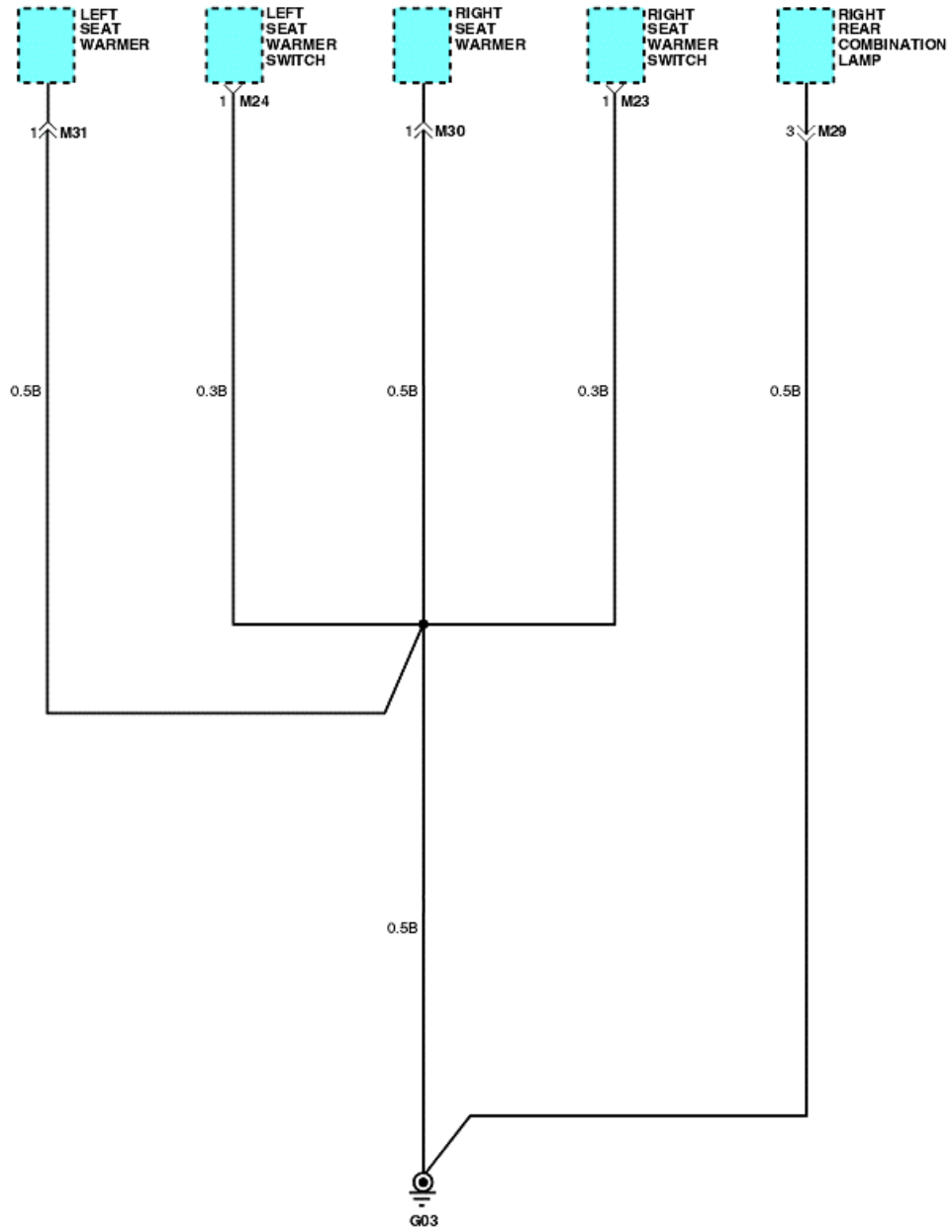


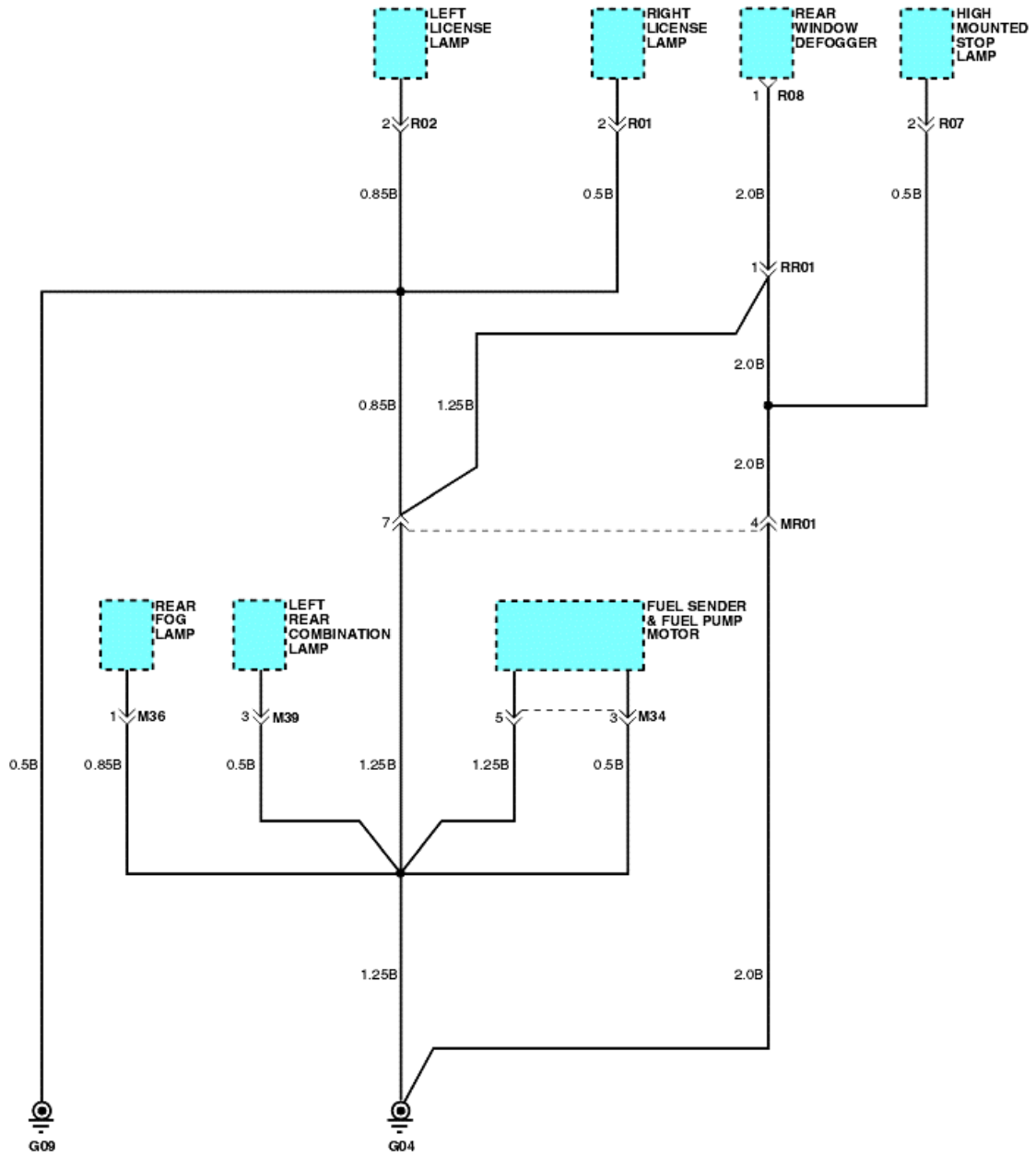
MEMO

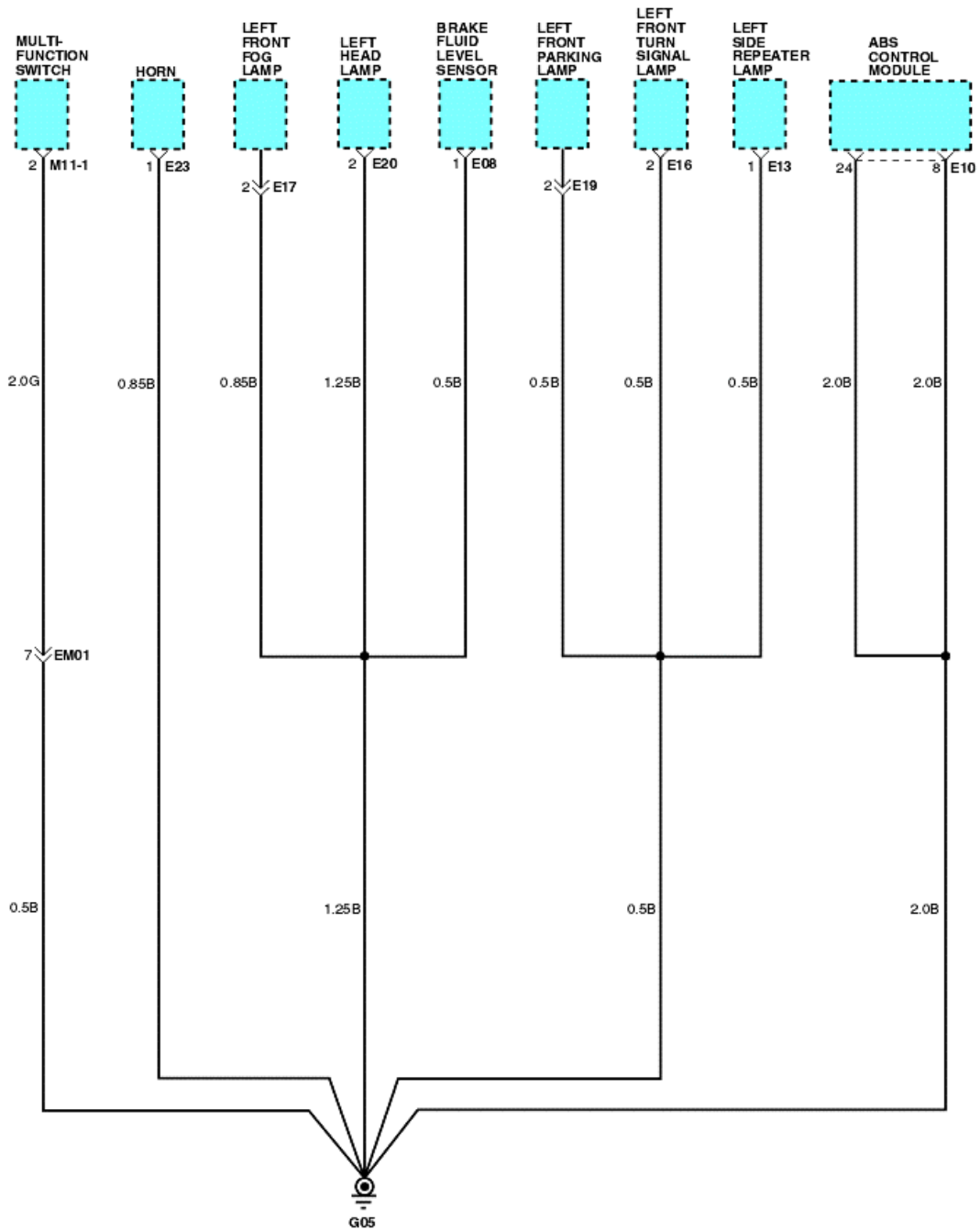


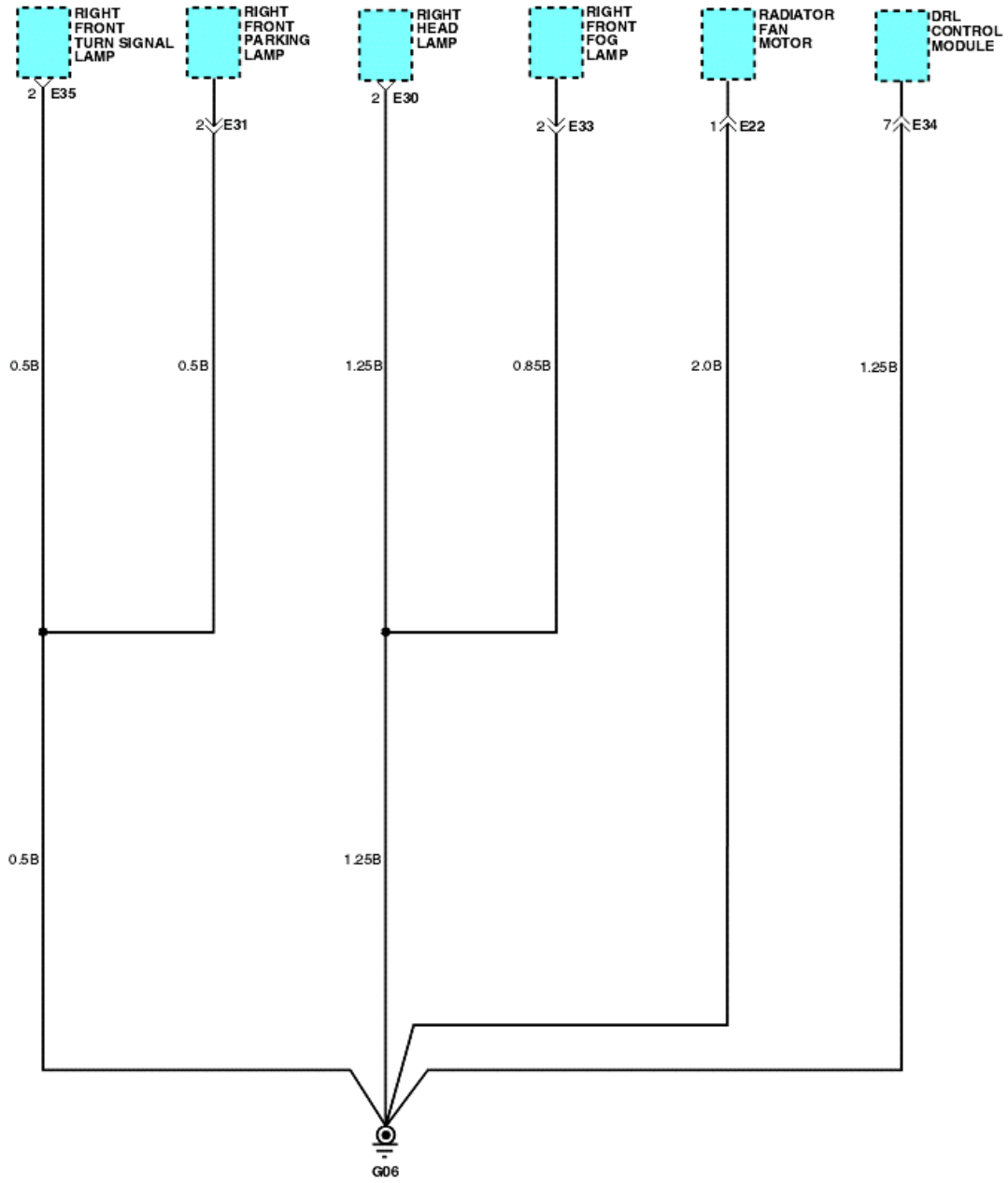


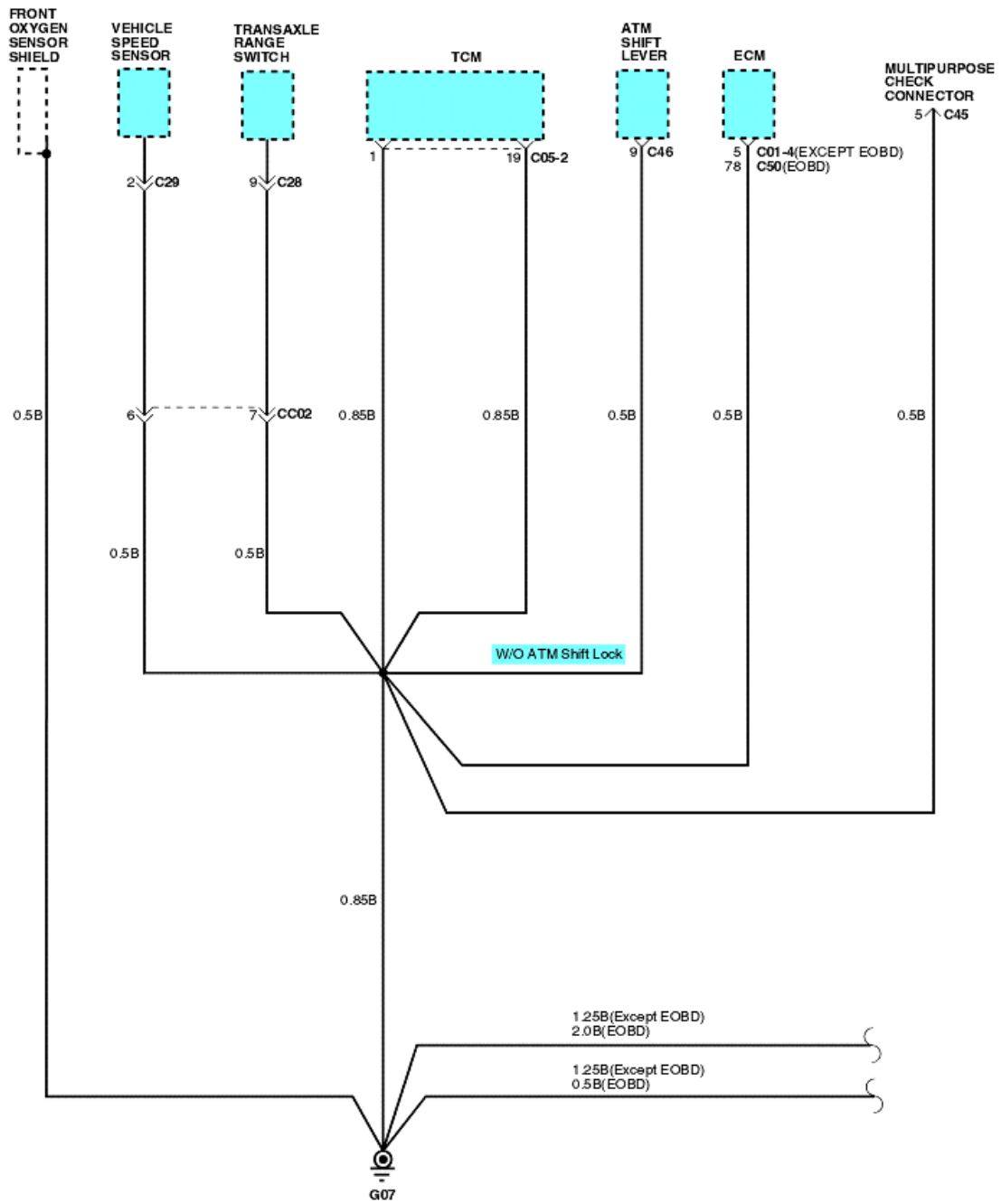


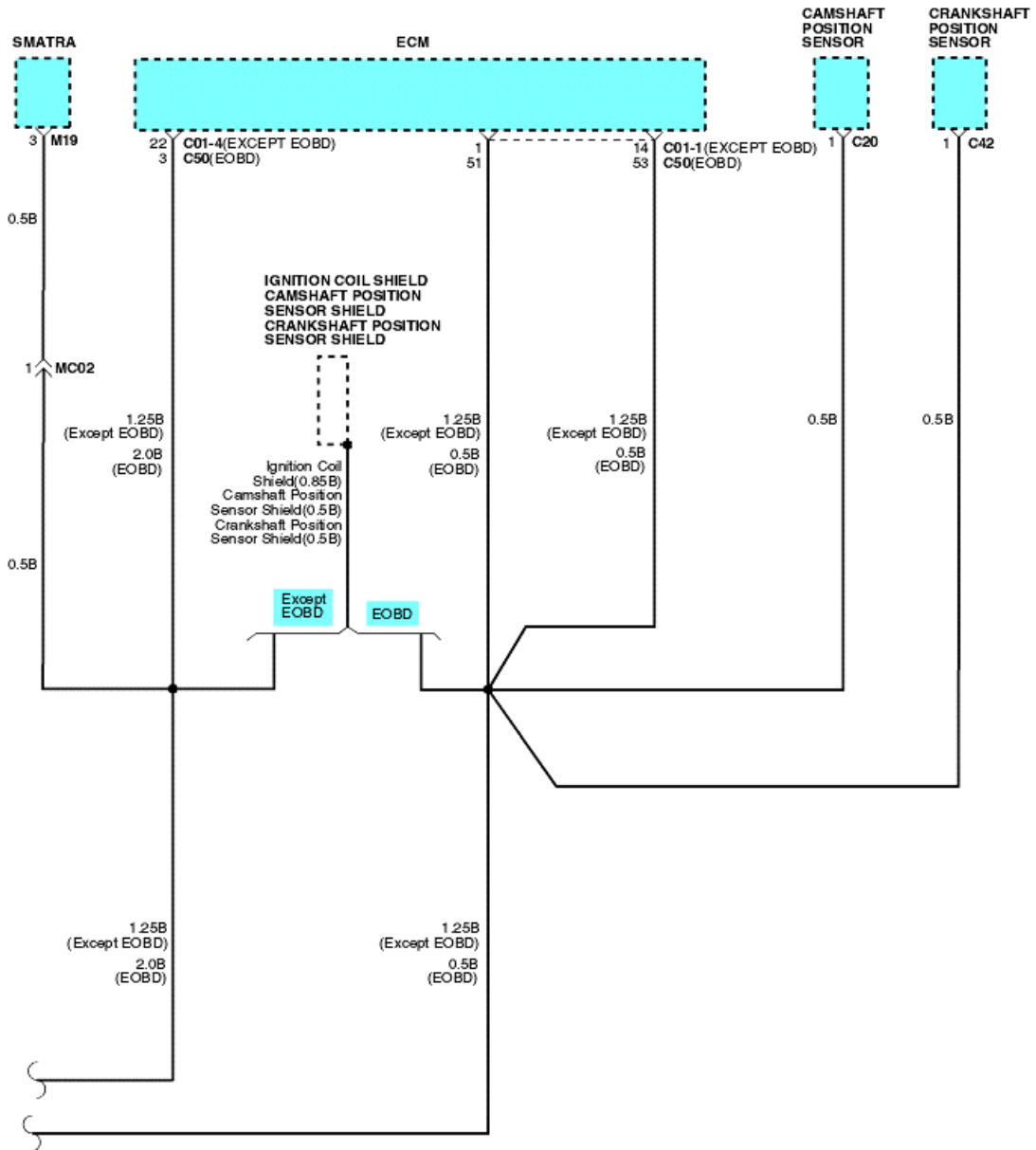


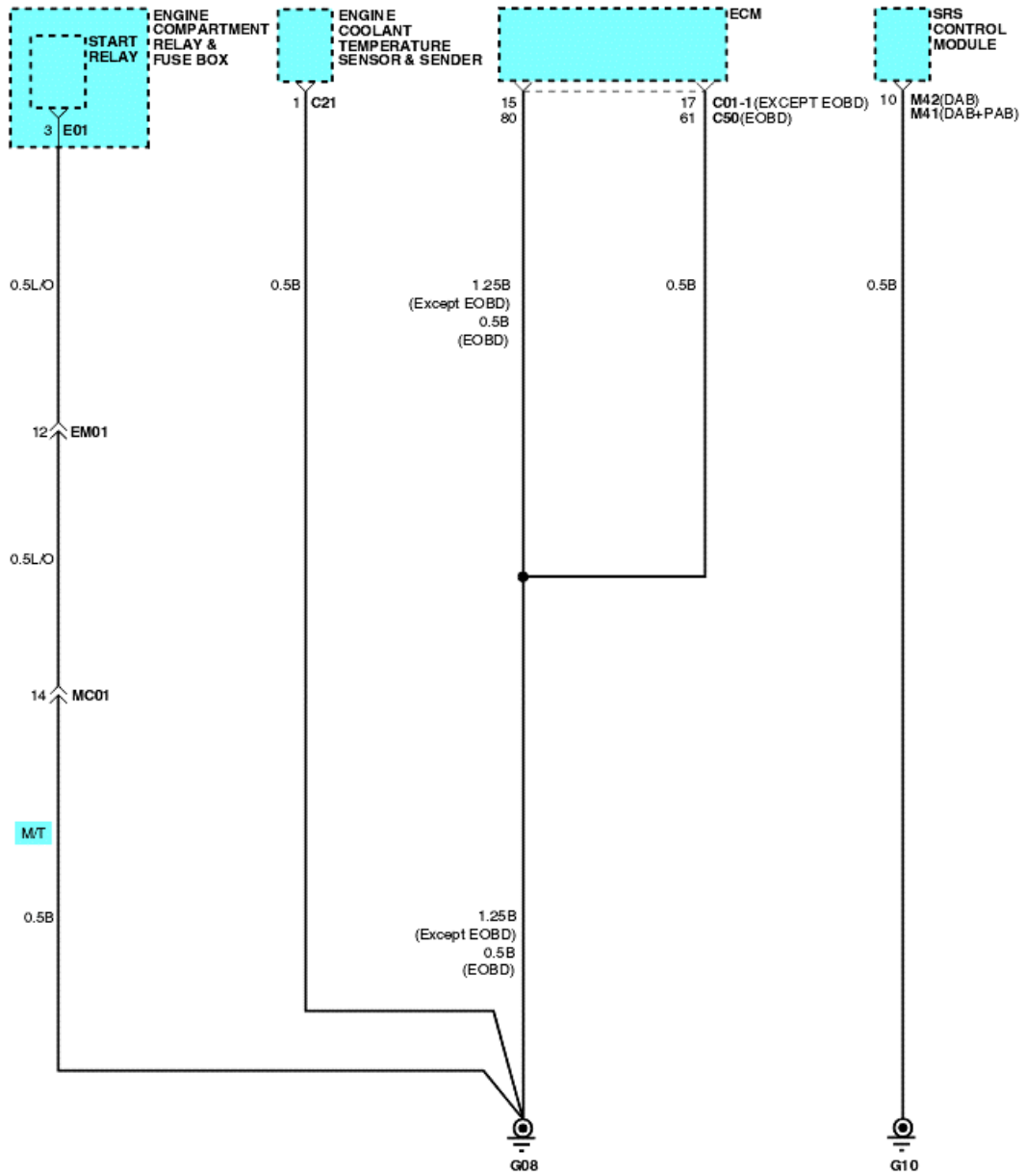


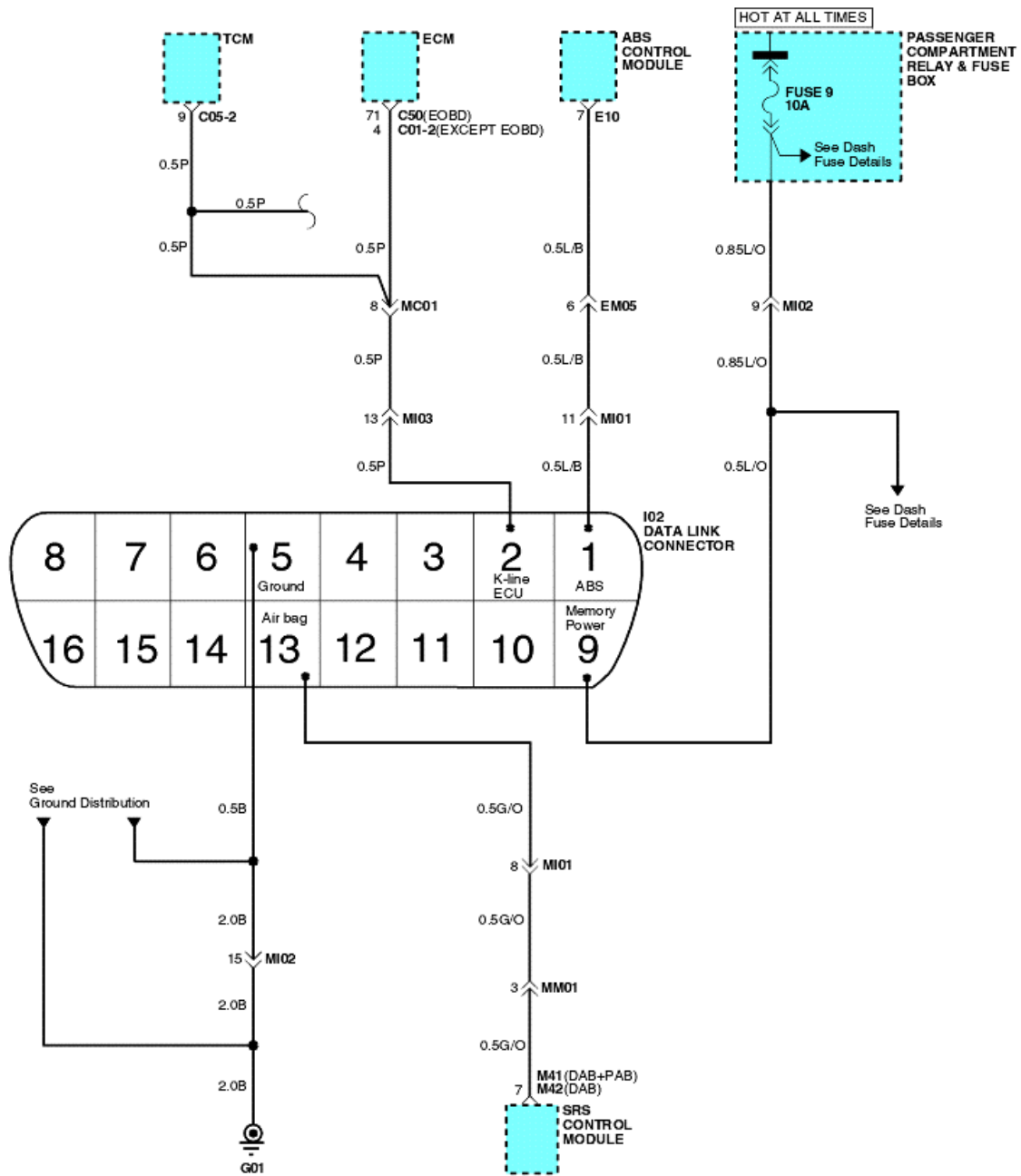


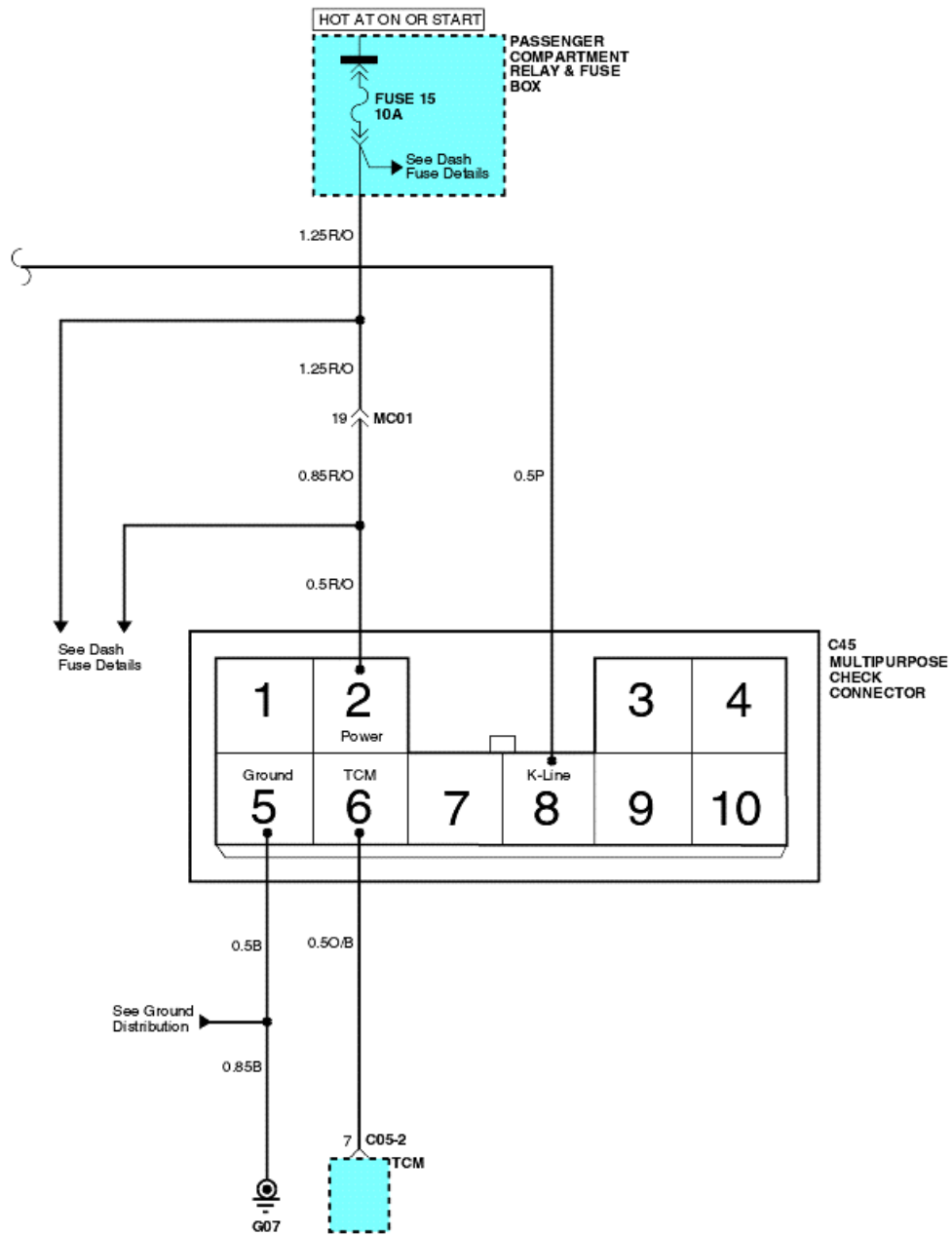




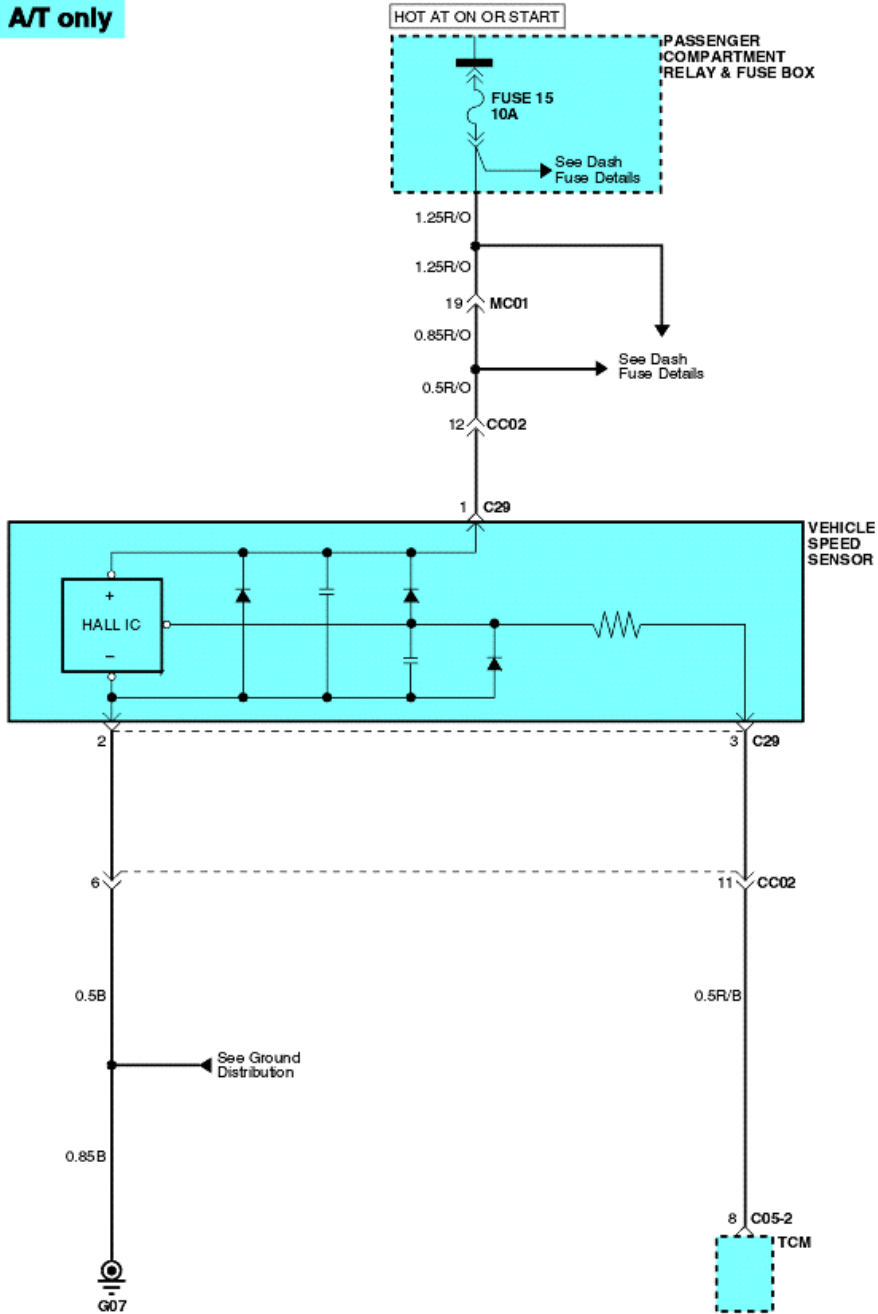


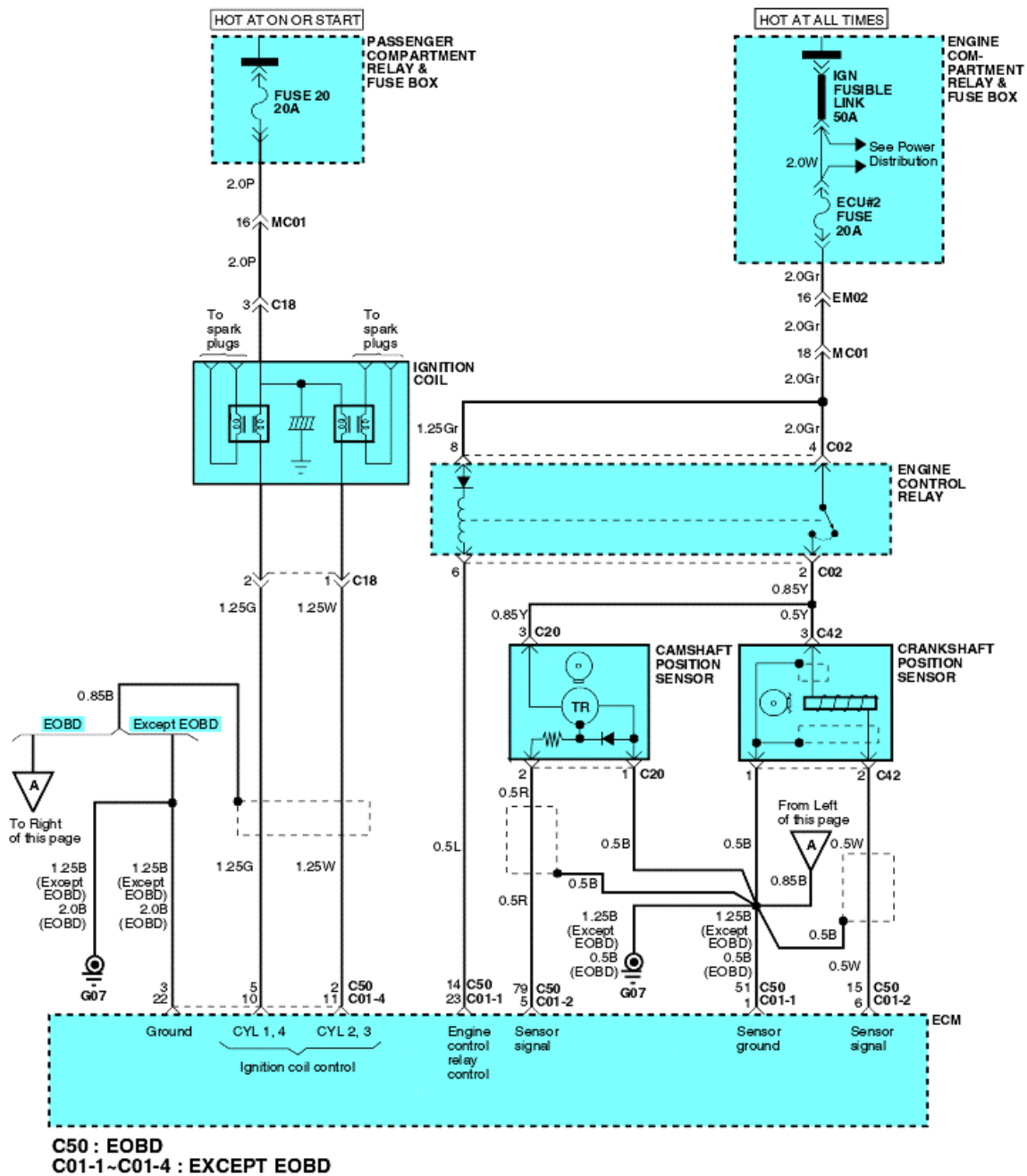


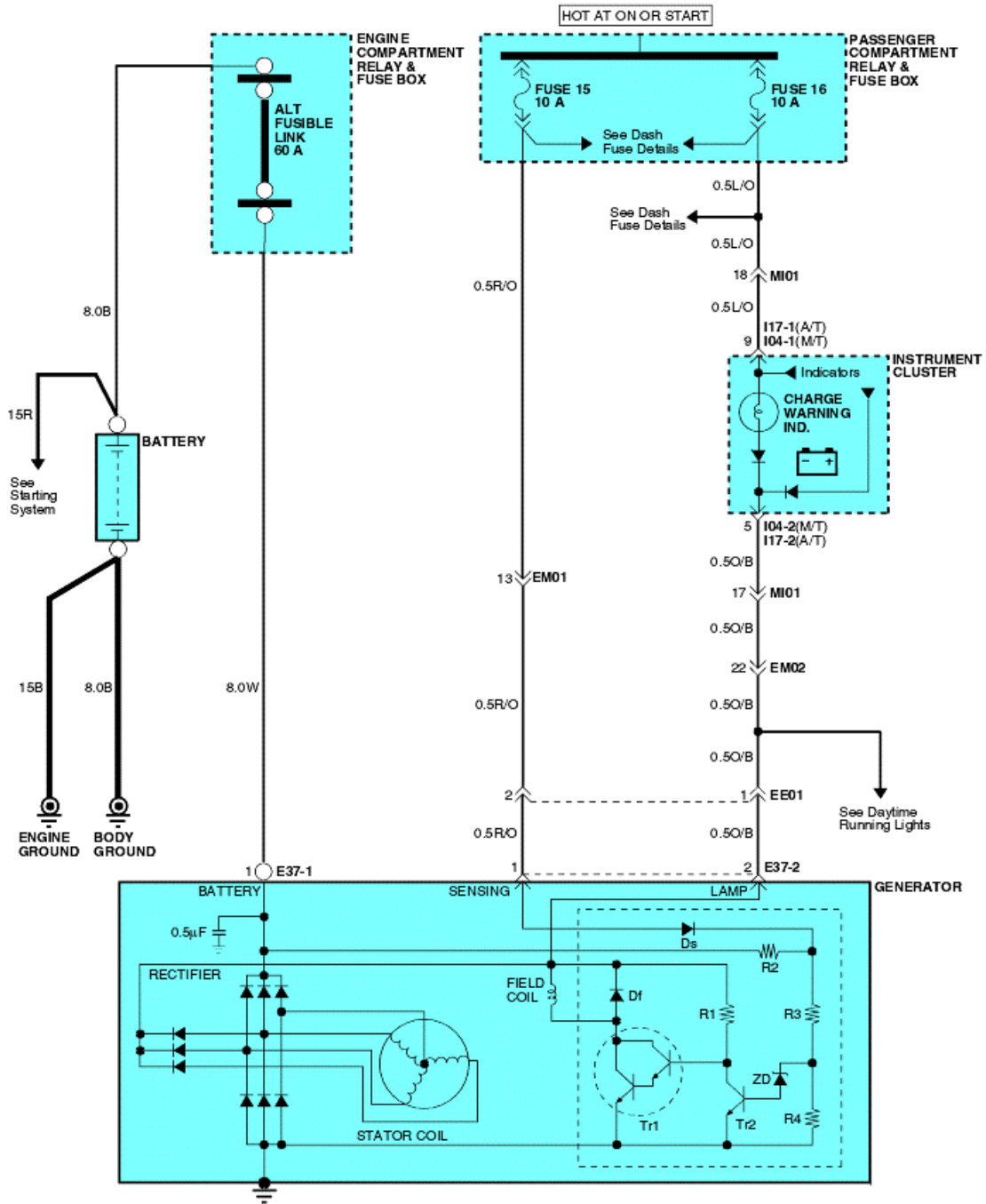


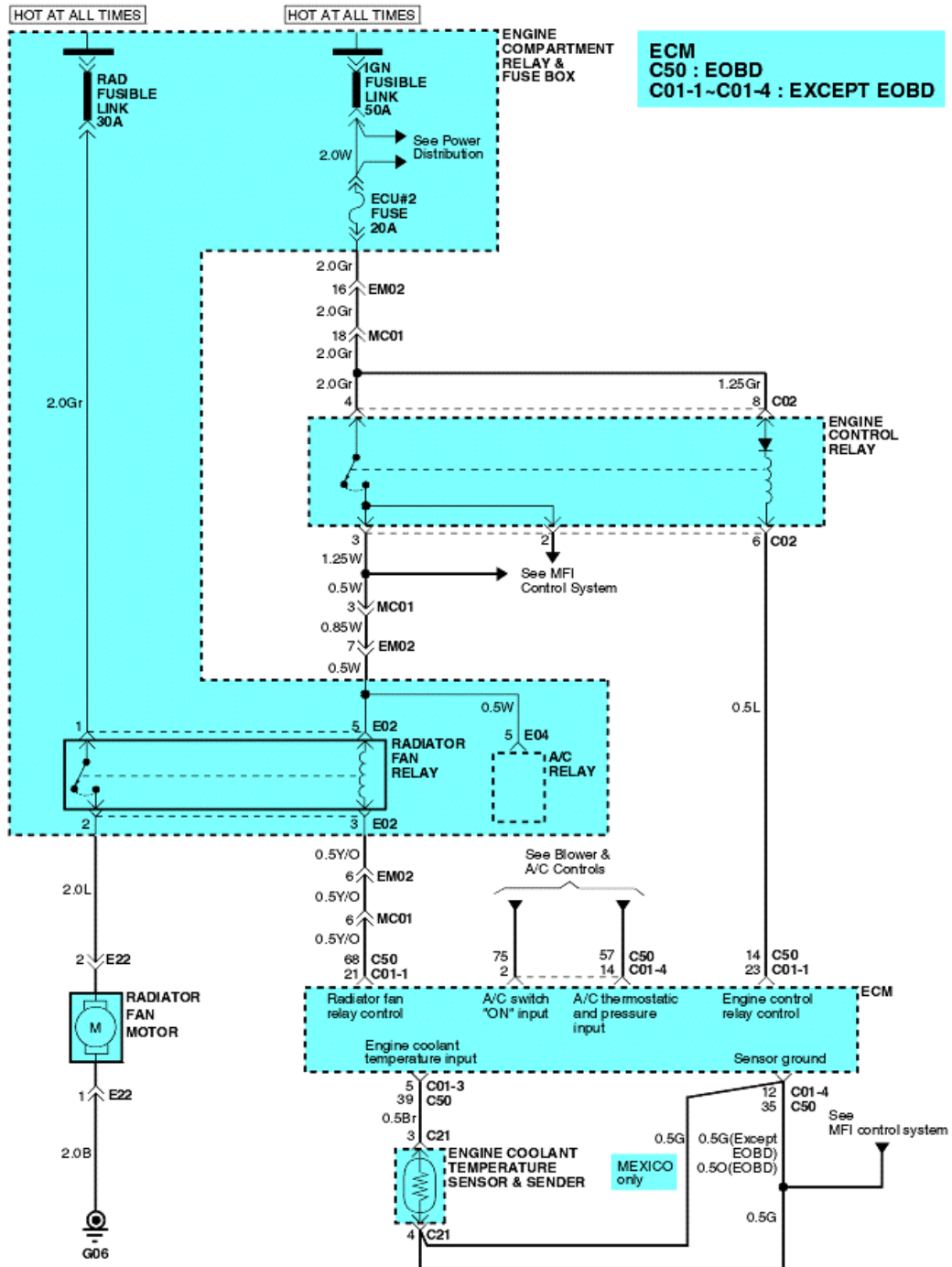


A/T only

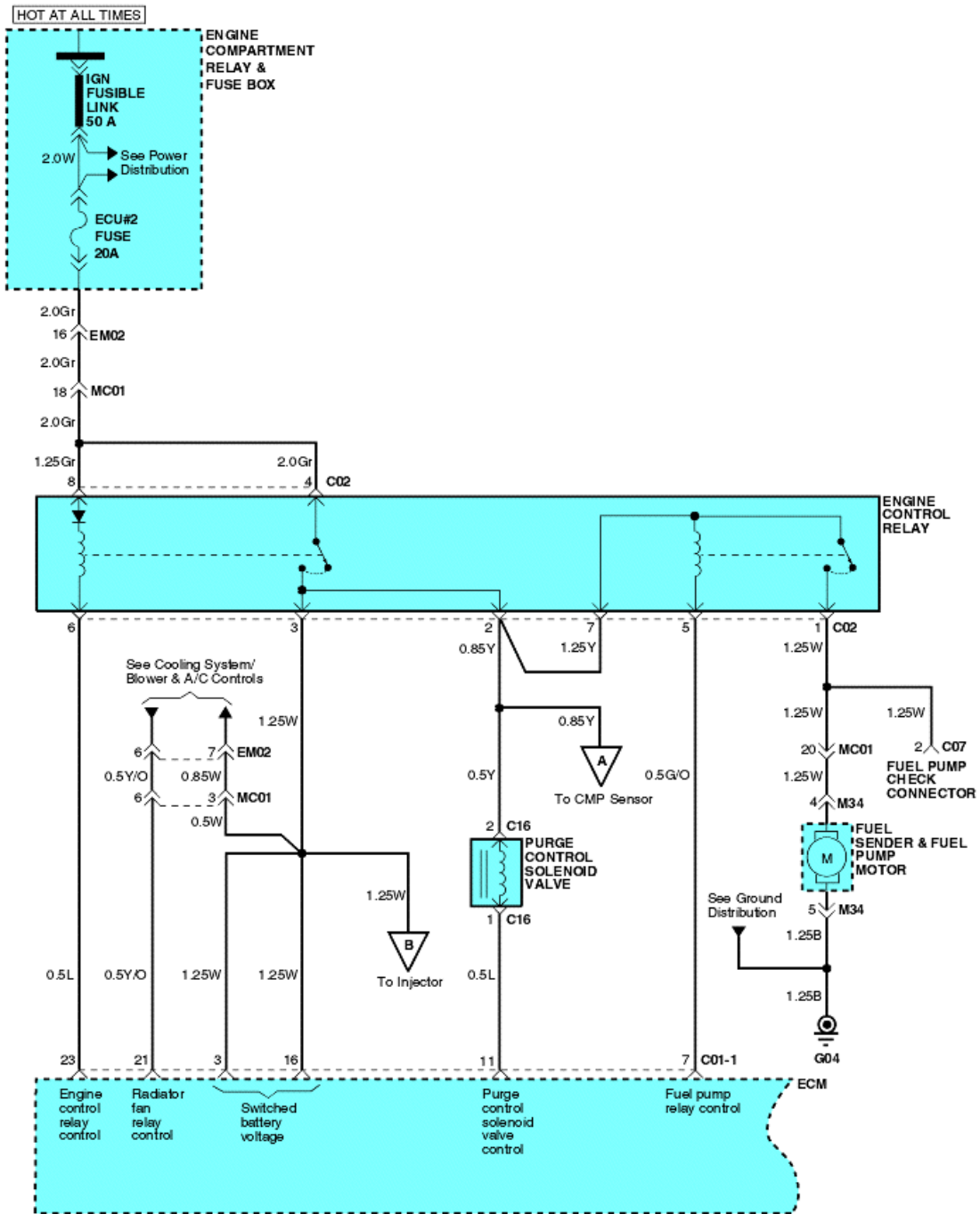


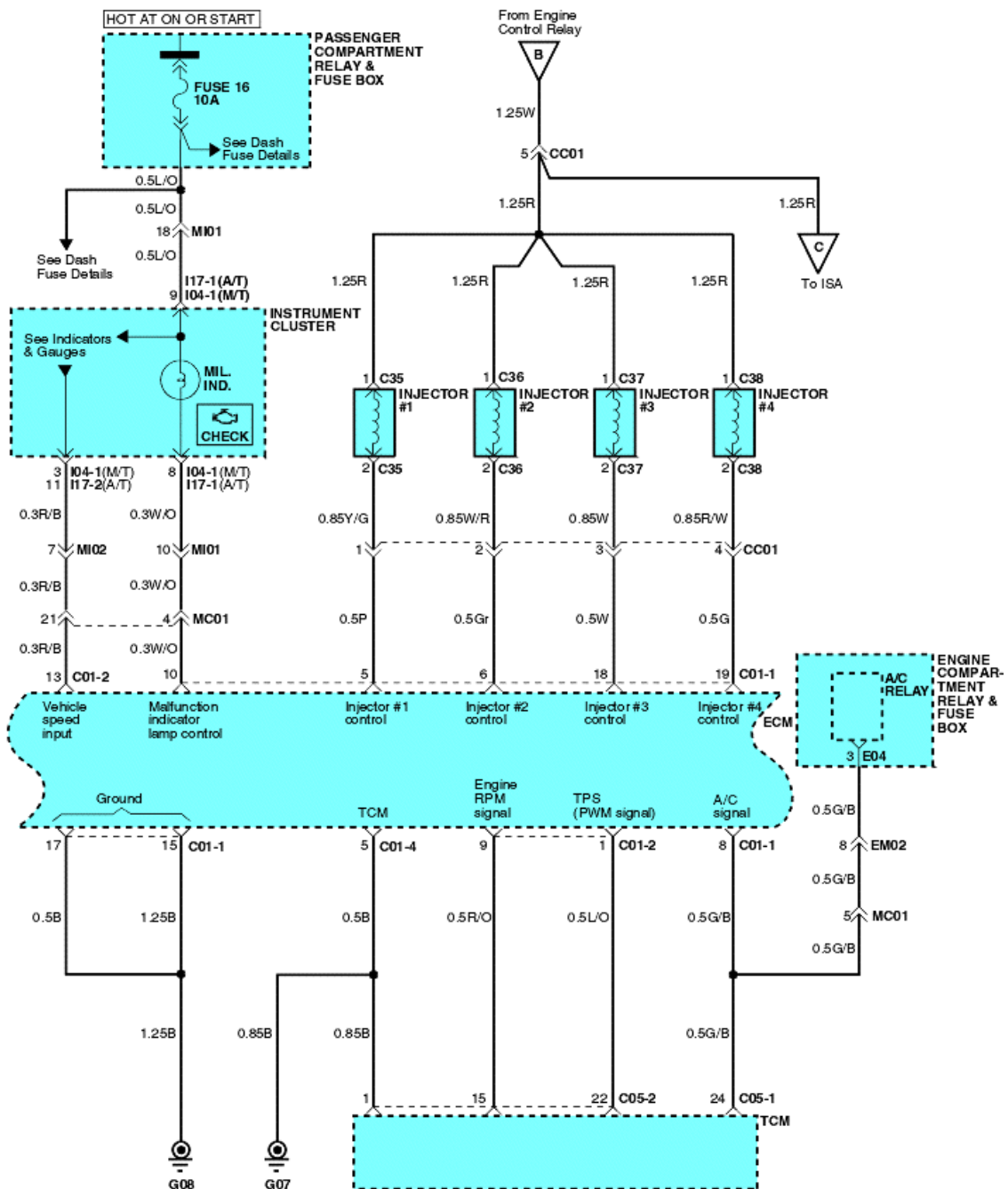


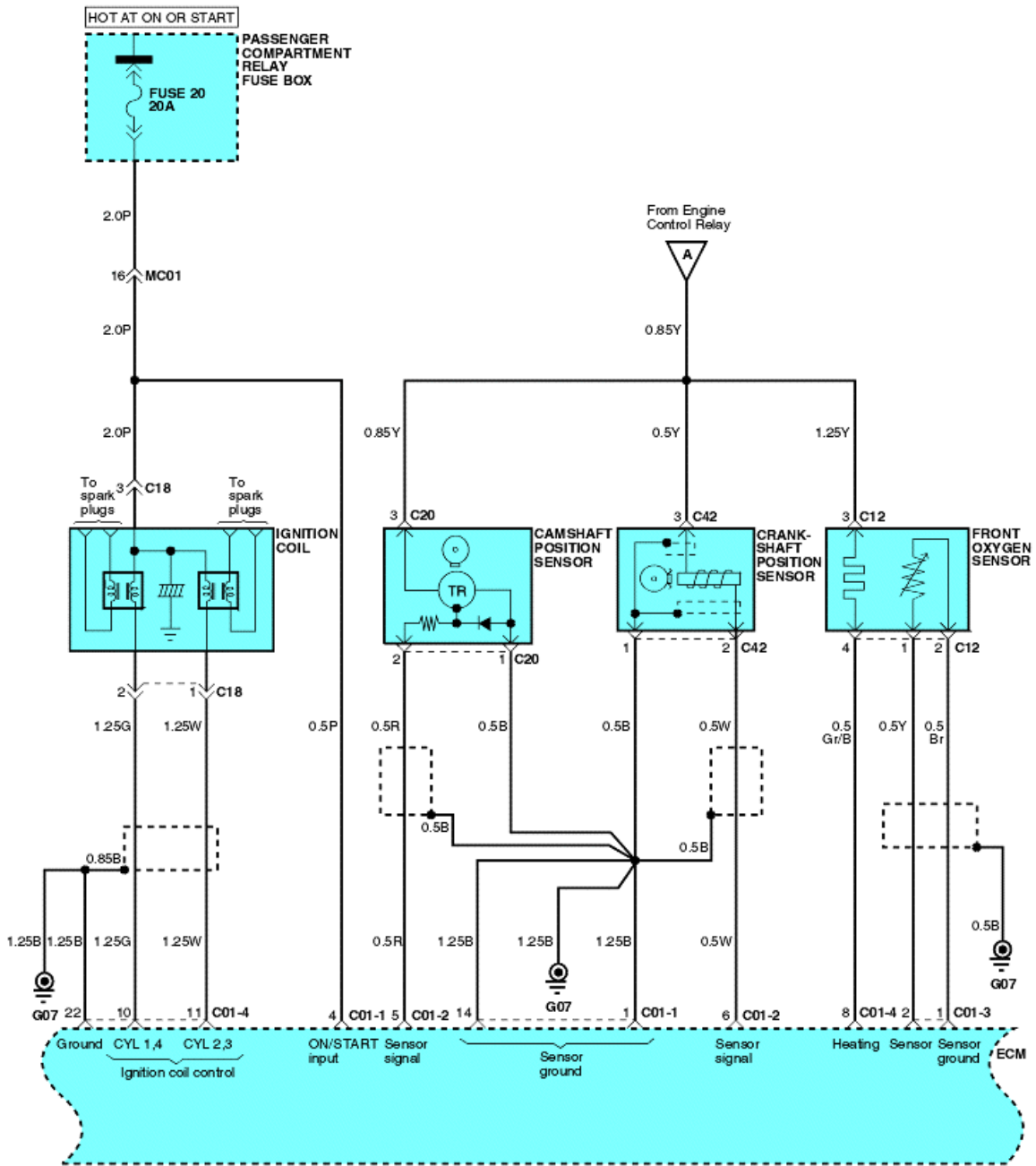


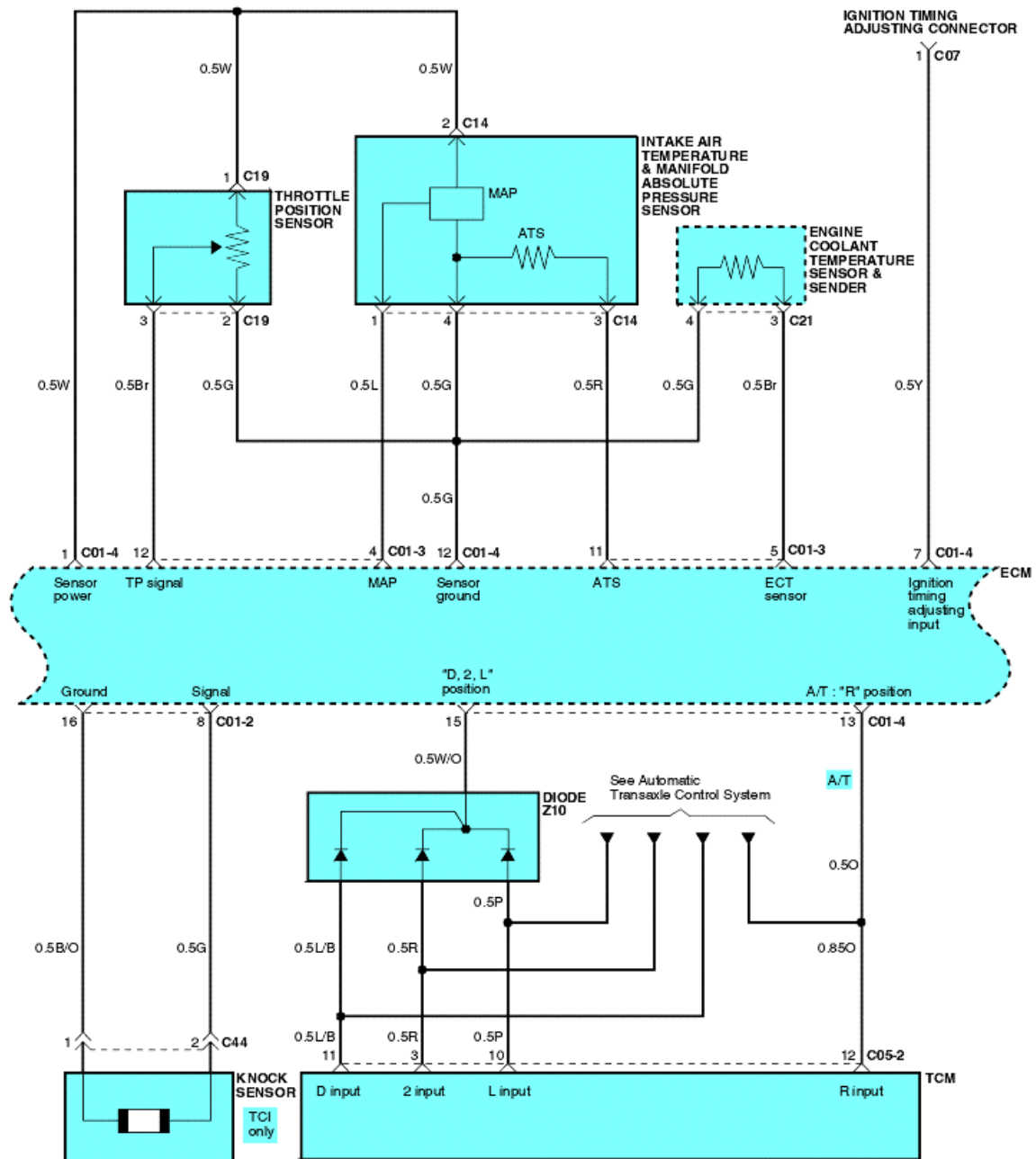


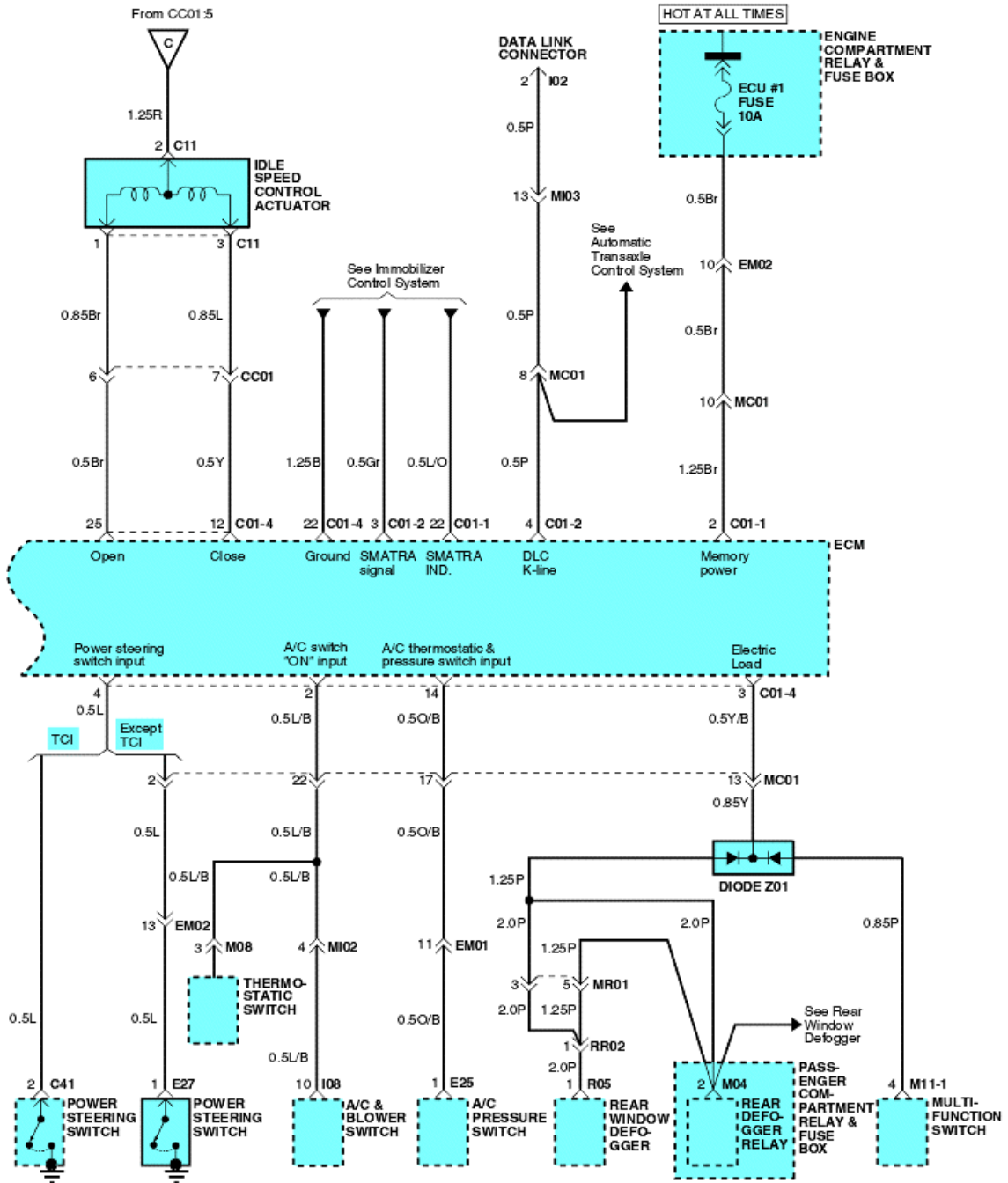
MFI CONTROL SYSTEM(EXCEPT EOBD) E21C0100

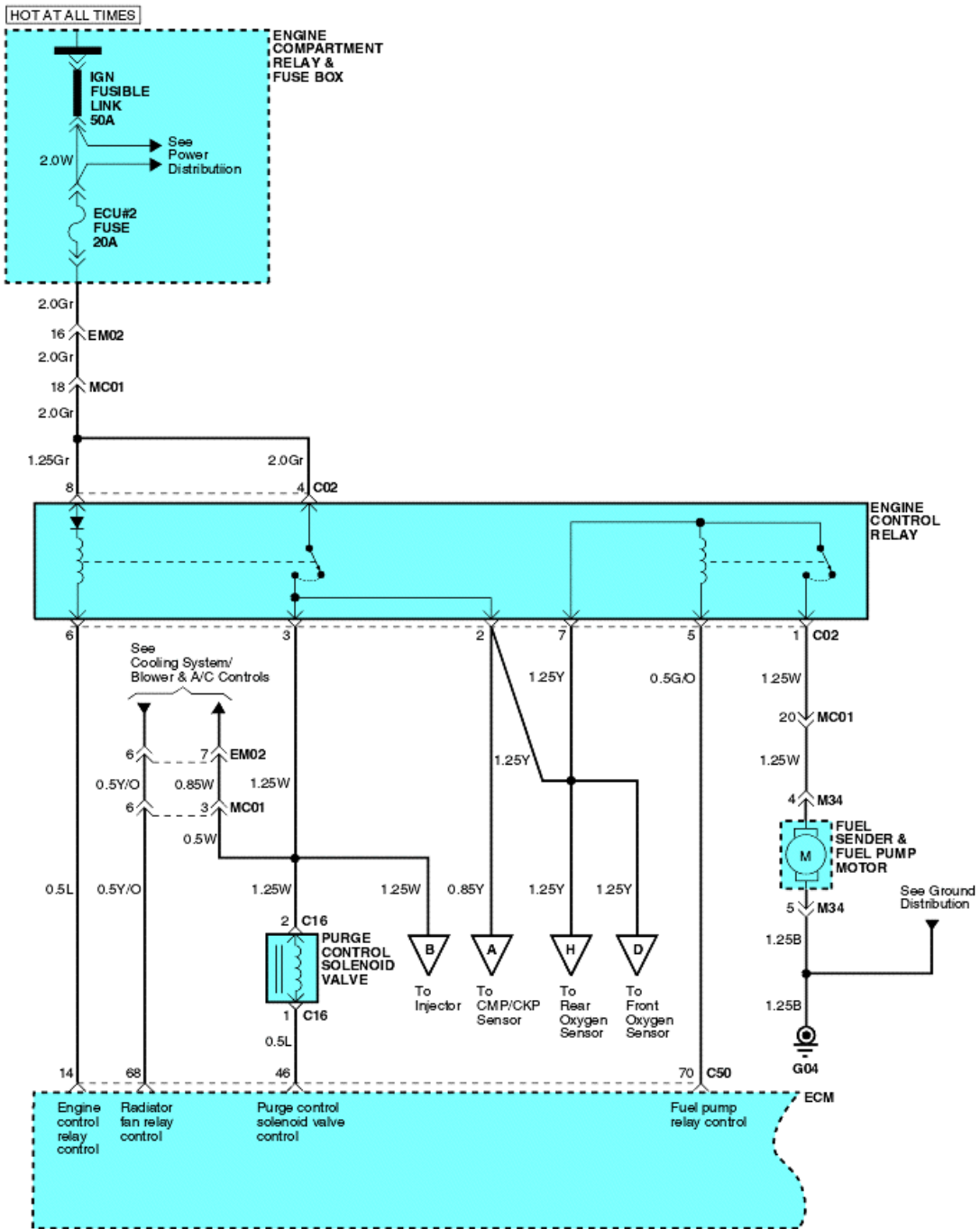


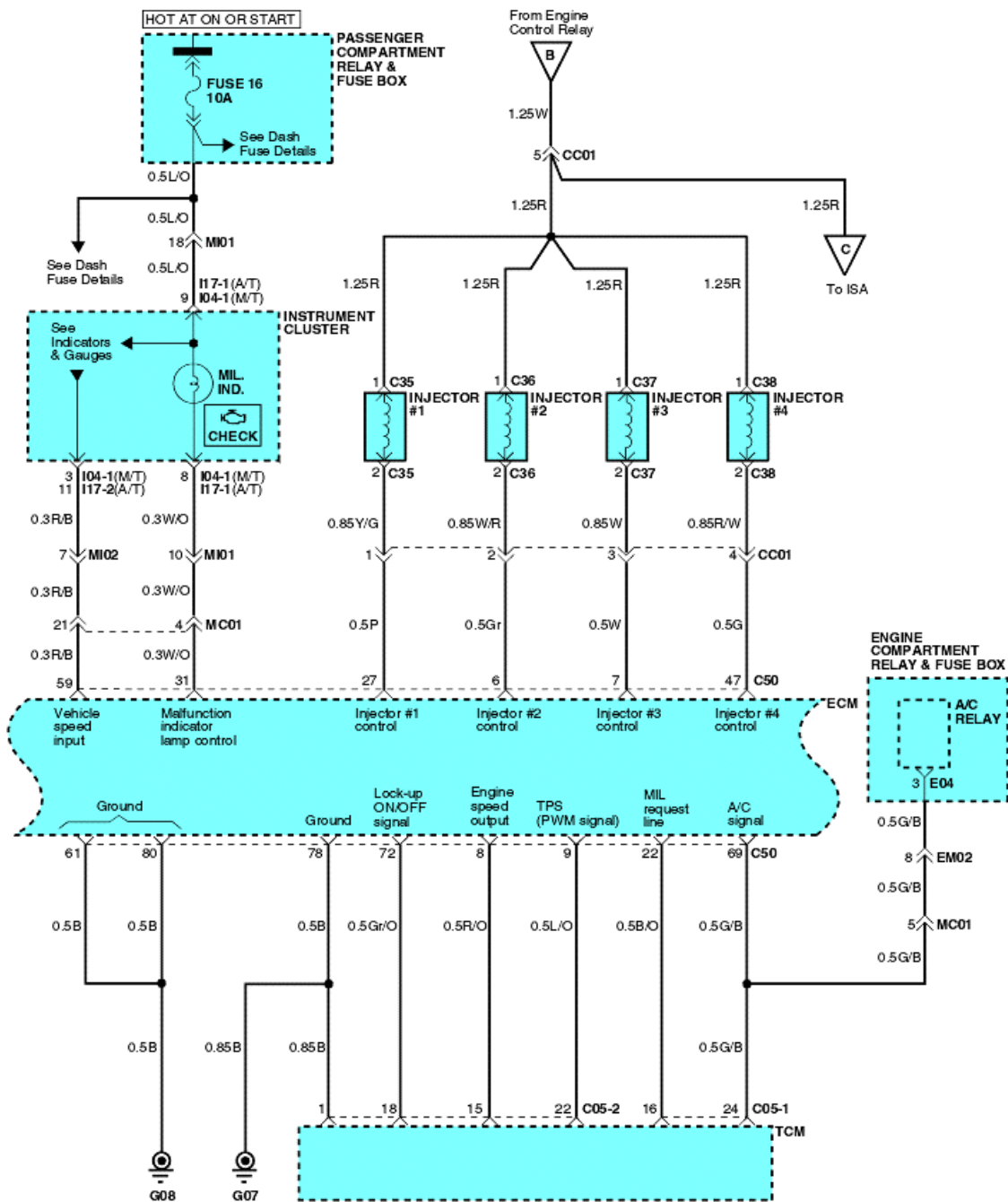


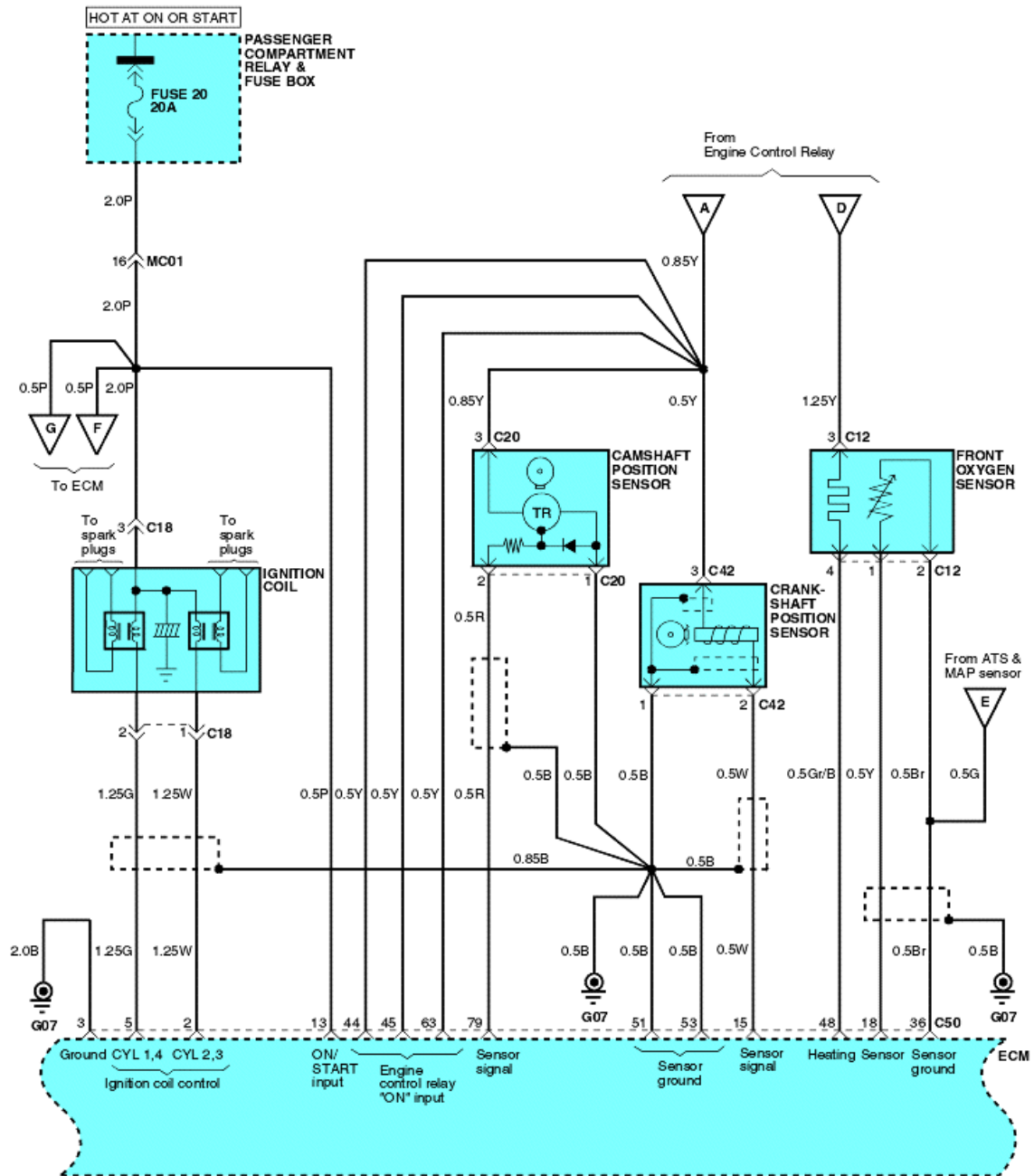


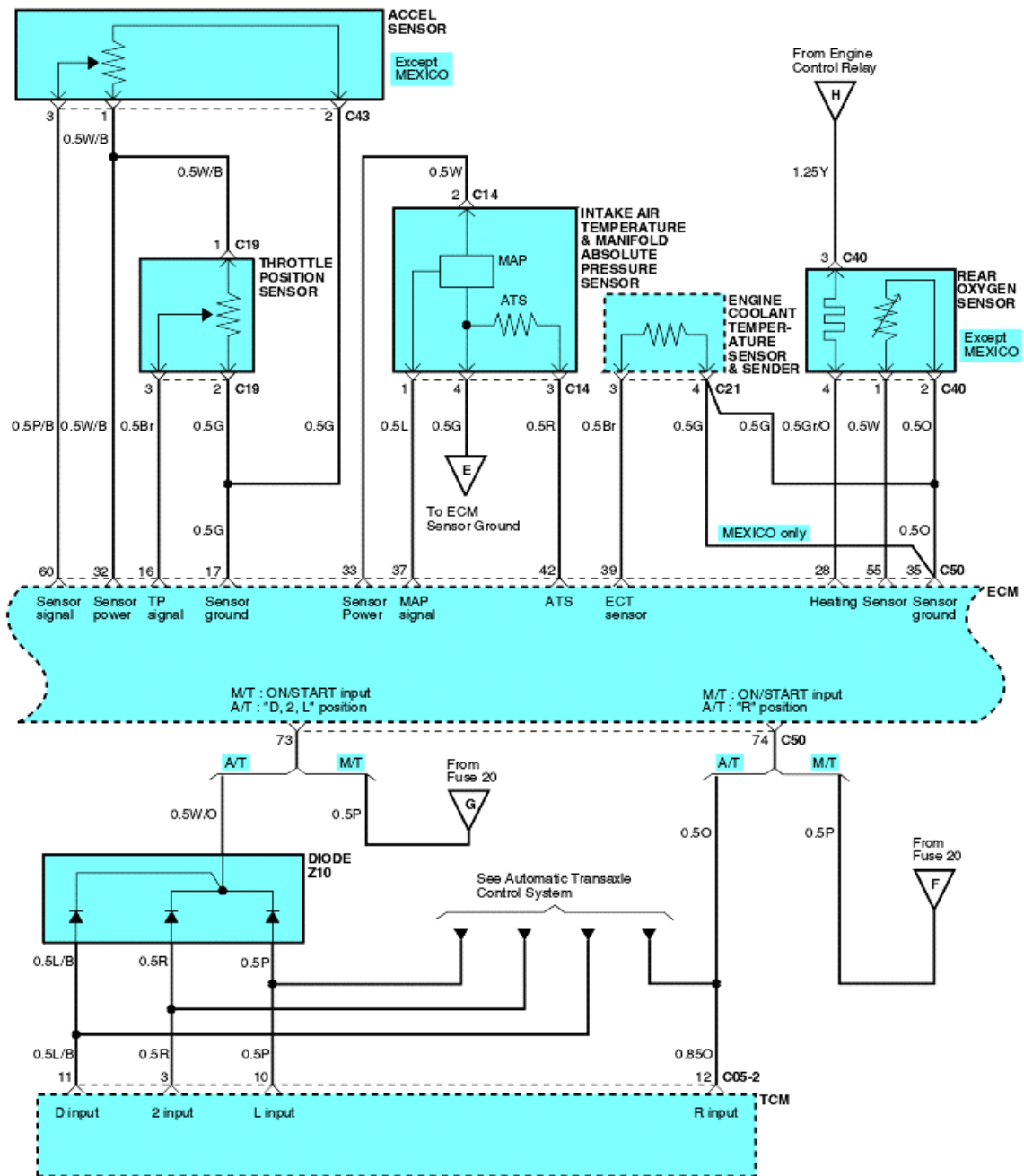


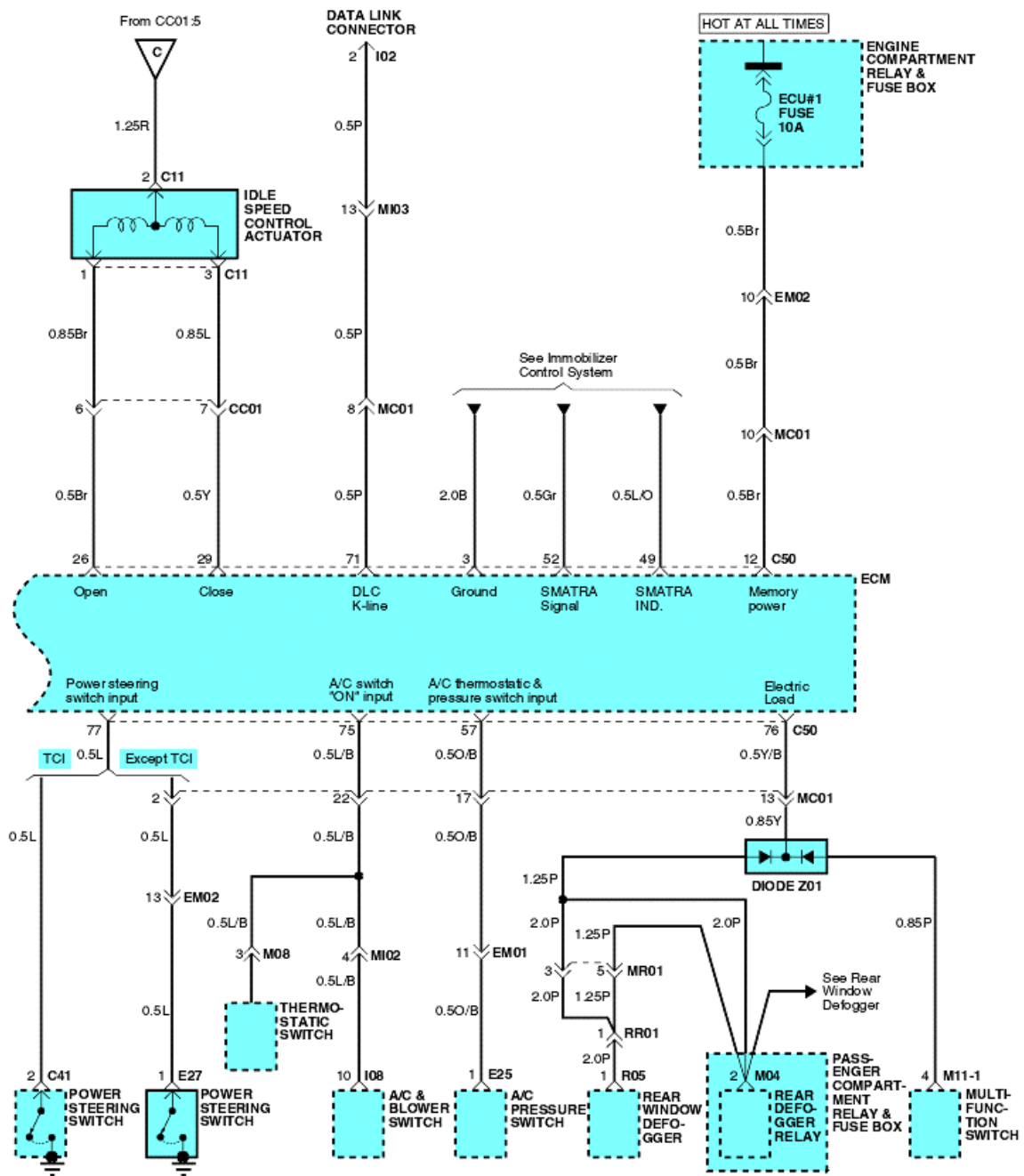




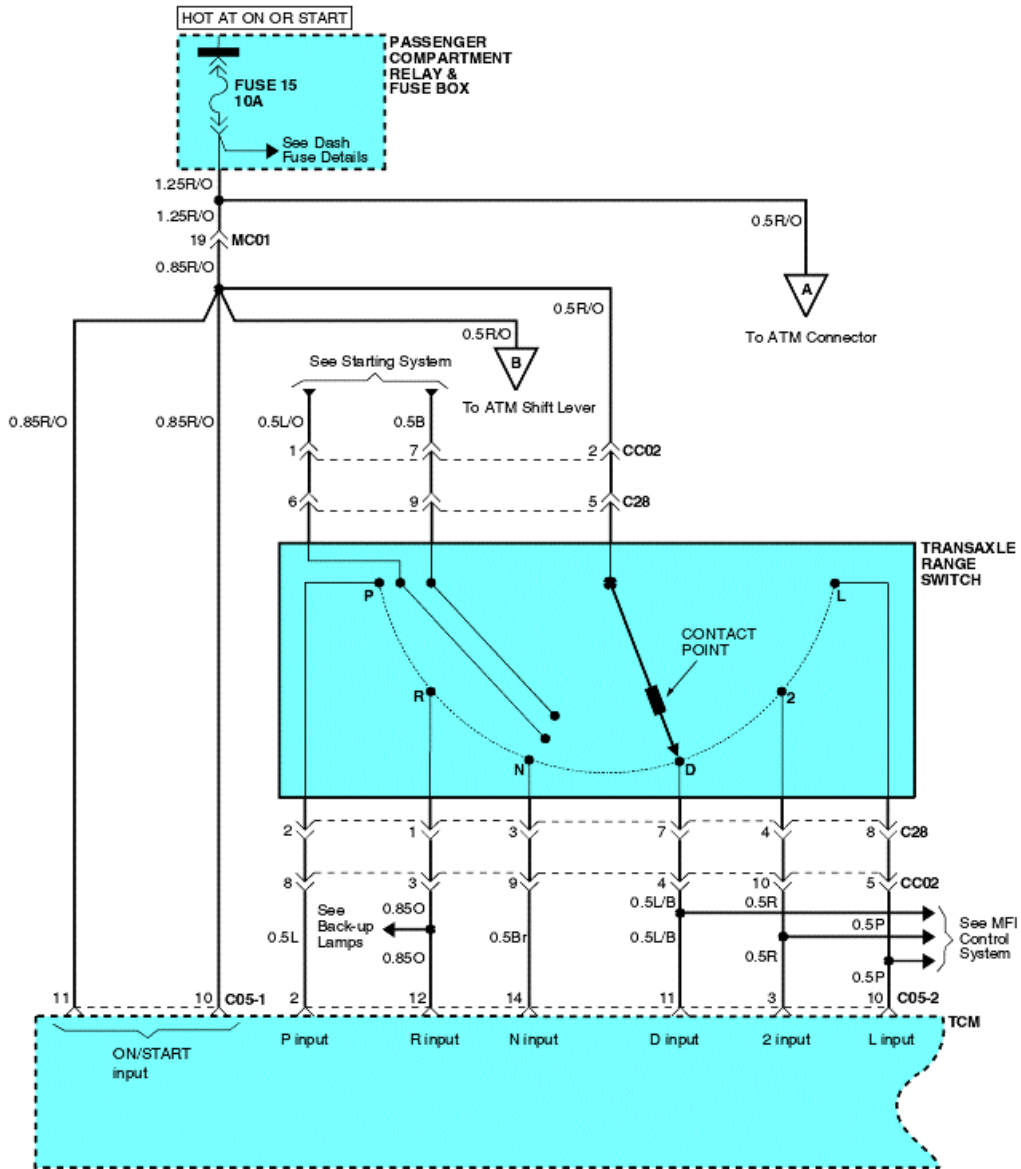




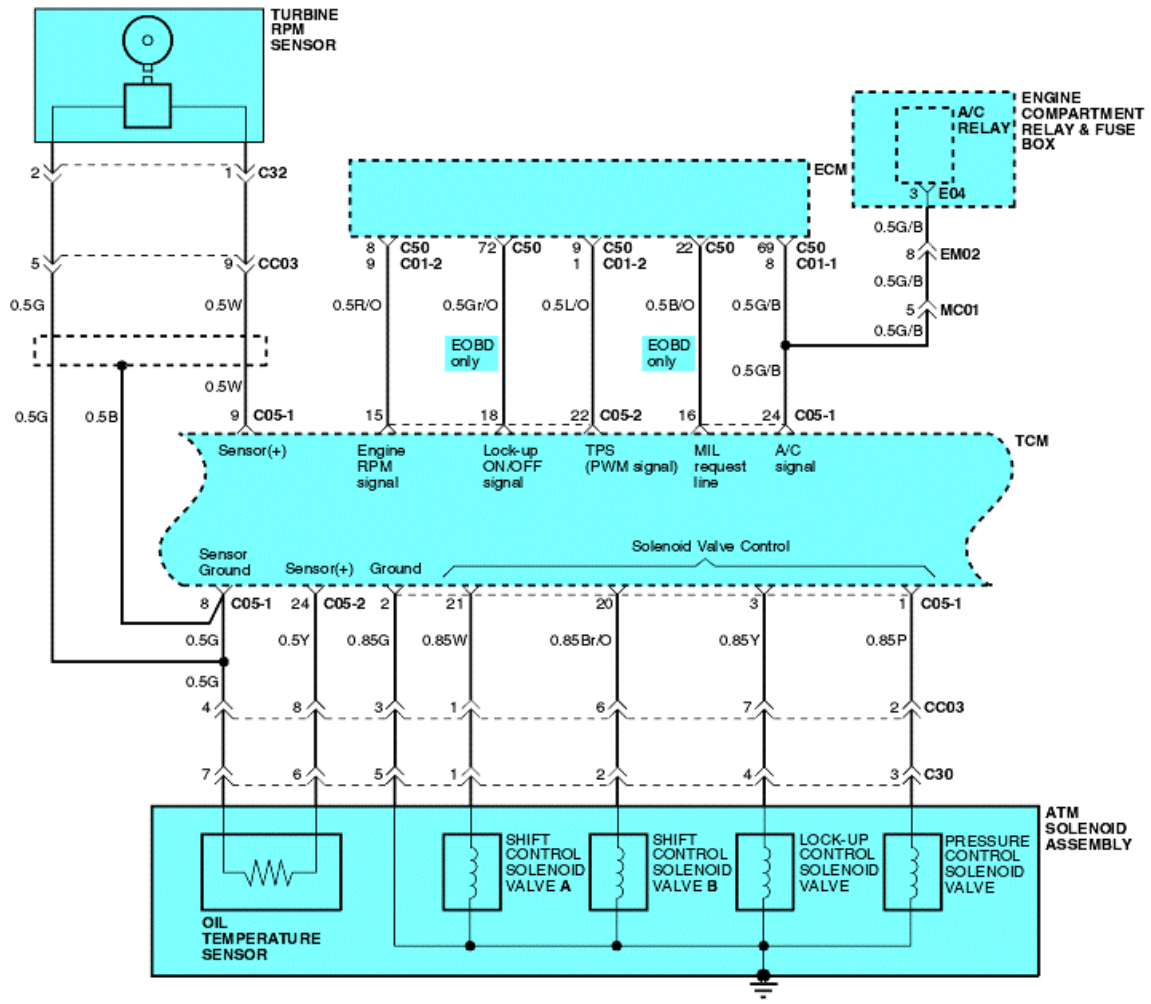


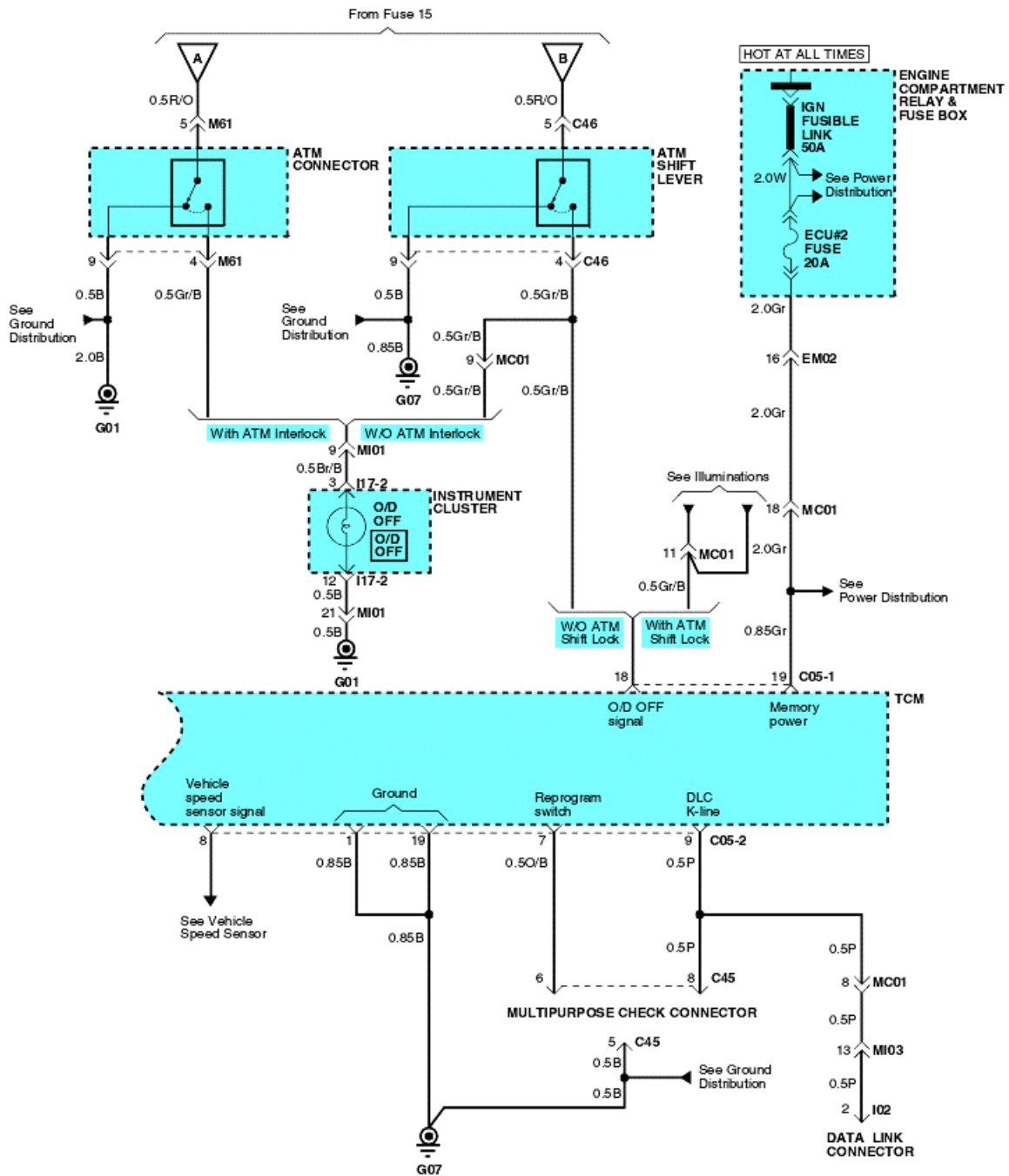


AUTOMATIC TRANSAXLE CONTROL SYSTEM E21C0120

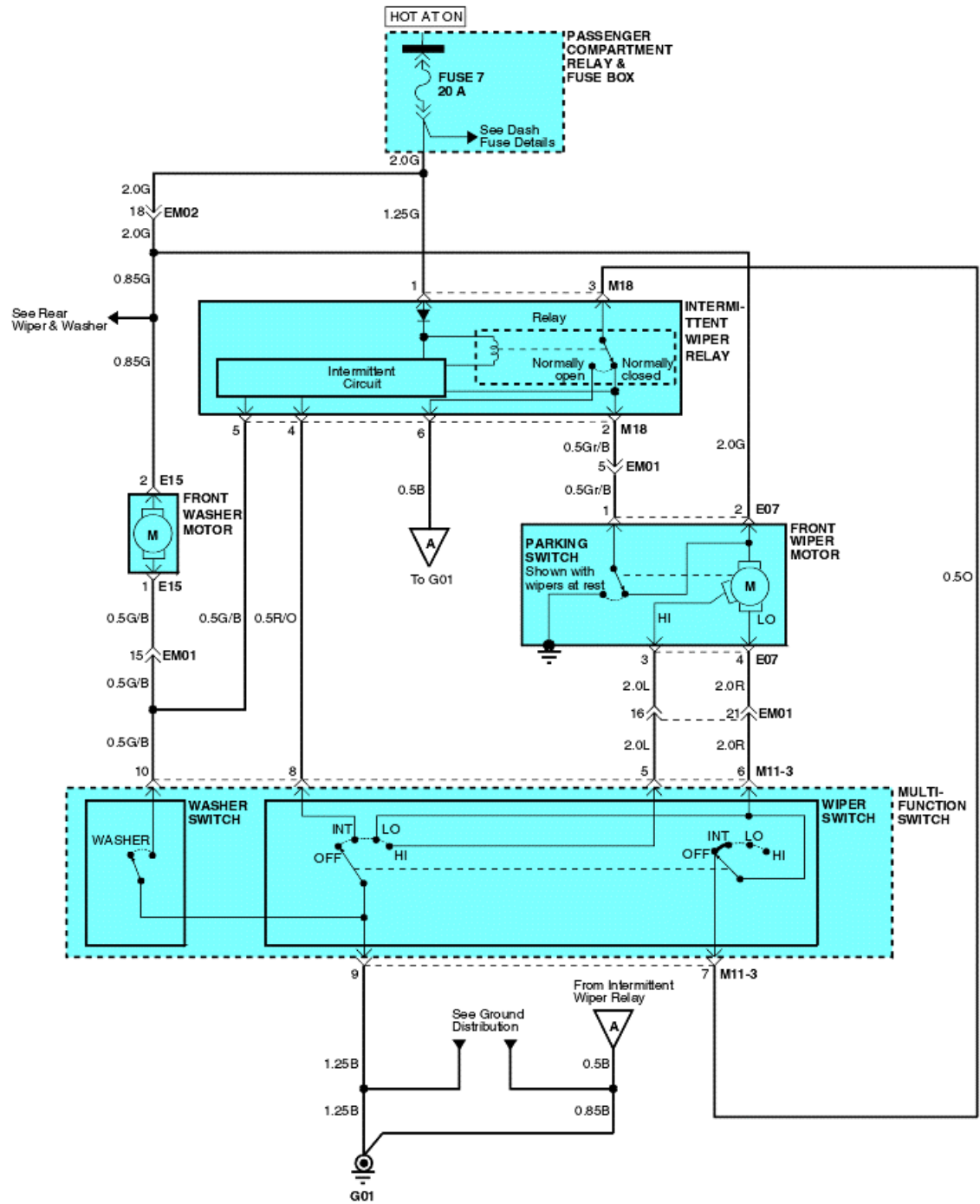


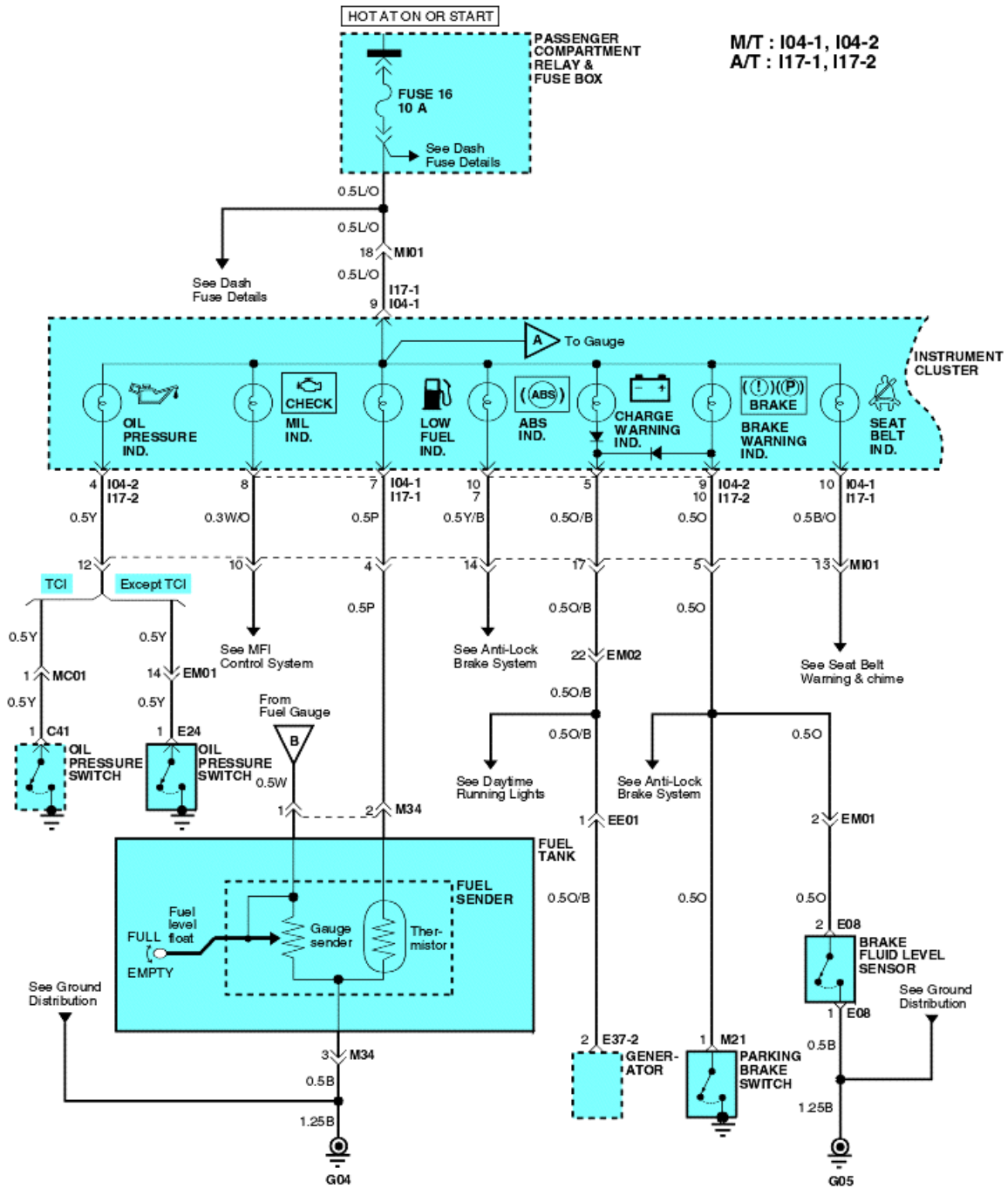
C50 : EOBD
C01-1, C01-2 : EXCEPT EOBD

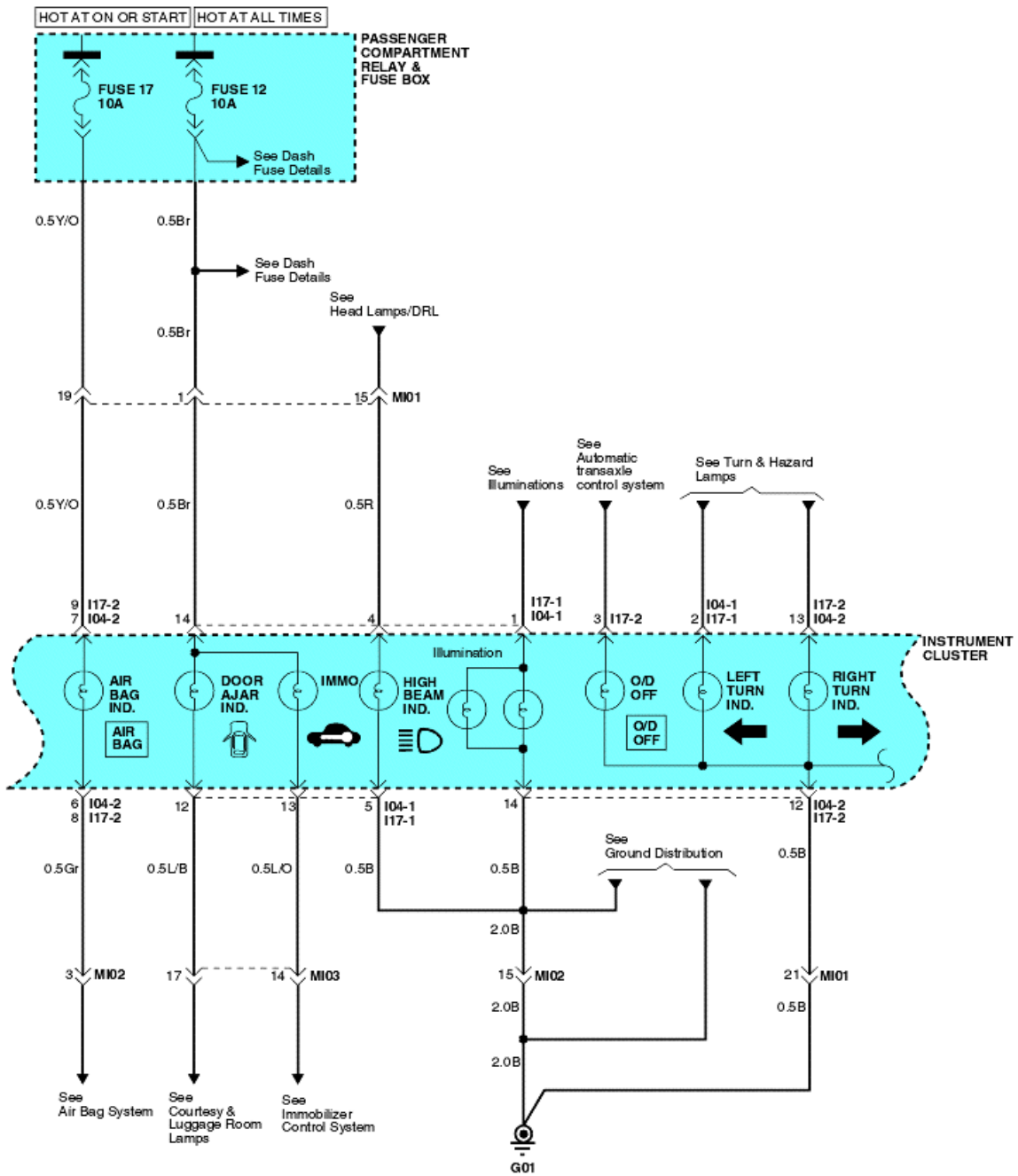




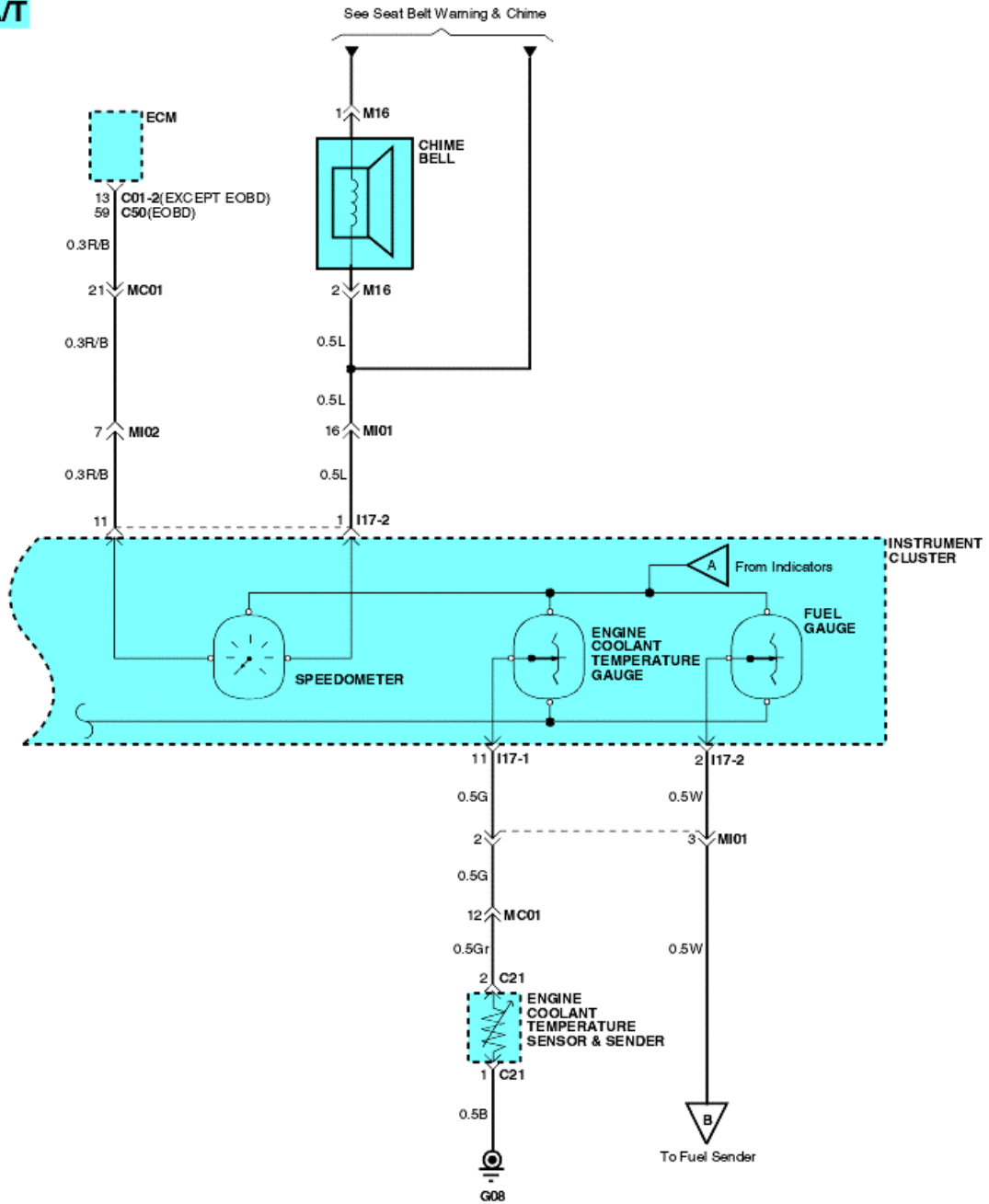
INTERMITTENT WIPER & WASHER E21C0190

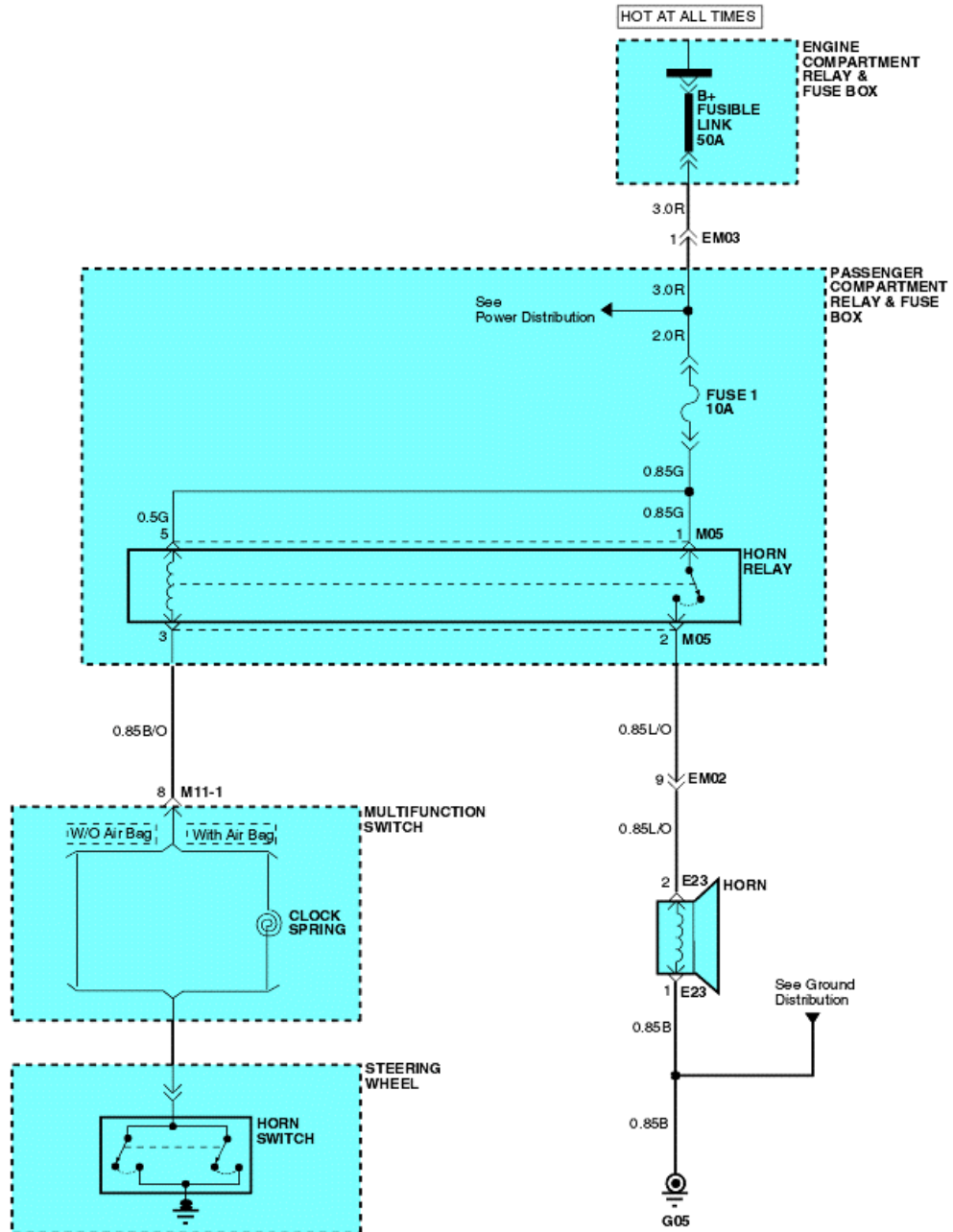




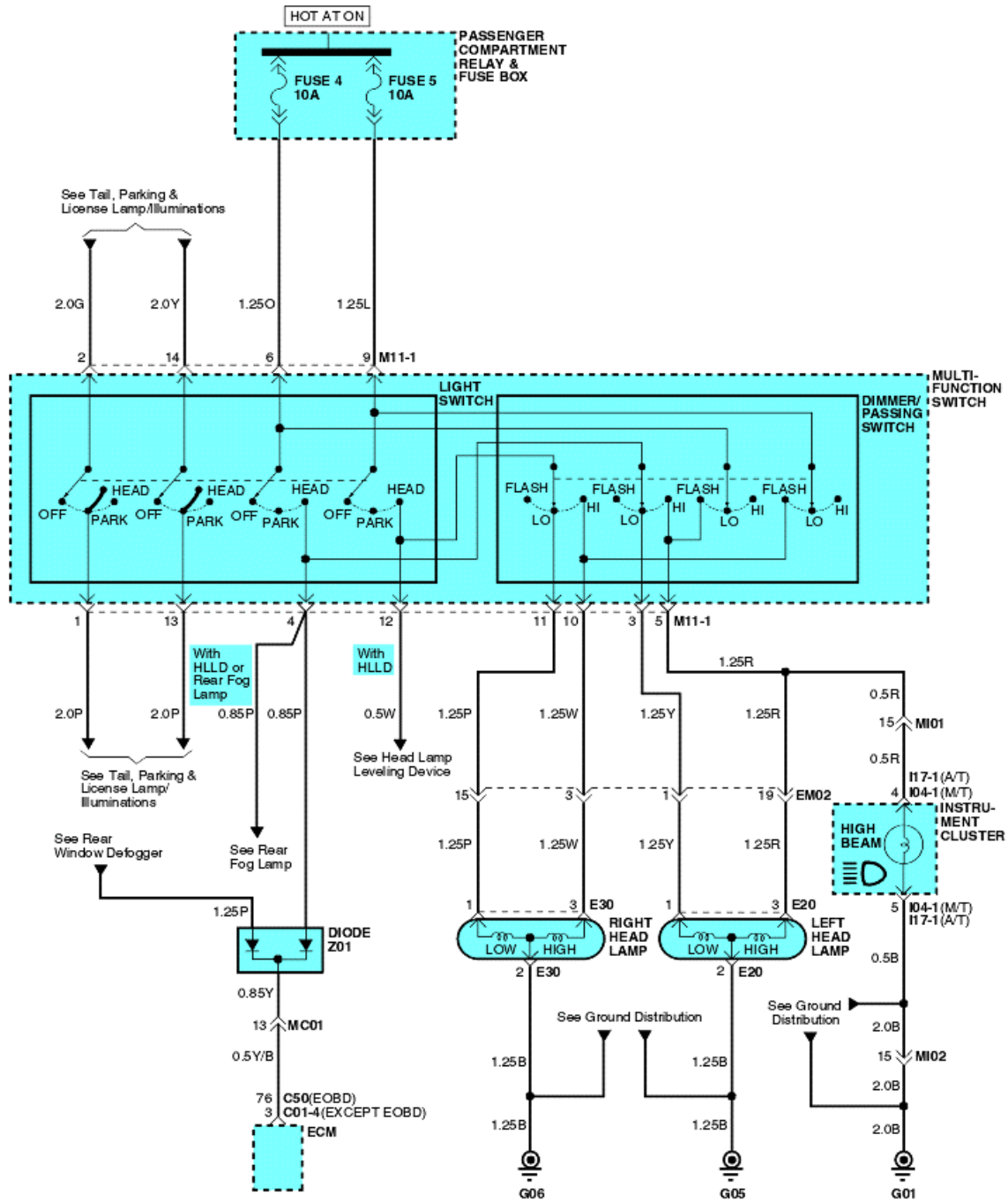


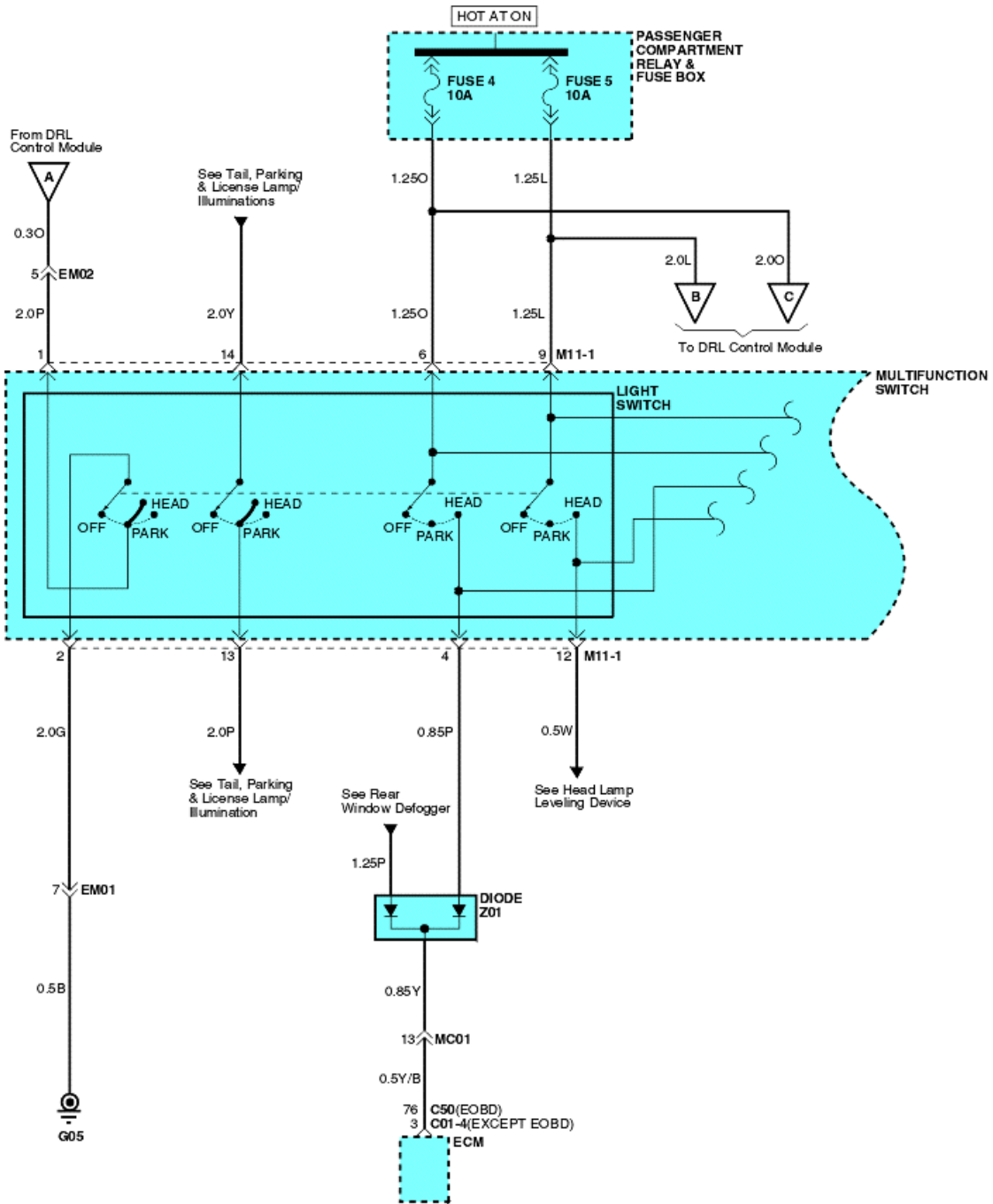
A/T

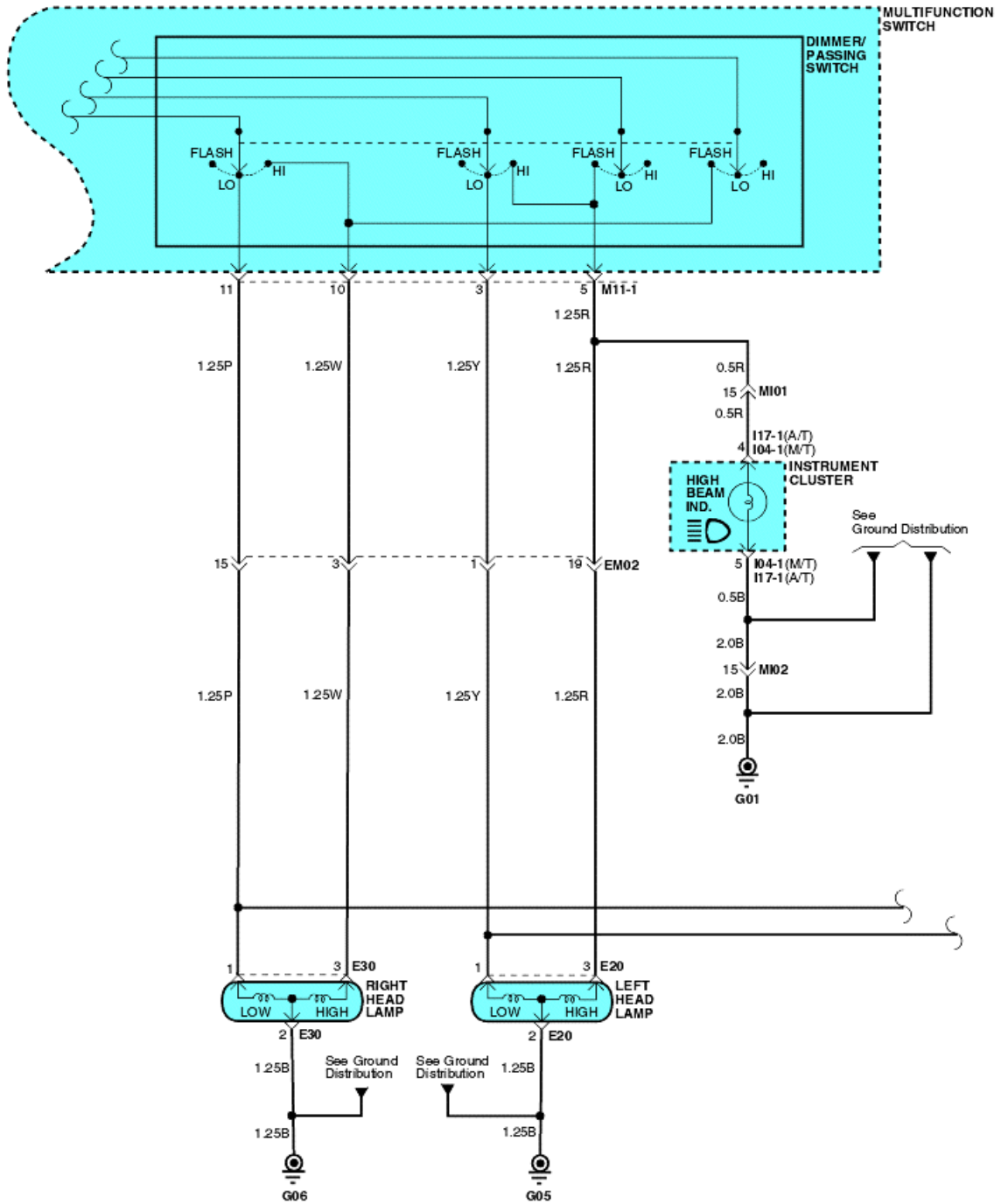


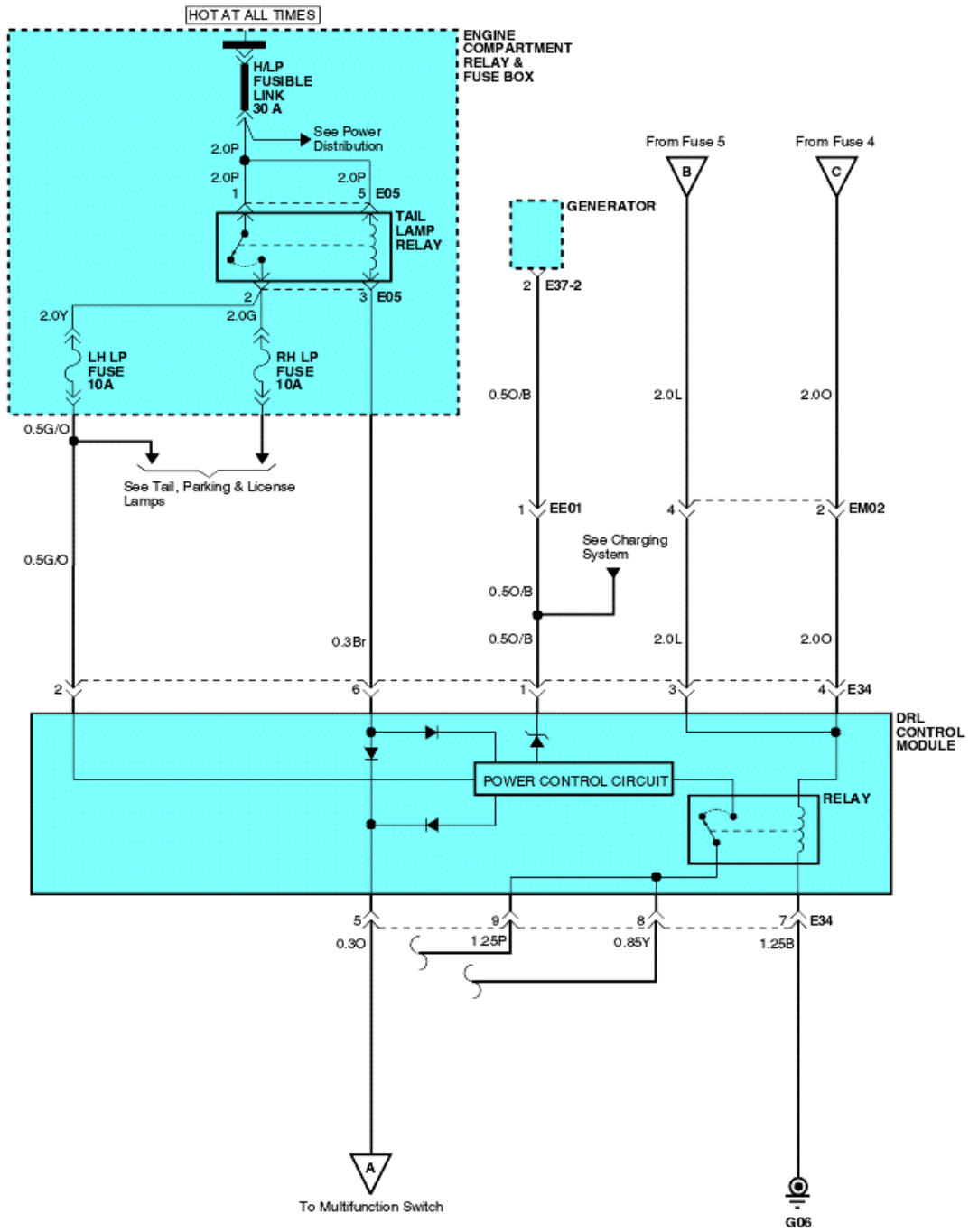


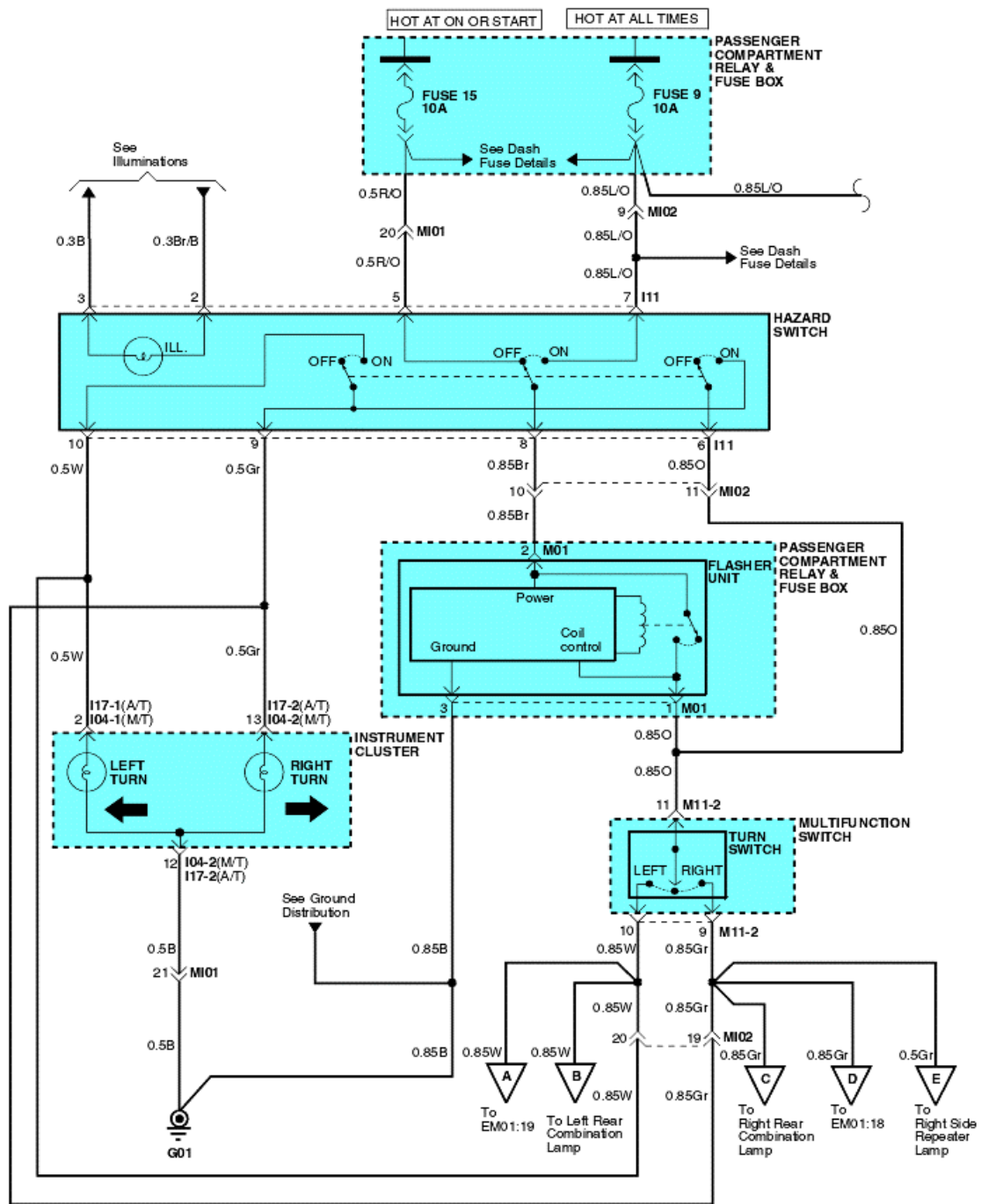
HEAD LAMPS E21C0300

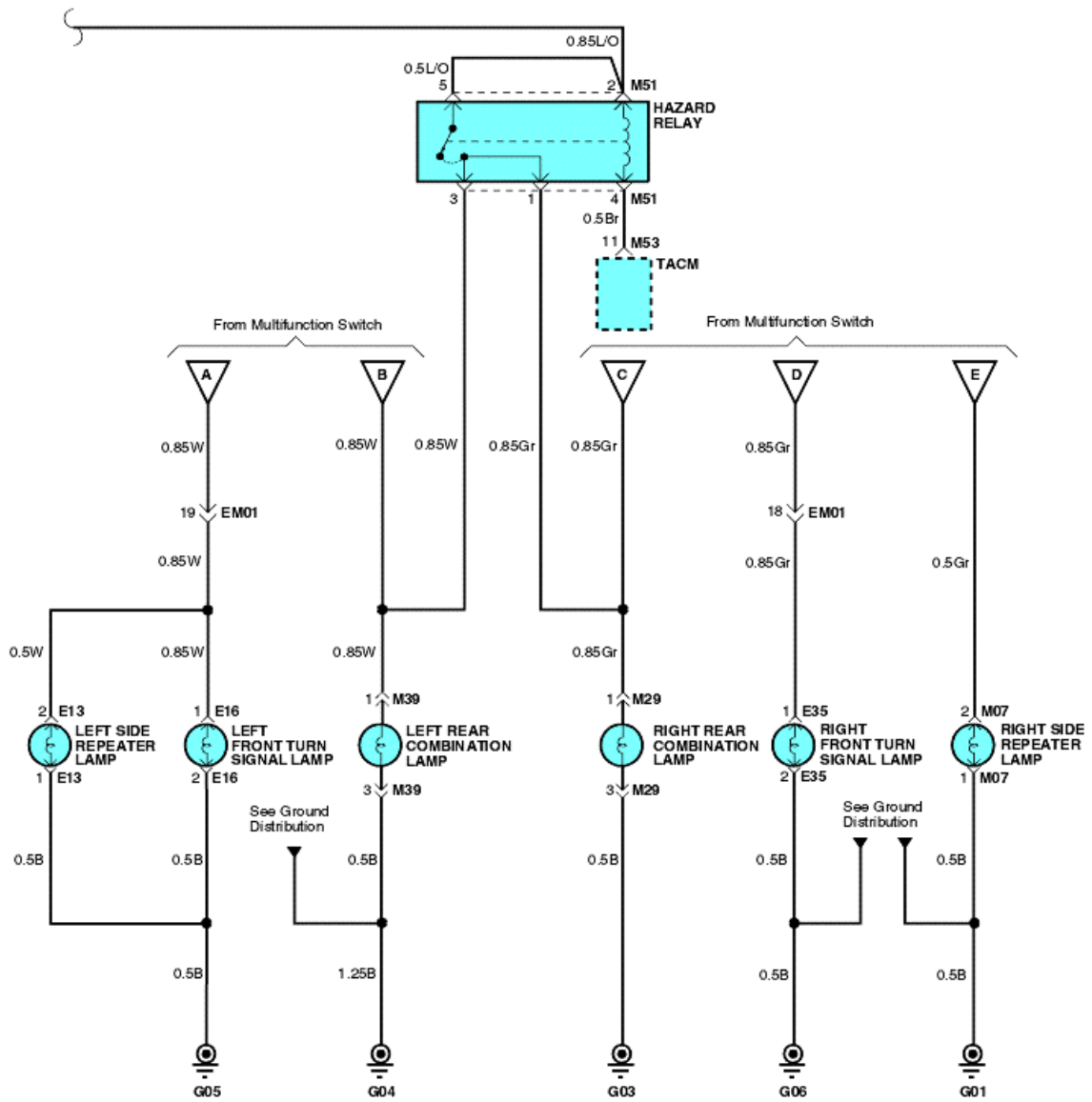


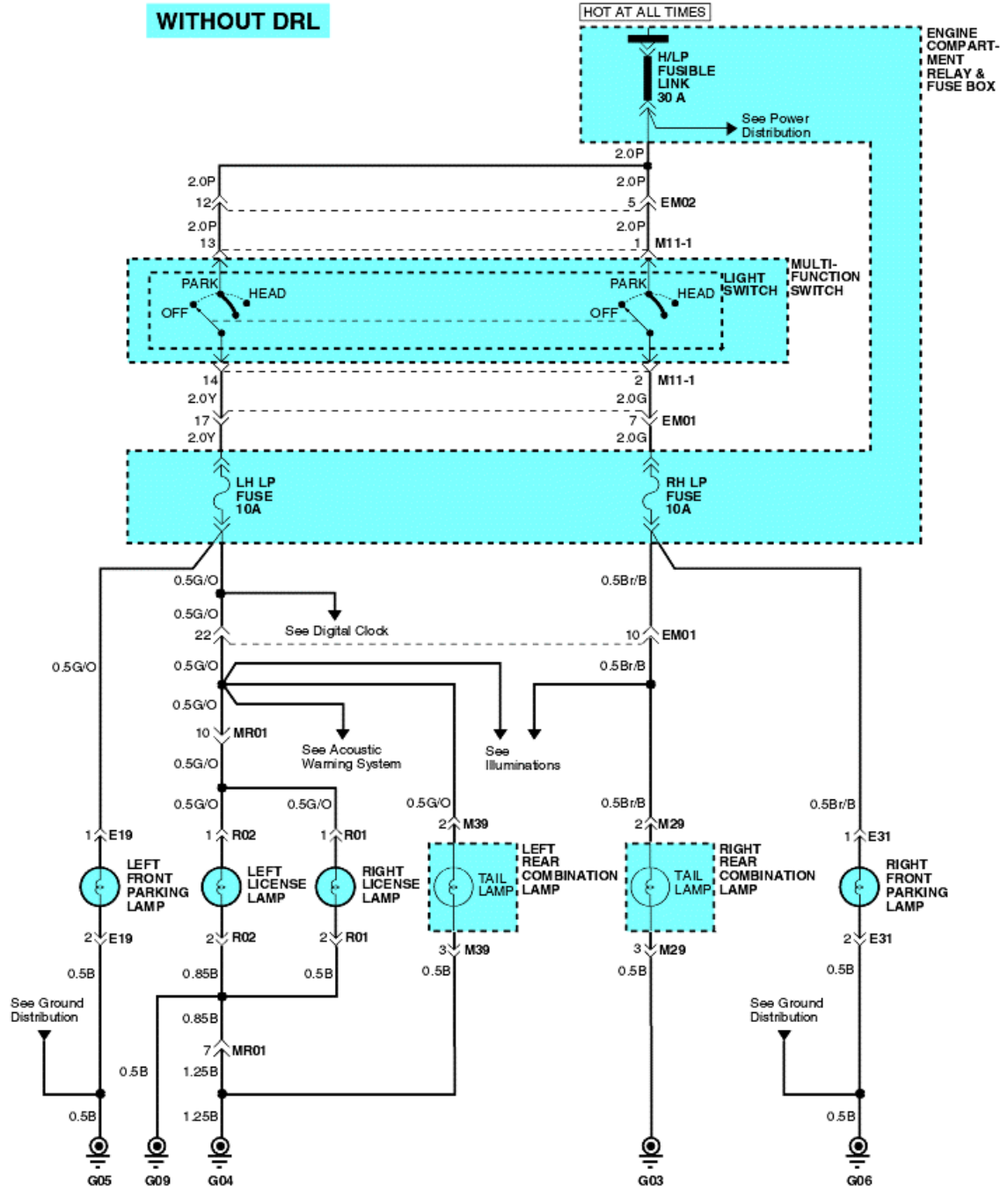


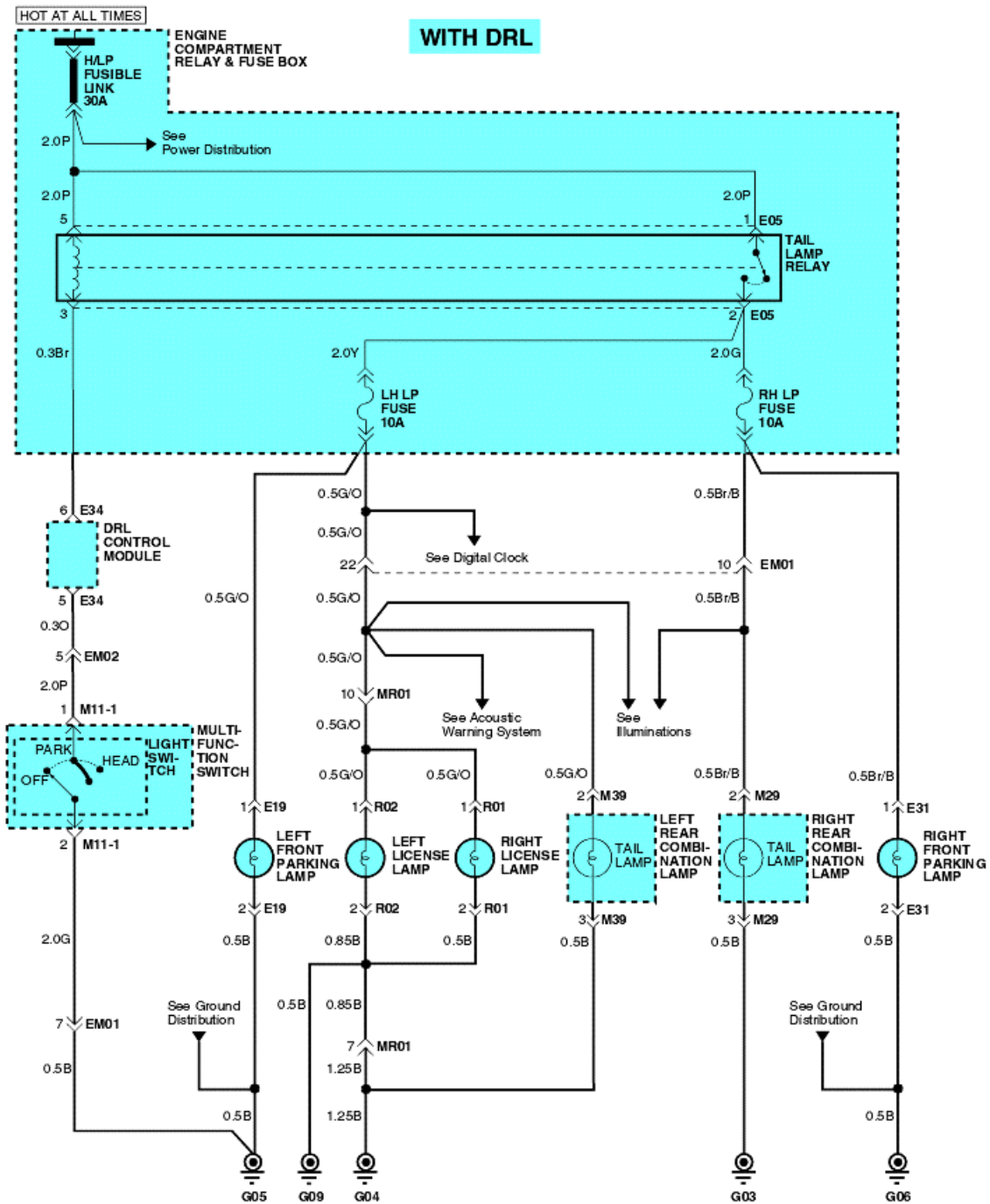




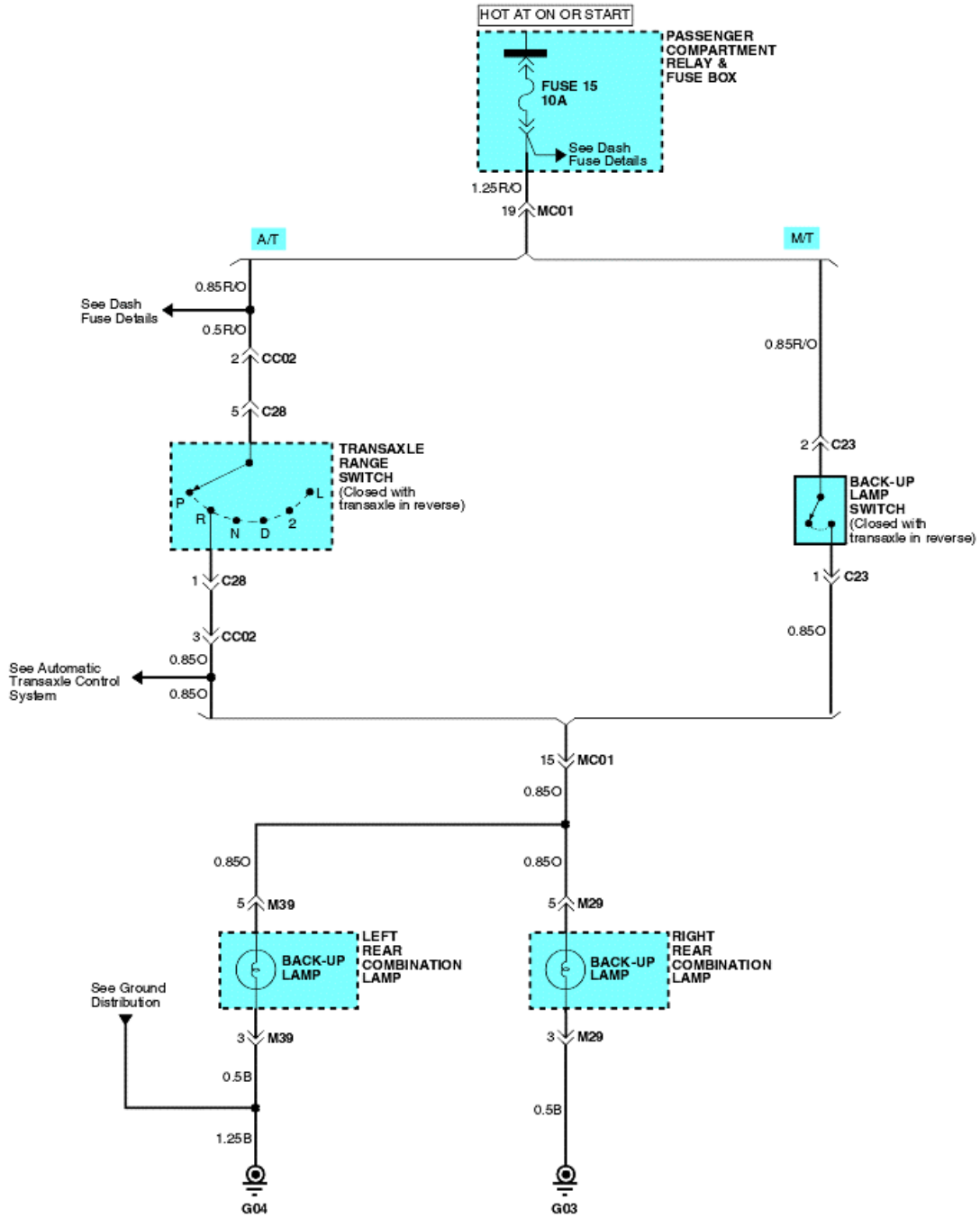




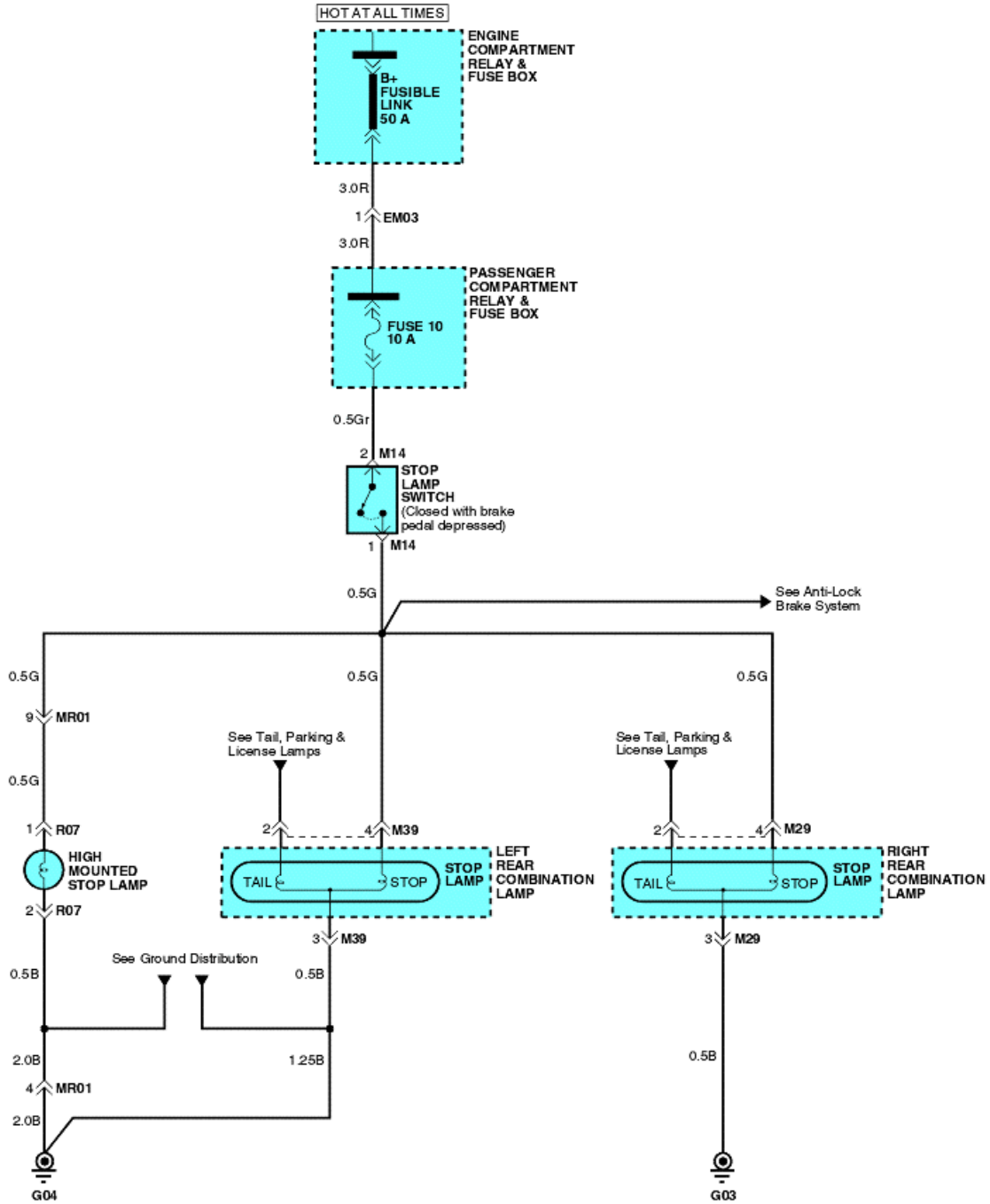


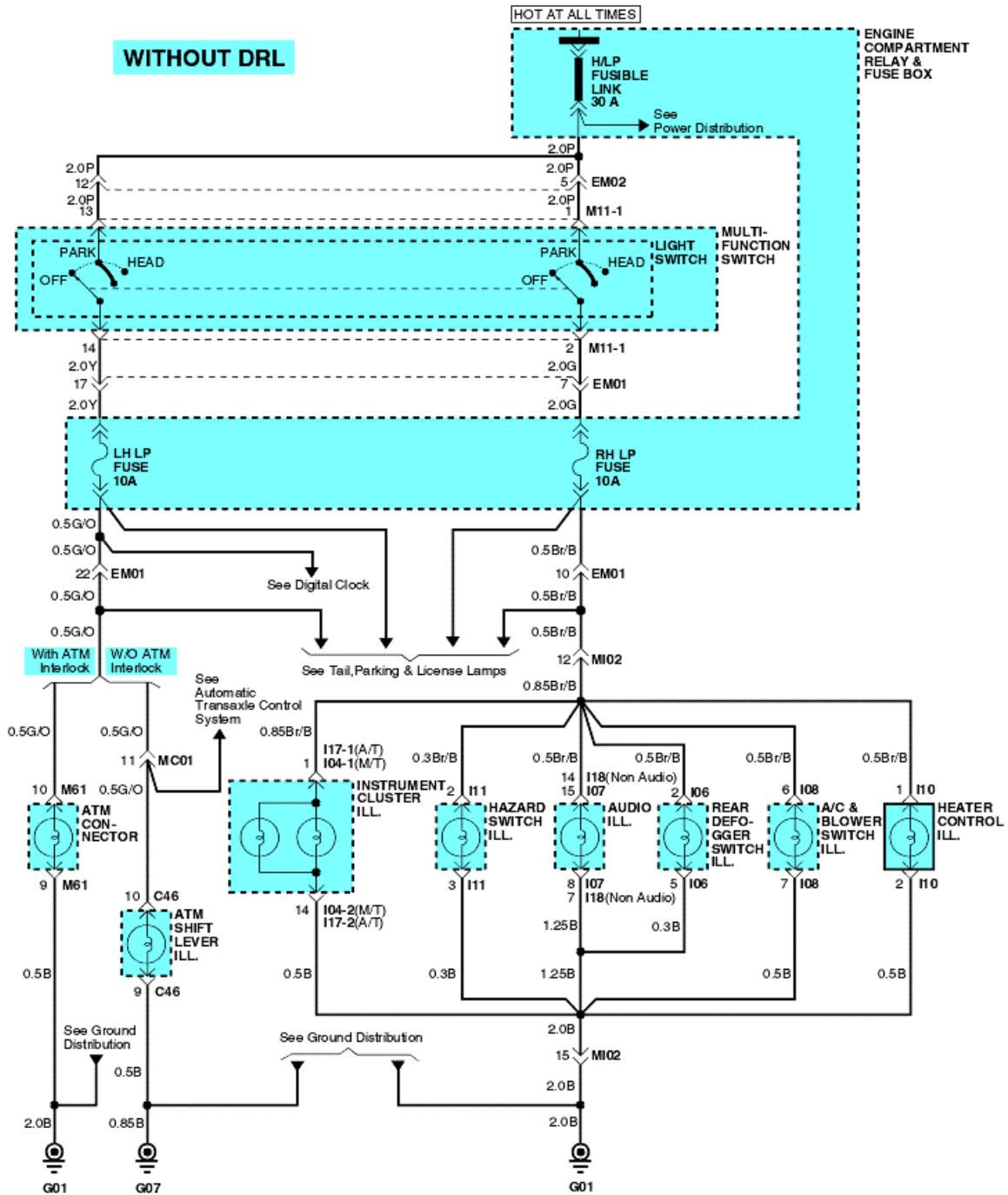


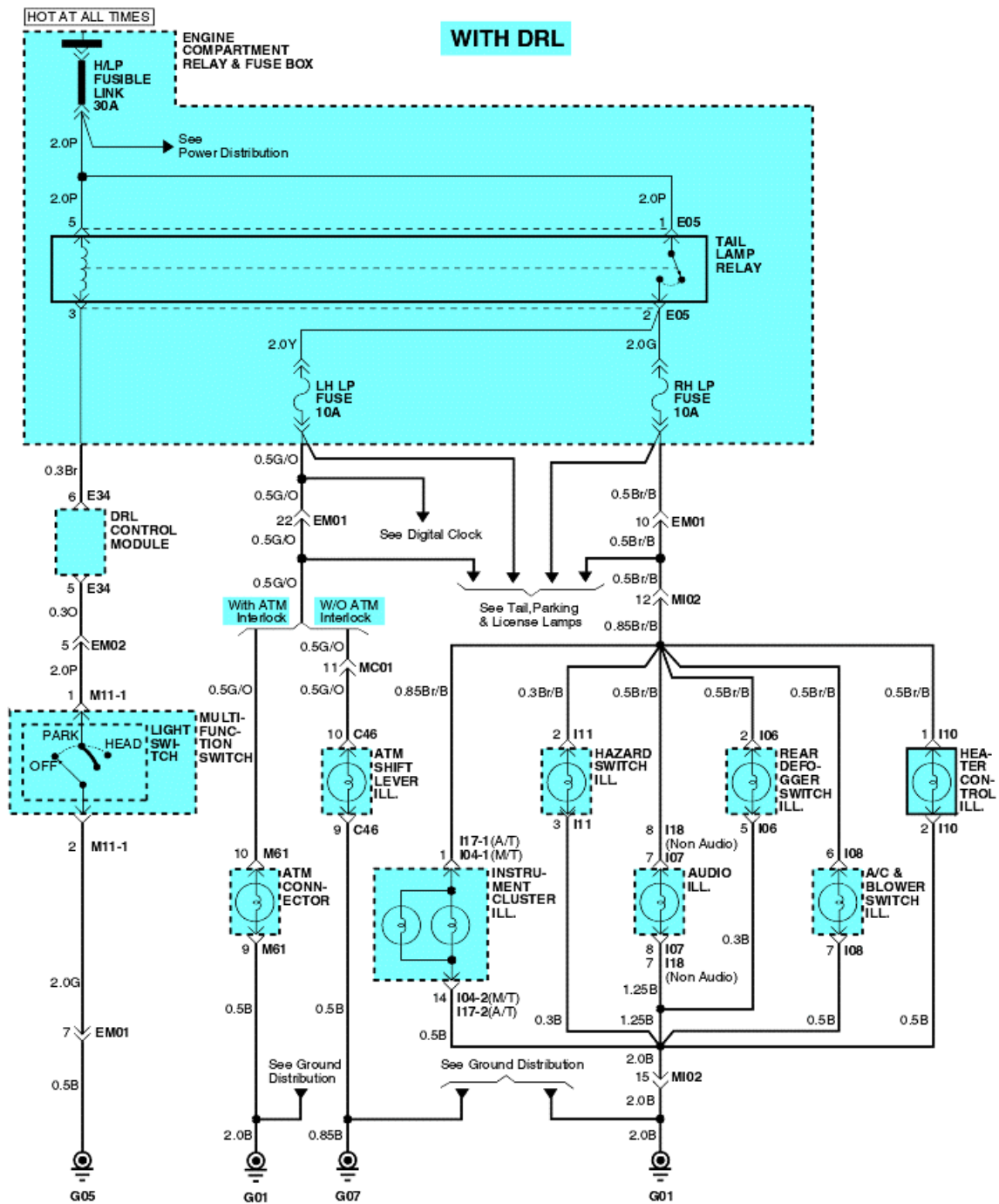
BACK-UP LAMPS E21C0370



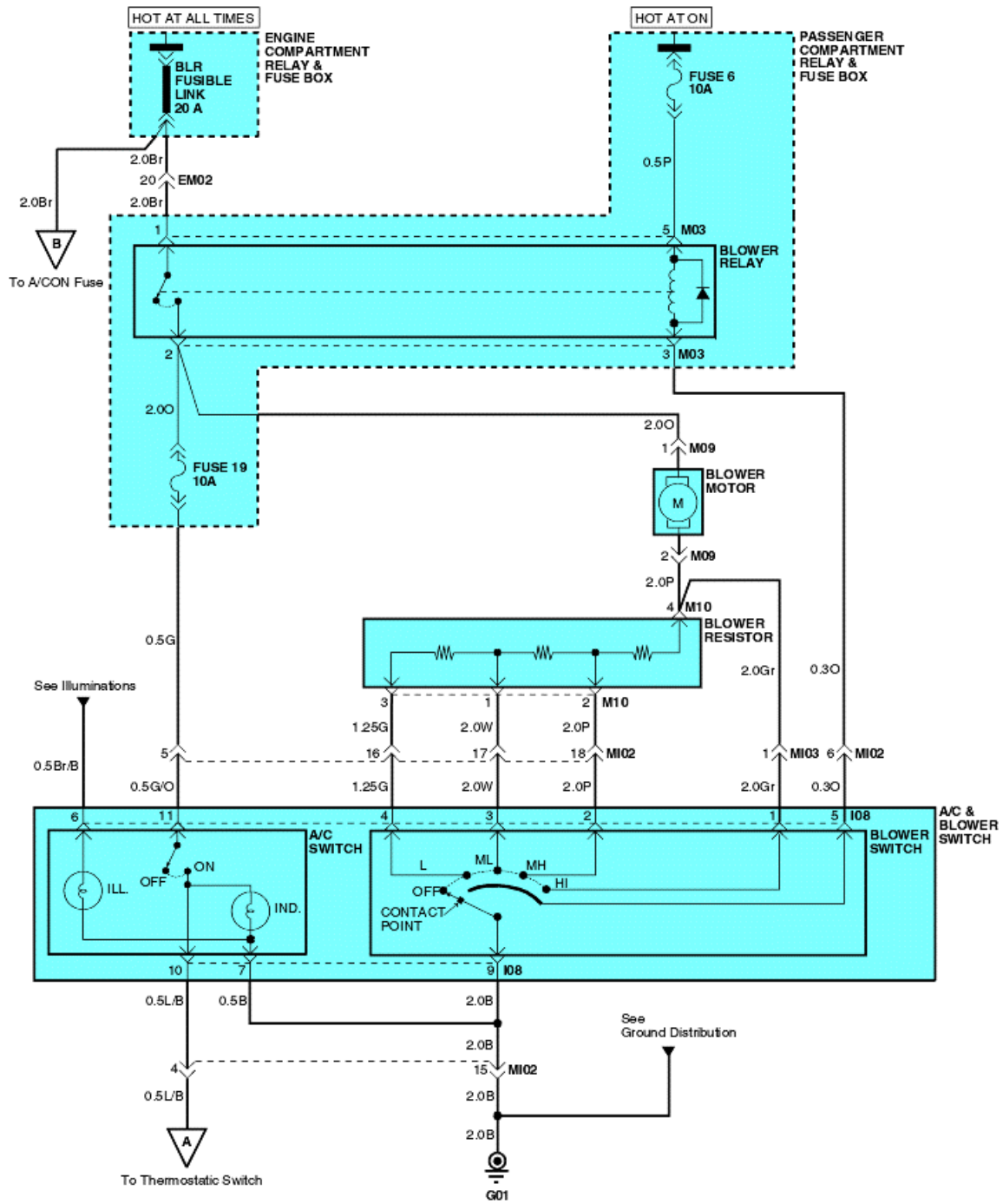
STOP LAMPS E21C0380

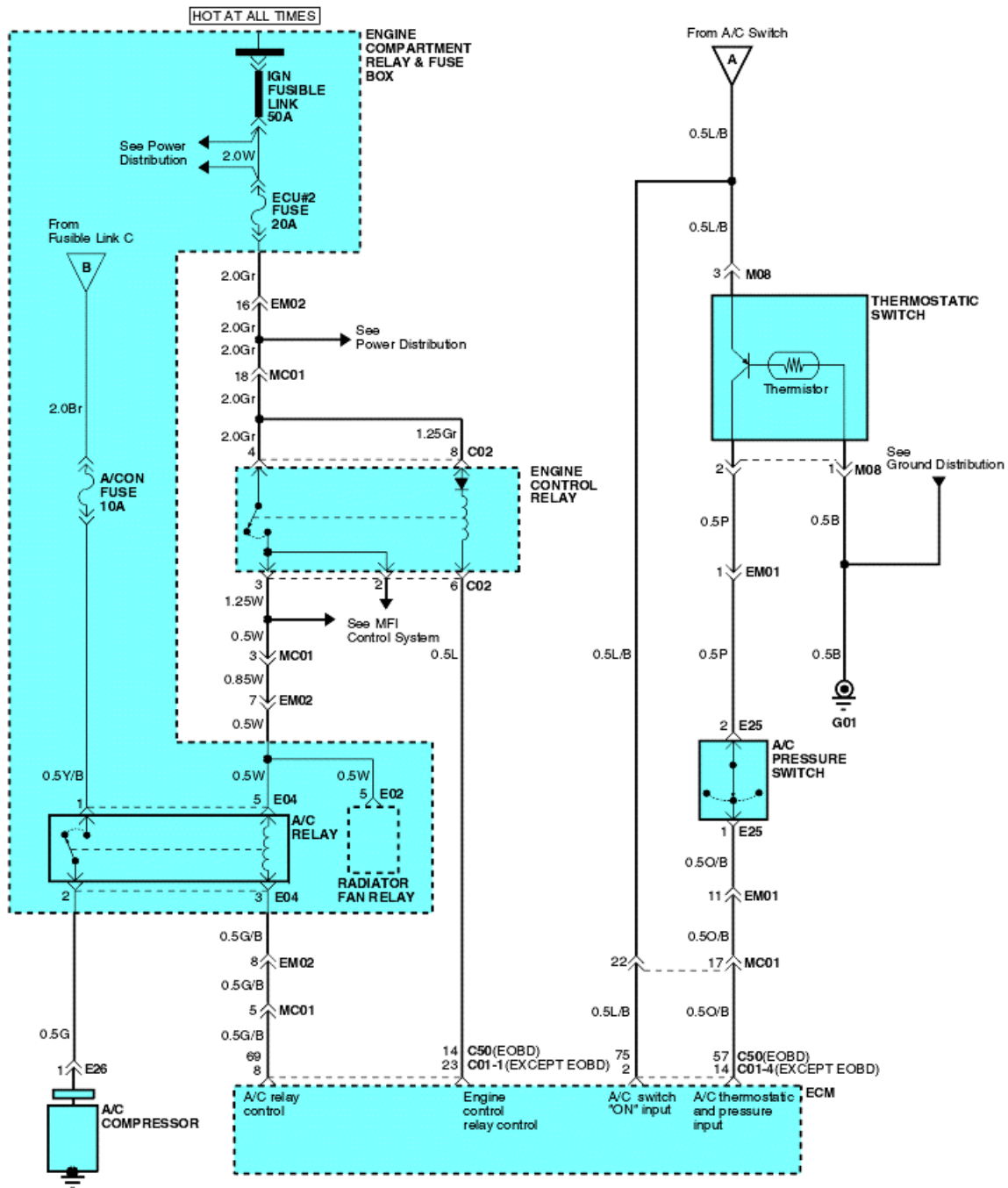






BLOWER & A/C CONTROLS E21C0420

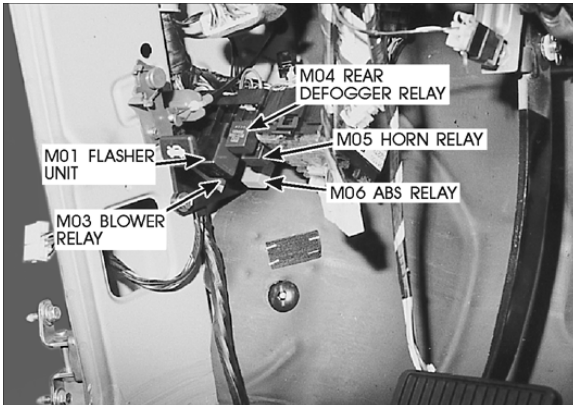




13.3 Component Location

MAIN HARNESS E31B0010

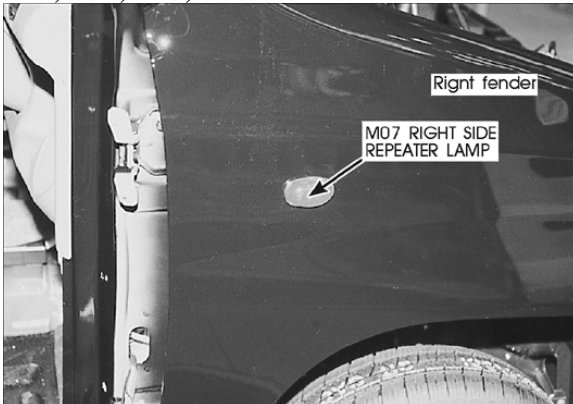
MAIN HARNESS (1)



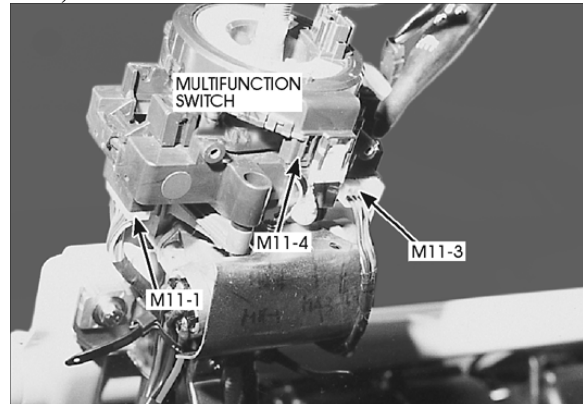
M01, M02, M05, M06



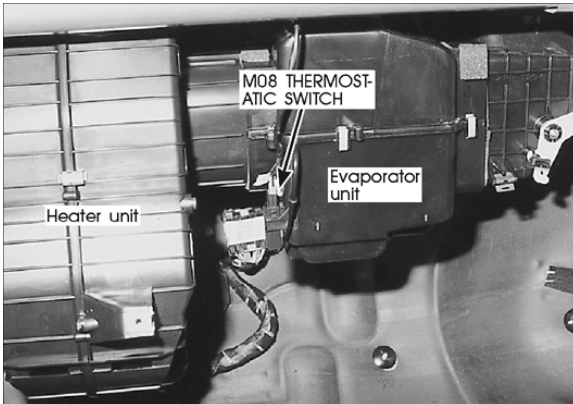
M09, M10



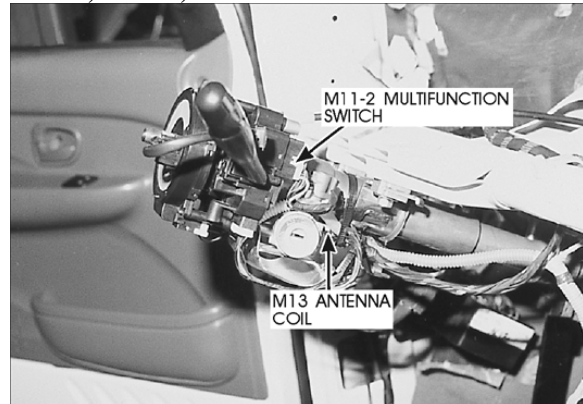
M07



M11-1, M11-3, M11-4

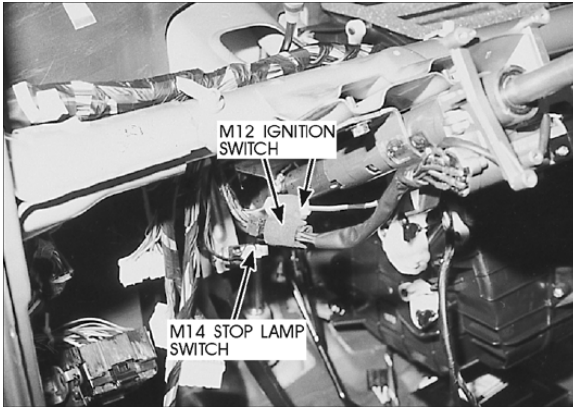


M08

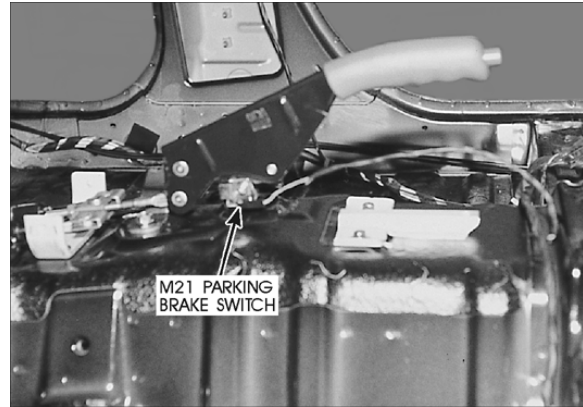


M11-2, M13

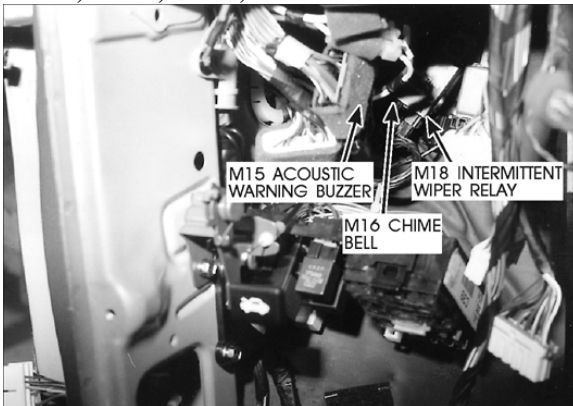
MAIN HARNESS (2)



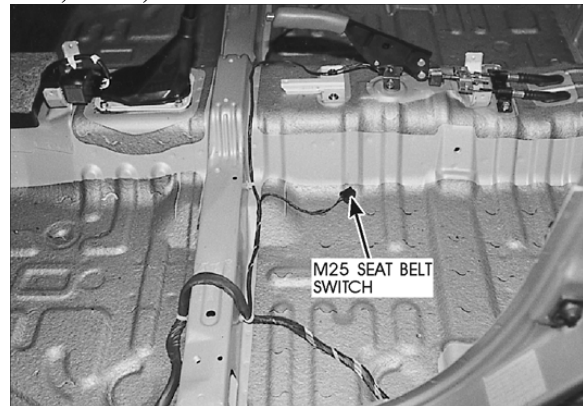
M15-1,M15-2,M15-3,M15-4



M23,M32-1,M32-2



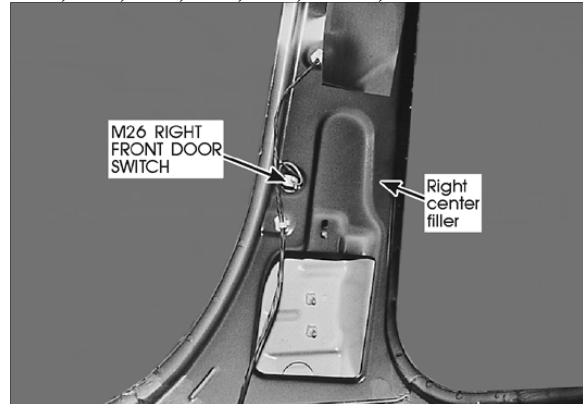
M16,M18



M26,M27,M28,M29,M30,M32-1,M32-2

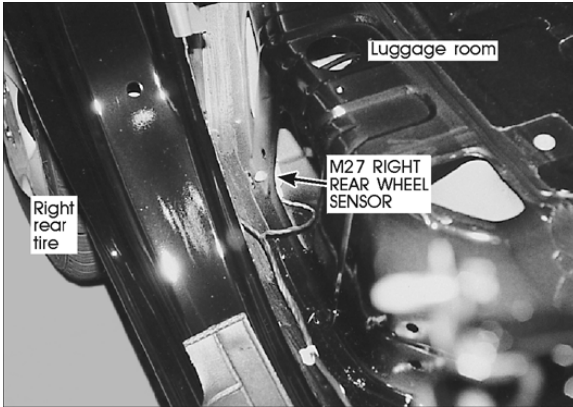


M20-1,M20-2,M20-3

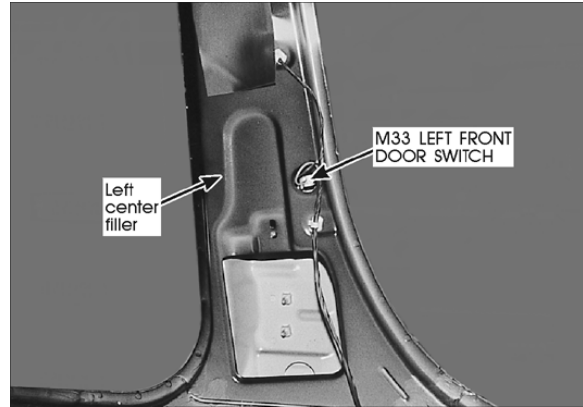


M31

MAIN HARNESS (3)



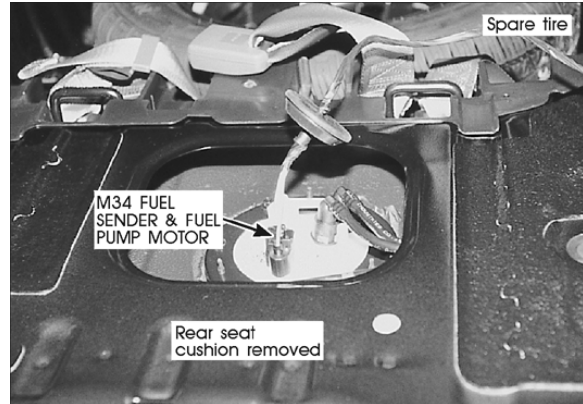
M27



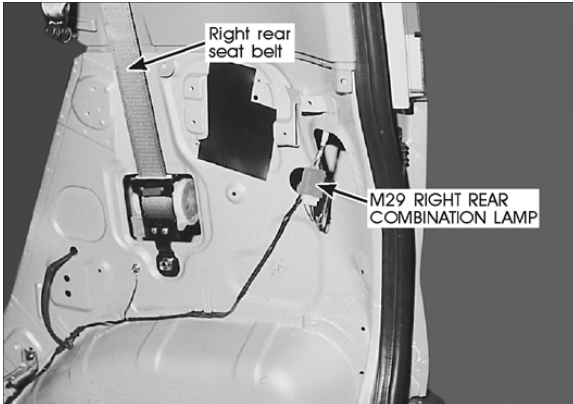
M33



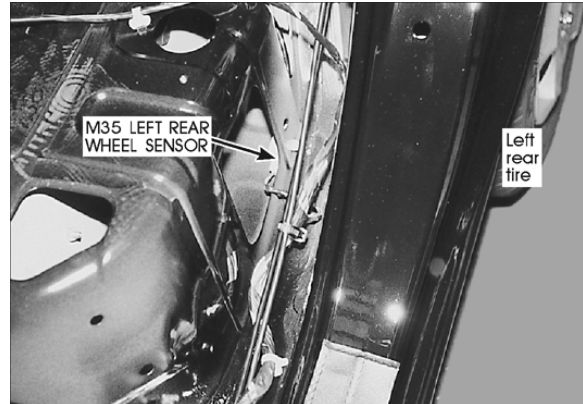
M28



M34



M29



M35

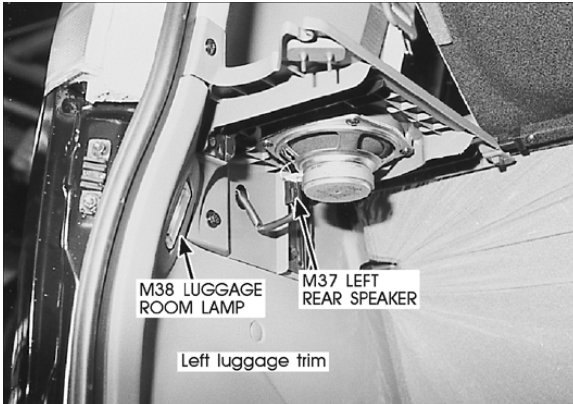
MAIN HARNESS (4)



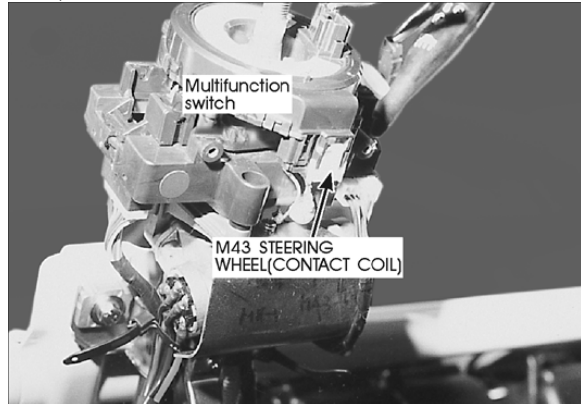
M36



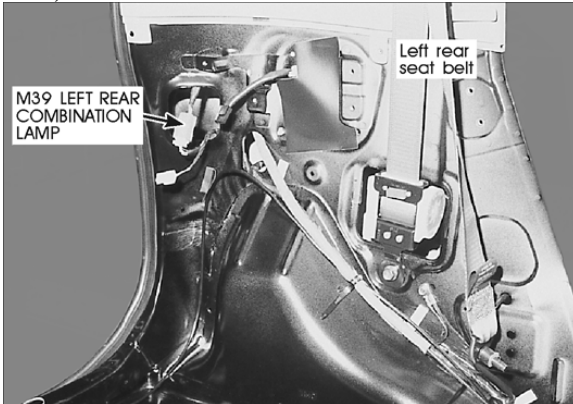
M41, M42



M37, M38



M43

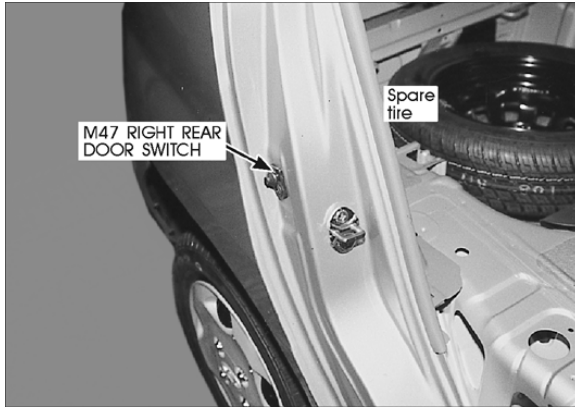


M39

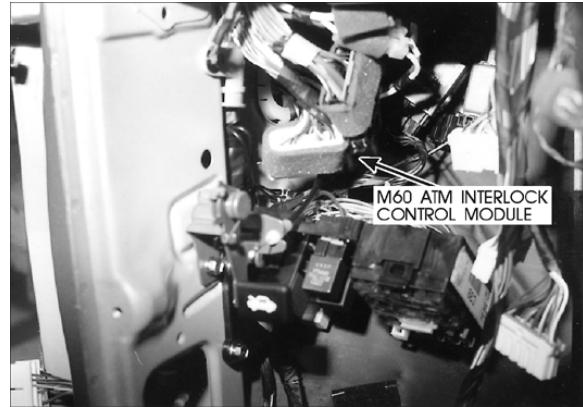


M46

MAIN HARNESS (5)



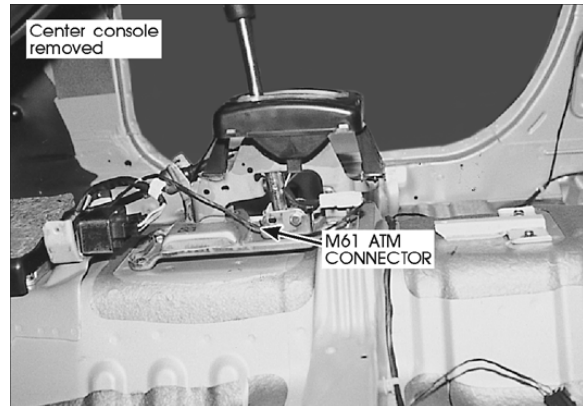
M47



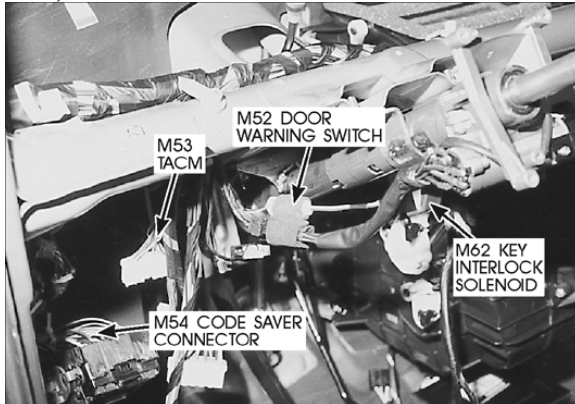
M60



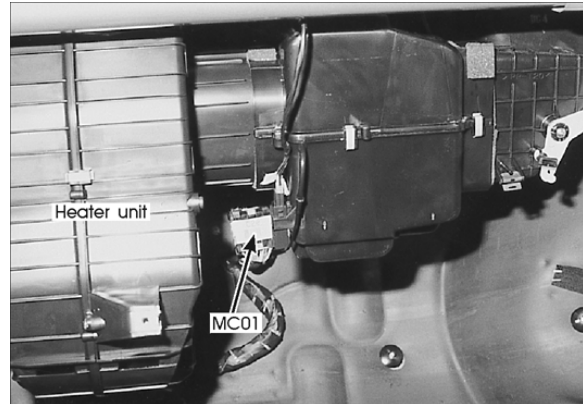
M50, M51



M61

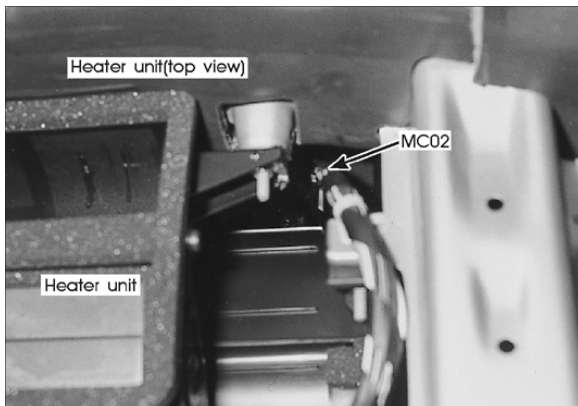


M62

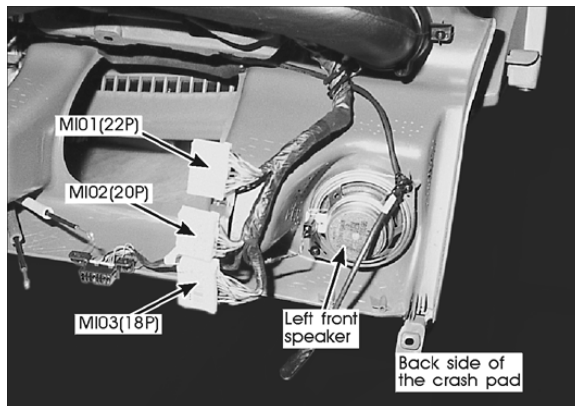


MC01

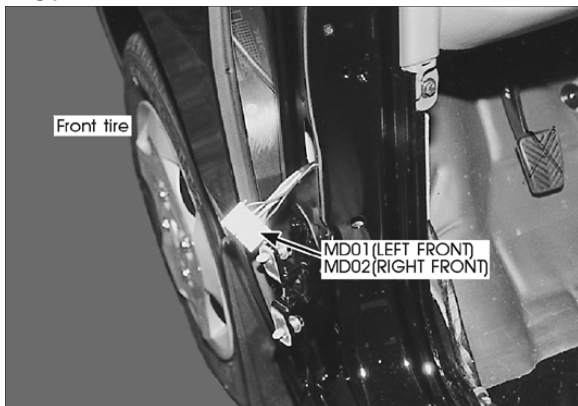
MAIN HARNESS (6)



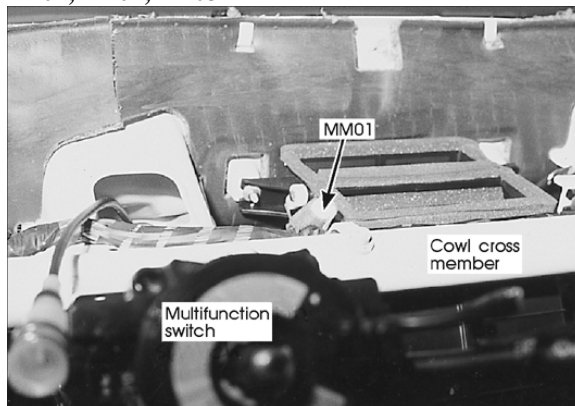
MC02



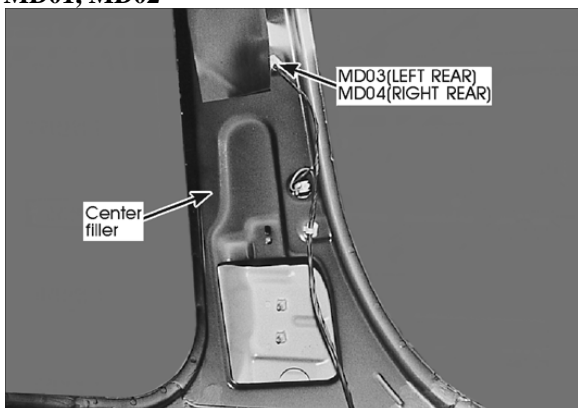
MI01, MI02, MI03



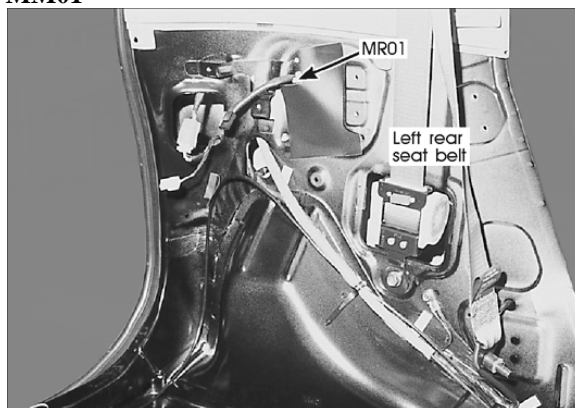
MD01, MD02



MM01

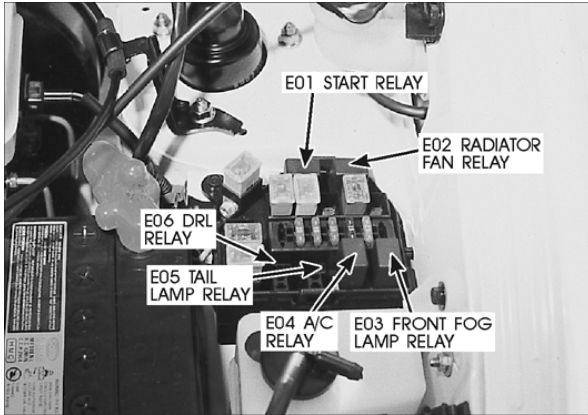


MD03, MD04

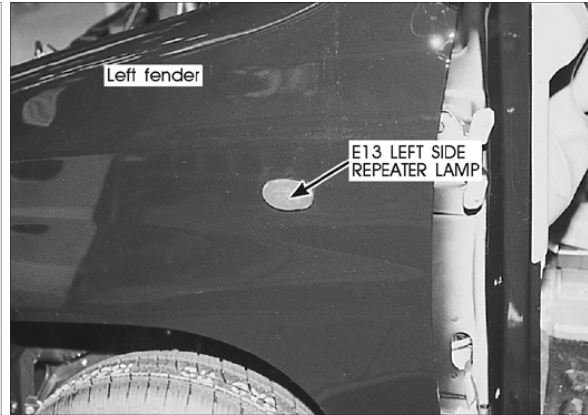


MR01

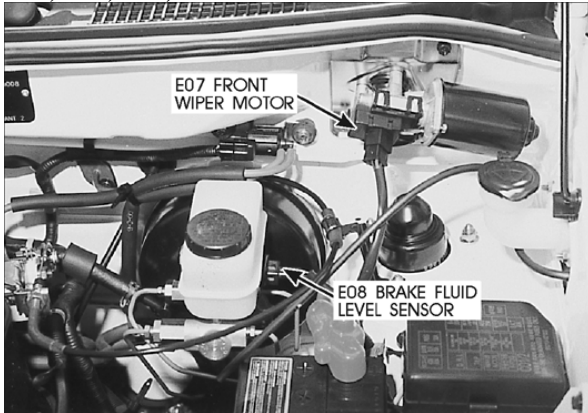
ENGINE HARNESS E31B0020
ENGINE HARNESS (1)



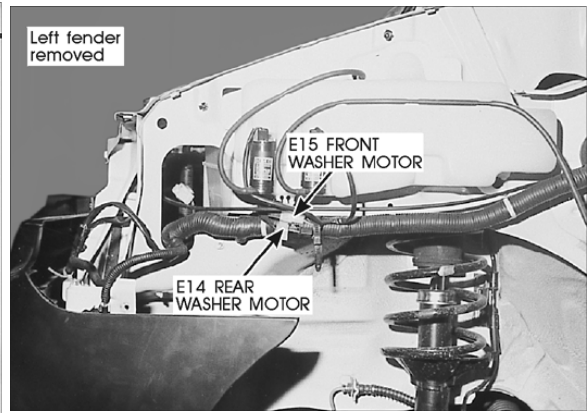
E01, E02, E03, E04



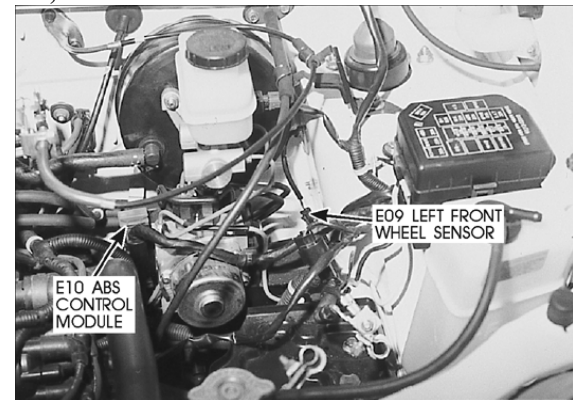
E13



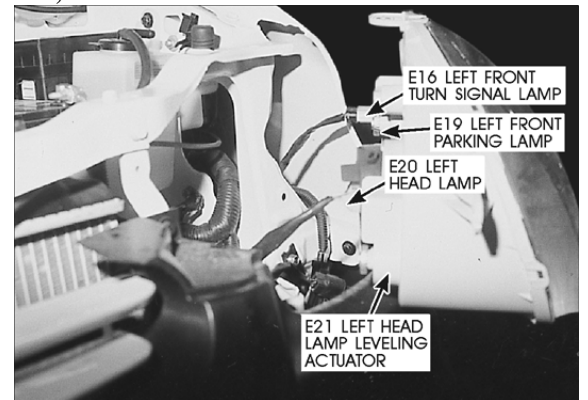
E07, E08



E14, E15

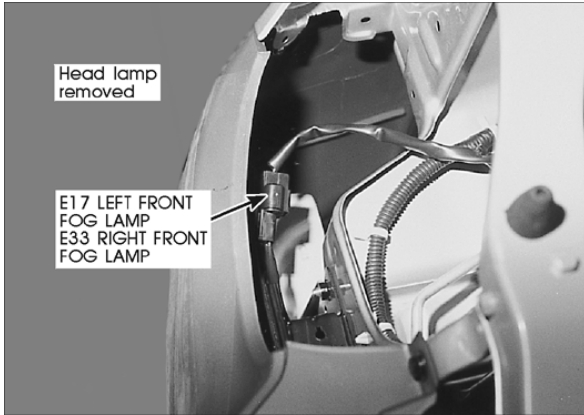


E09, E10

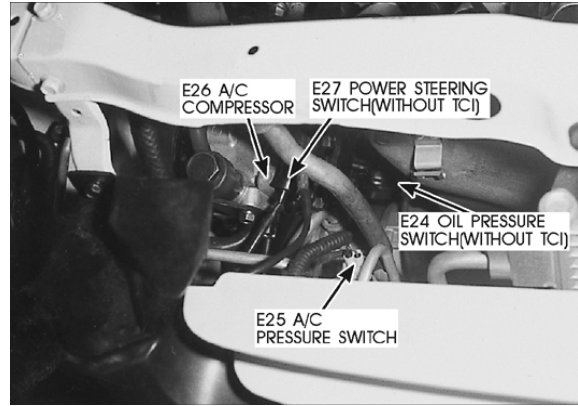


E16, E19, E20, E21

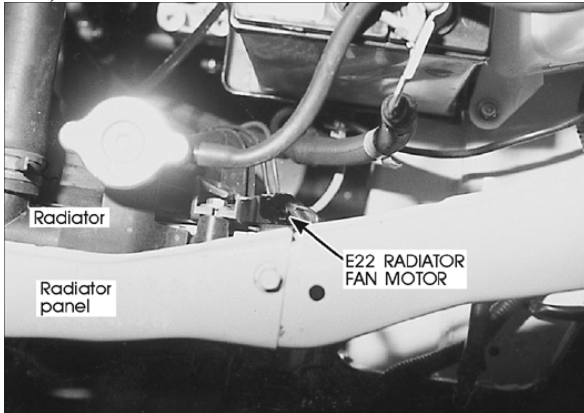
ENGINE HARNESS (2)



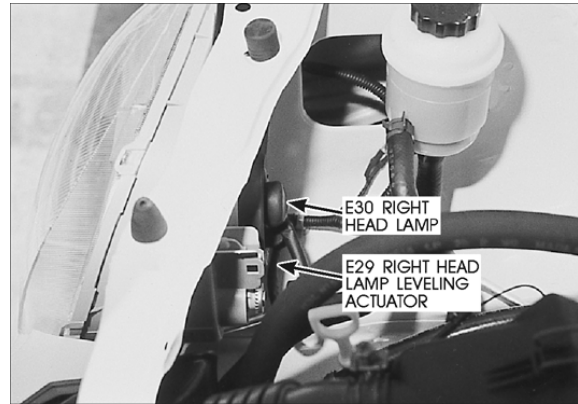
E17, E33



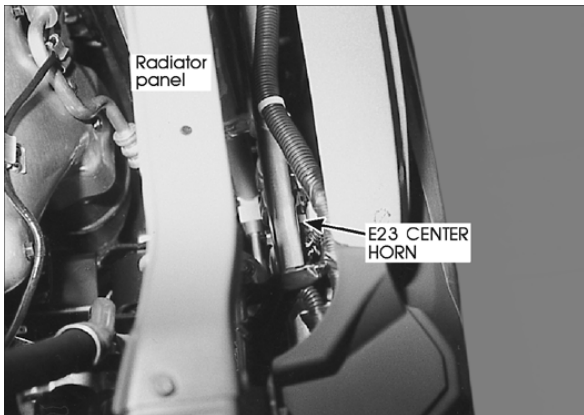
E24, E25, E26, E27



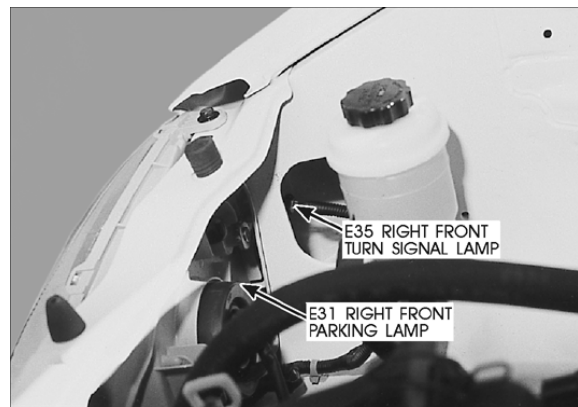
E22



E29, E30



E23

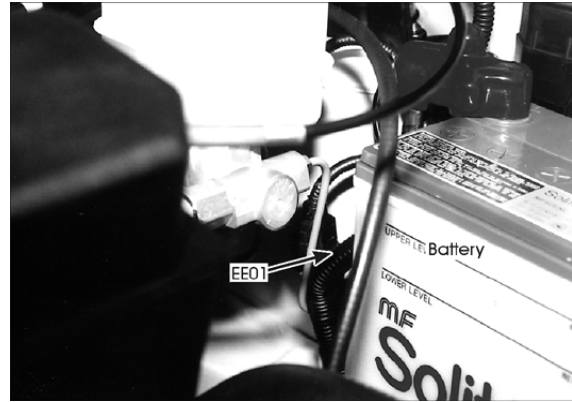


E31, E35

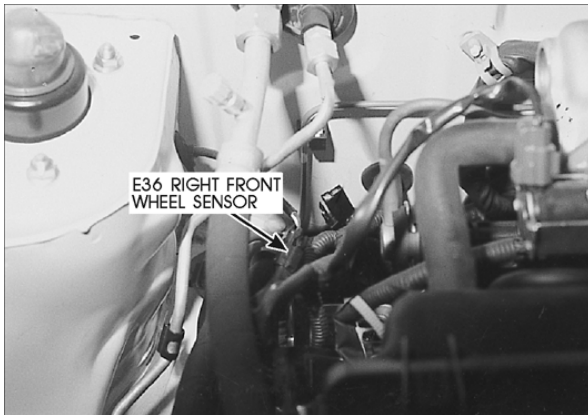
ENGINE HARNESS (3)



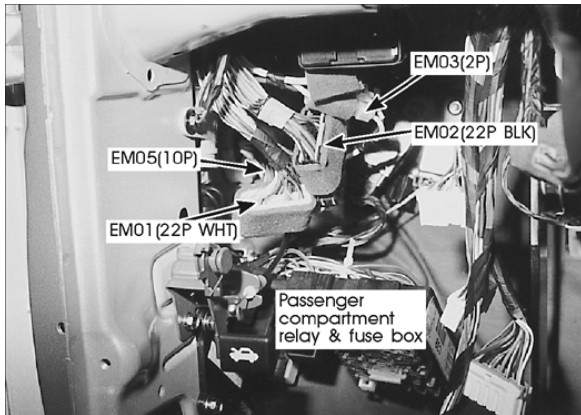
E34



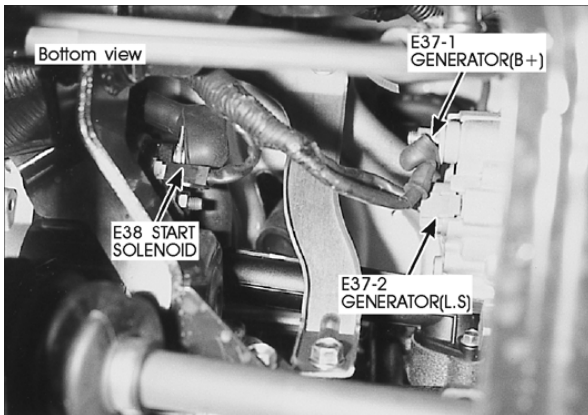
EE01



E36

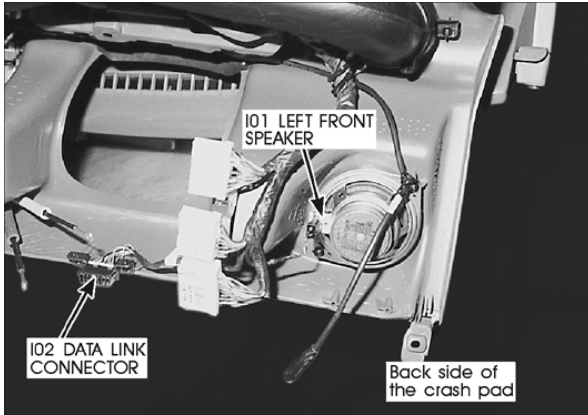


EM01, EM02, EM03, EM05

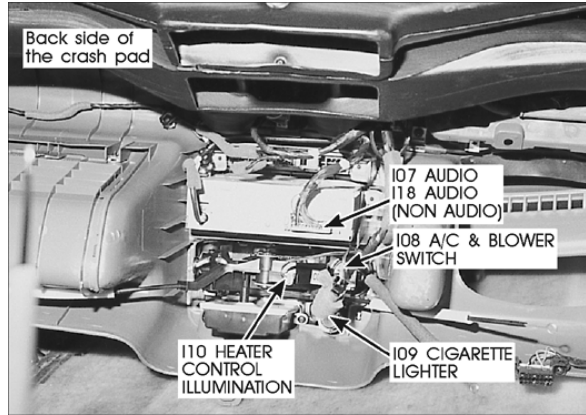


E37-1, E37-2, E38

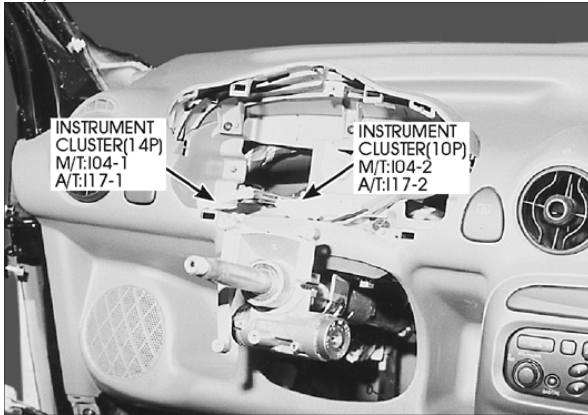
INSTRUMENT HARNESS E31B0030
INSTRUMENT HARNESS (1)



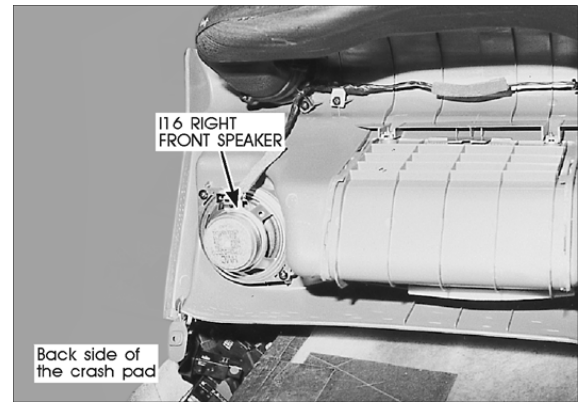
I01, I02



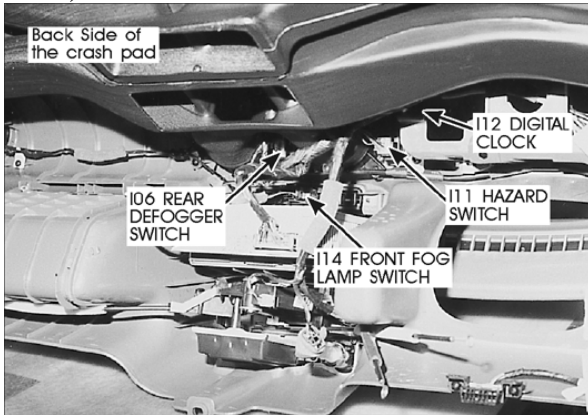
I07, I08, I09, I10



I04-1, I04-2

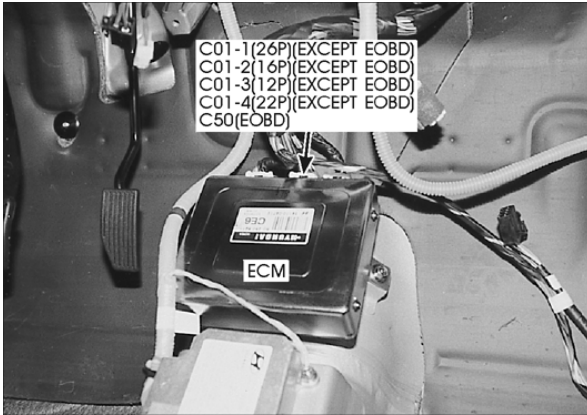


I16

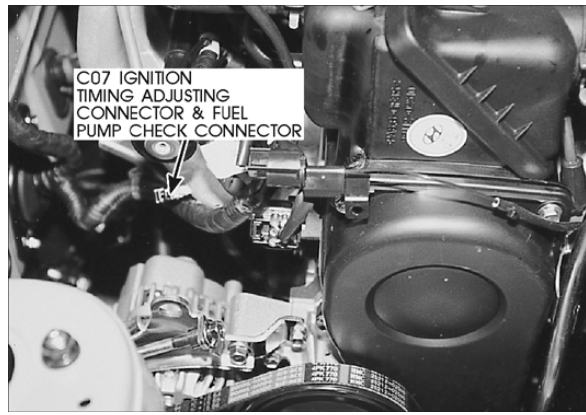


I06, I11, I12, I14

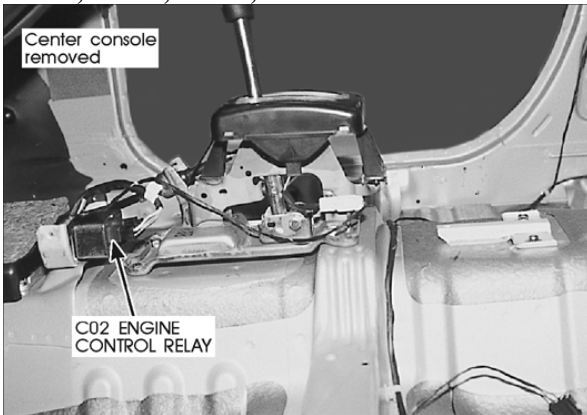
CONTROL HARNESS E31B0040
CONTROL HARNESS (1)



C01-1, C01-2, C01-3, C01-4



C07



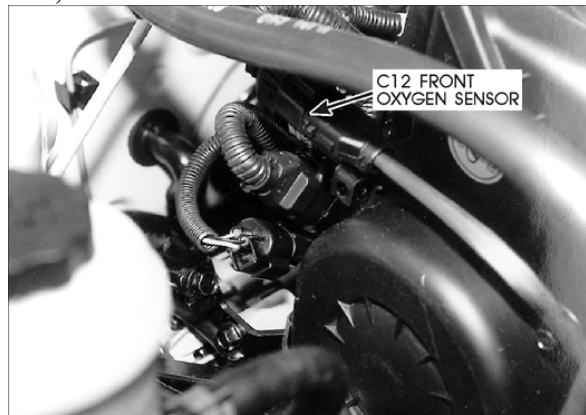
C02



C11, C14

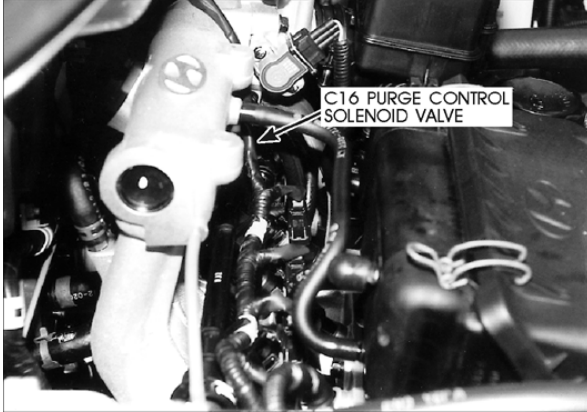


C05-1, C05-2



C12

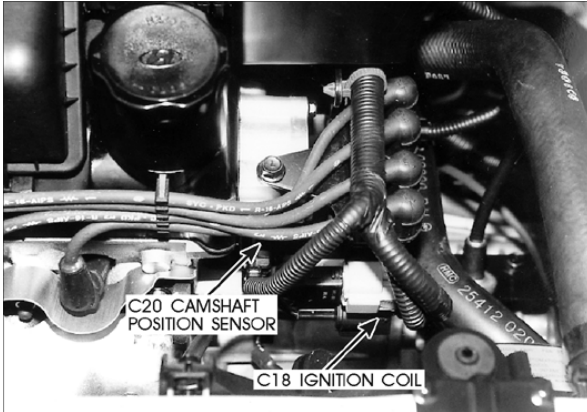
CONTROL HARNESS (2)



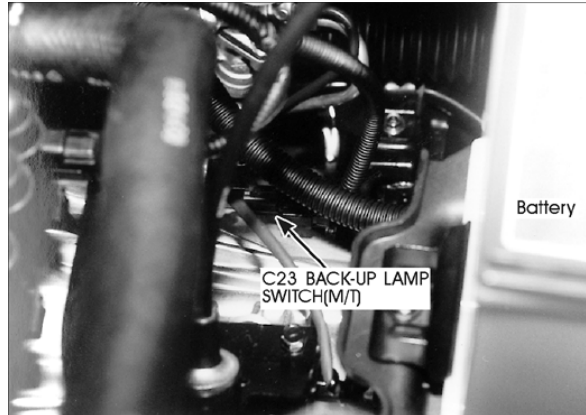
C16



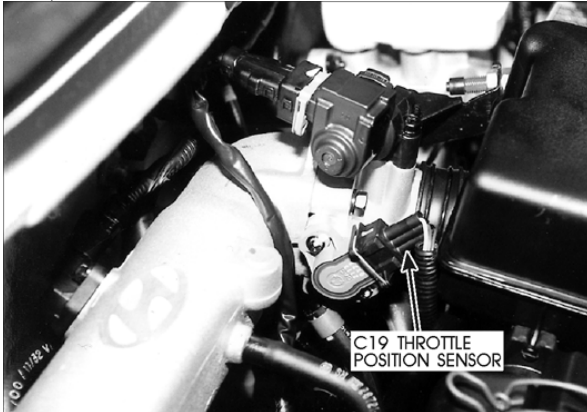
C21



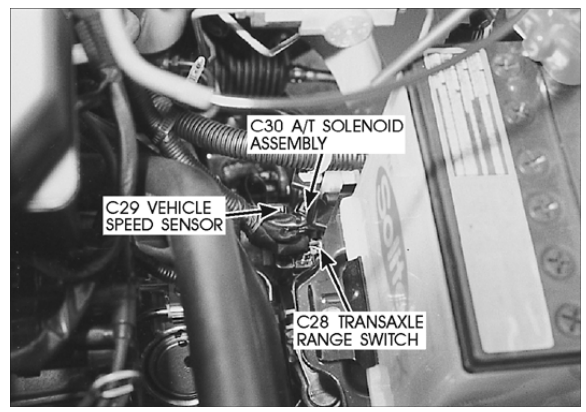
C18, C20



C23

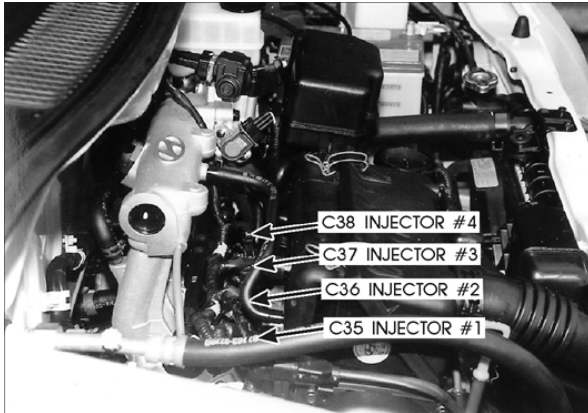


C19



C28, C29, C30

CONTROL HARNESS (3)



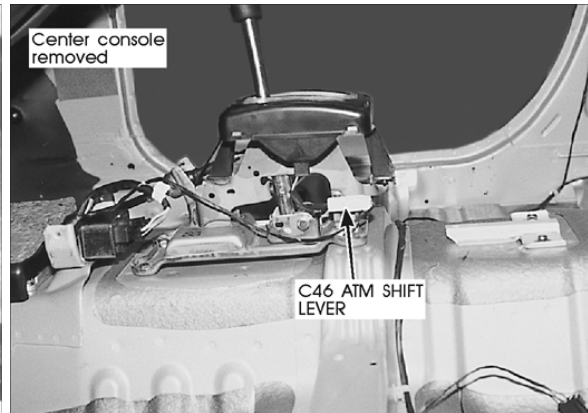
C35, C36, C37, C38



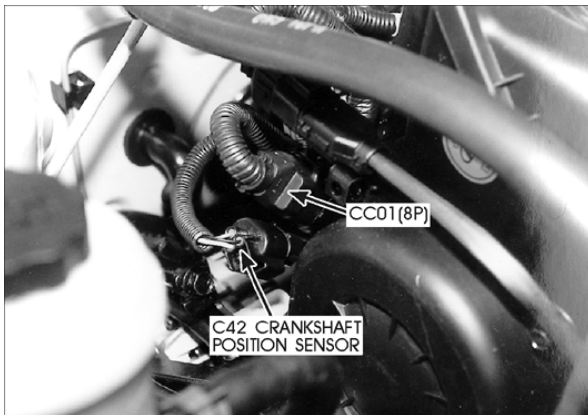
C43



C40

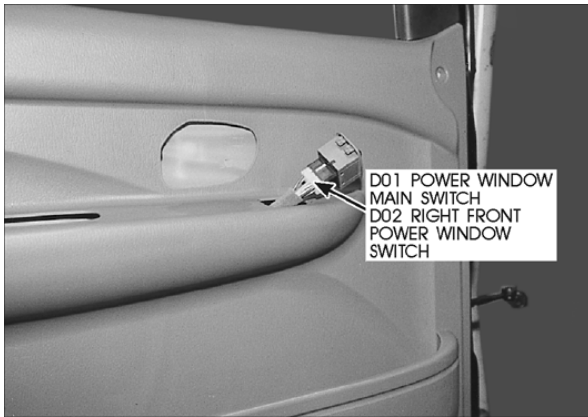


C46

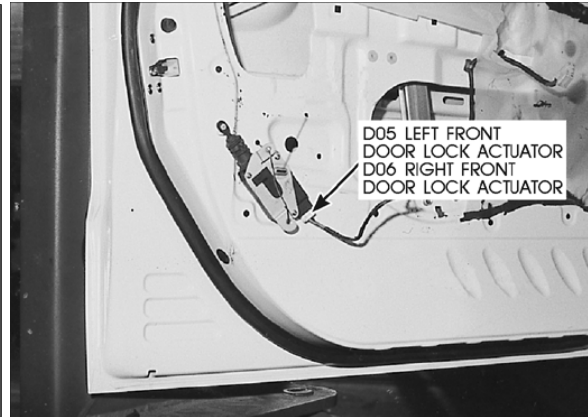


C42, CC01

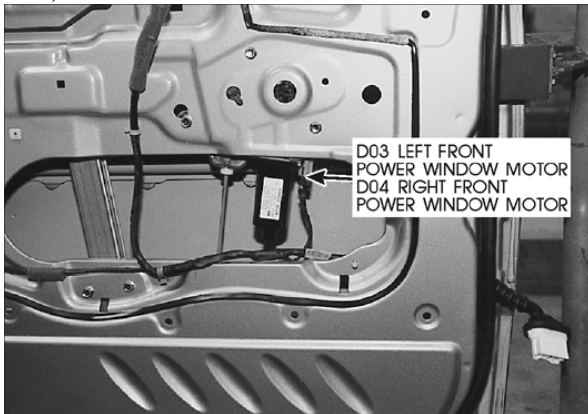
DOOR HARNESS (1)



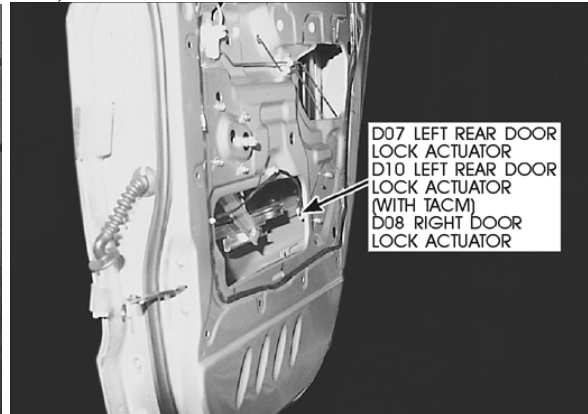
D01, D02



D05, D06

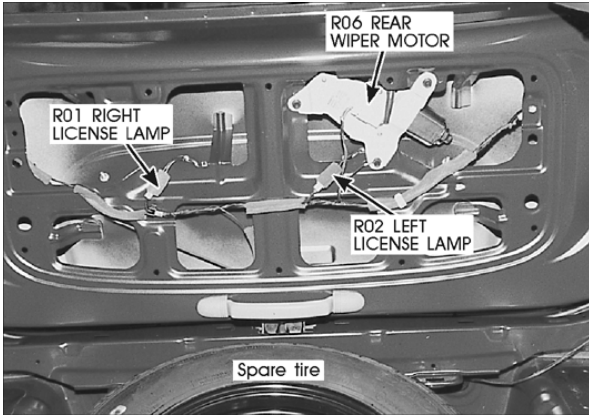


D03, D04

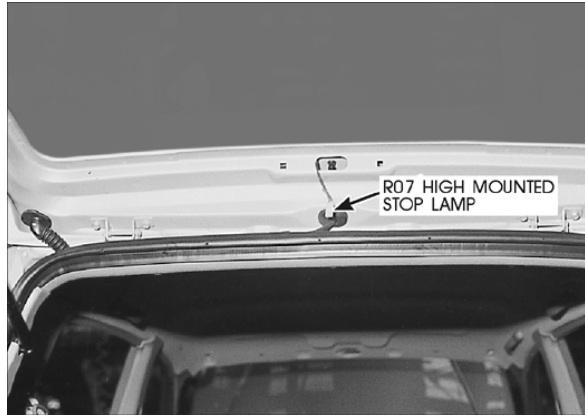


D07, D08, D10

REAR HARNESS E31B0060
REAR HARNESS(TAIL GATE) (1)



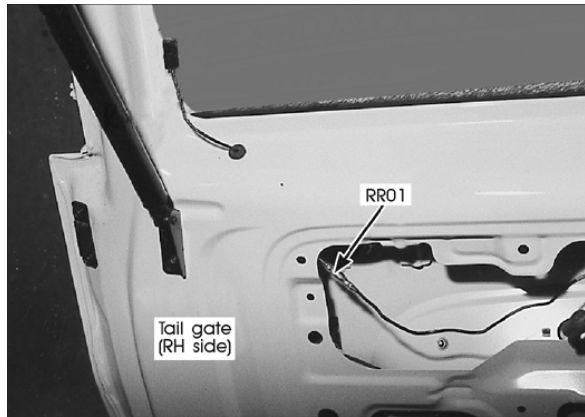
R01, R02, R06



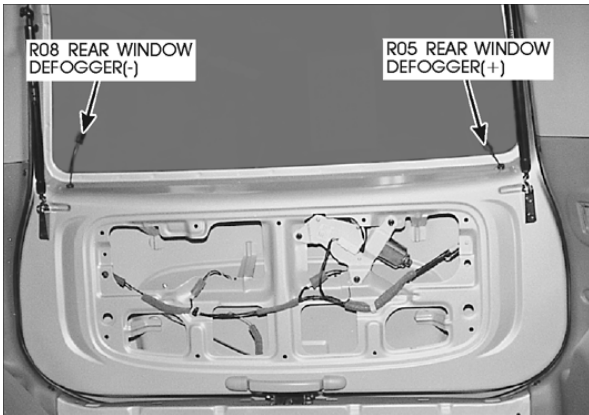
RR07



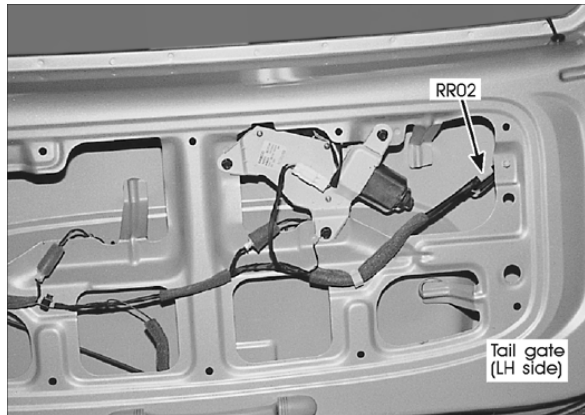
R03



RR01

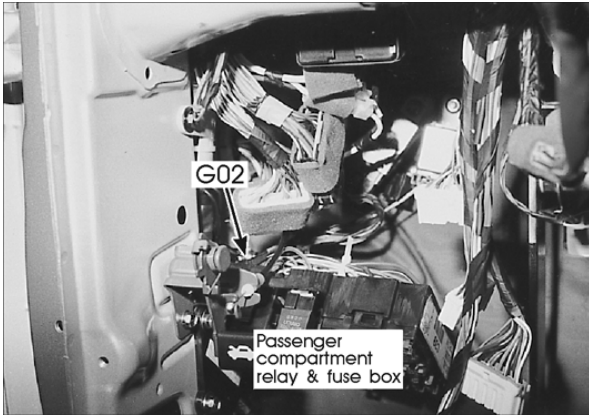


R05, R08

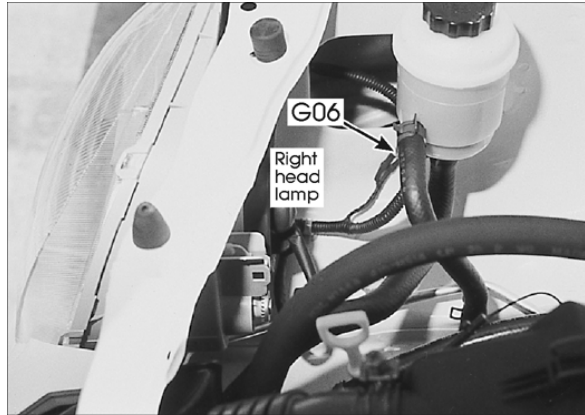


RR02

GROUND E31B0070
GROUND (1)



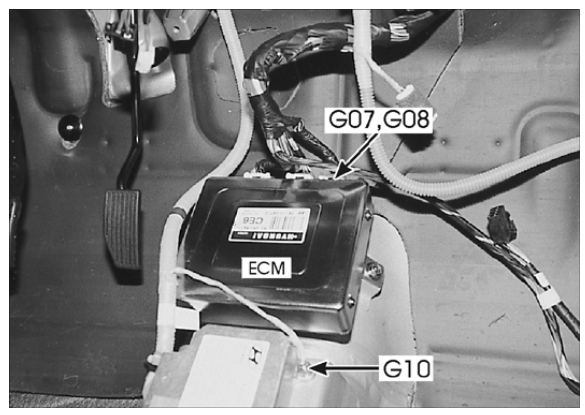
G01



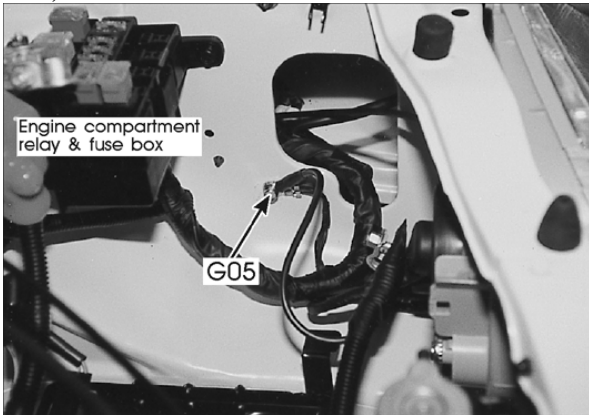
G06



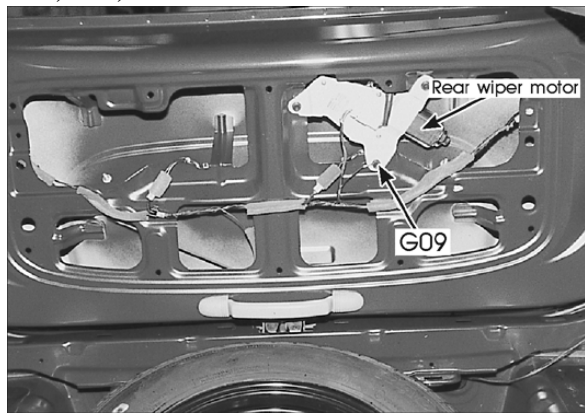
G03, G04



G07, G08, G10



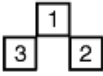
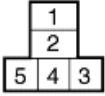
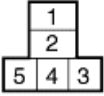
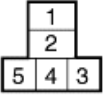
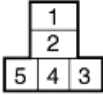
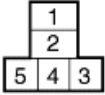
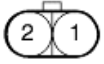
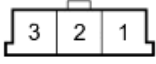


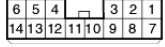
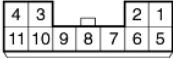
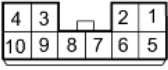
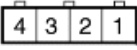
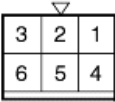



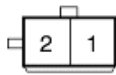

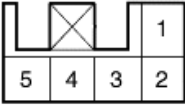
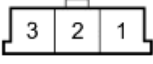

G05

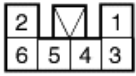
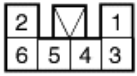




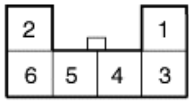
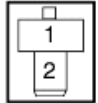
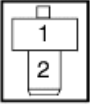
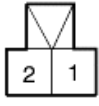
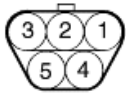

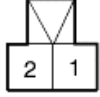


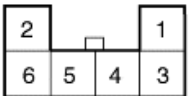
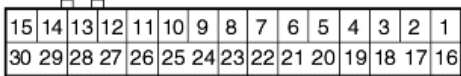
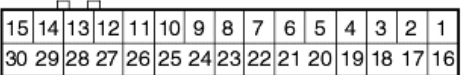
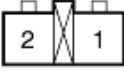
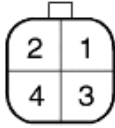


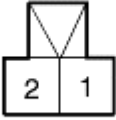
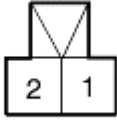

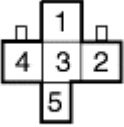
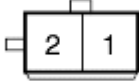
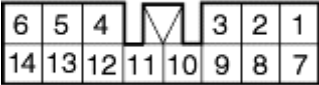
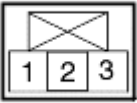
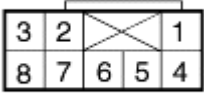
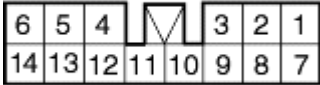
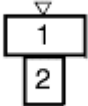

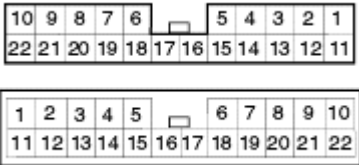
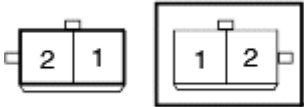
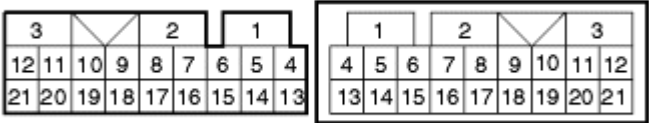
G09

13.4 Connector Configurations

MAIN HARNESS E41C0010

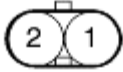

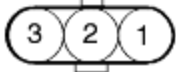
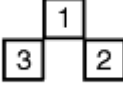
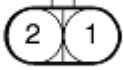
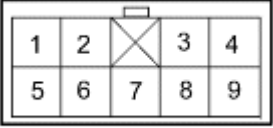
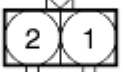
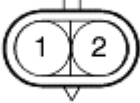
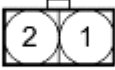

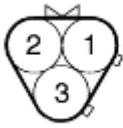
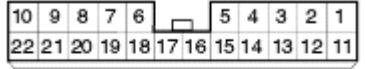
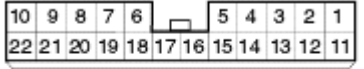
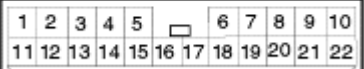
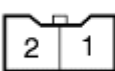
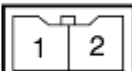

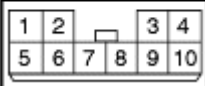
MAIN HARNESS (1)			
M01	M02	M03	M04
			
M05	M06	M07	M08
			
M09	M10	M11-1	M11-2
			
M11-3	M11-4	M12	M13
			
M14	M15	M16	BLANK
			
M18	M19	M20	M21
			

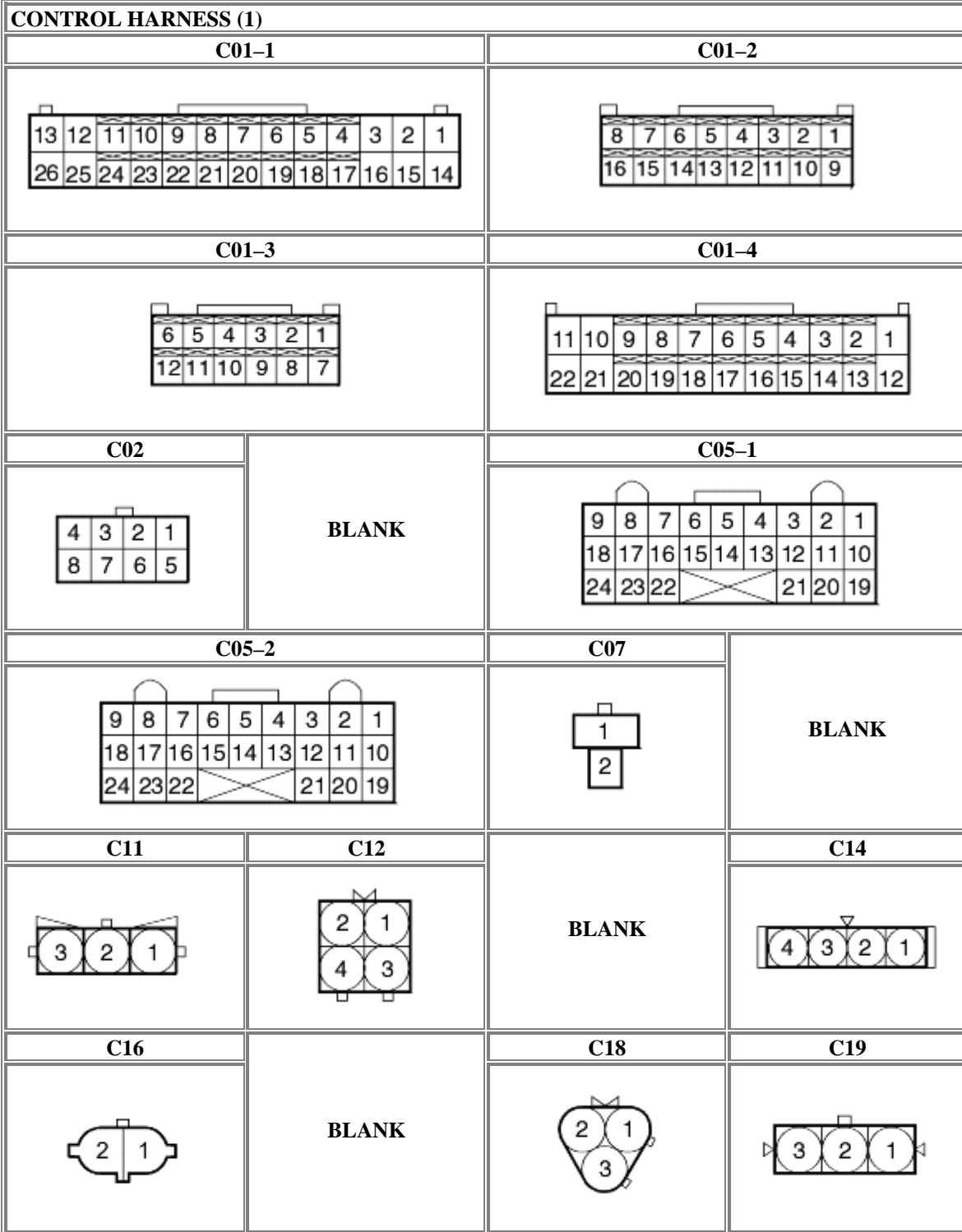
MAIN HARNESS (2)			
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M27	M28	M29	M30
			
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M35	M36	M37	M38
			
M39	BLANK	M41	
			
M42		M43	M44
			

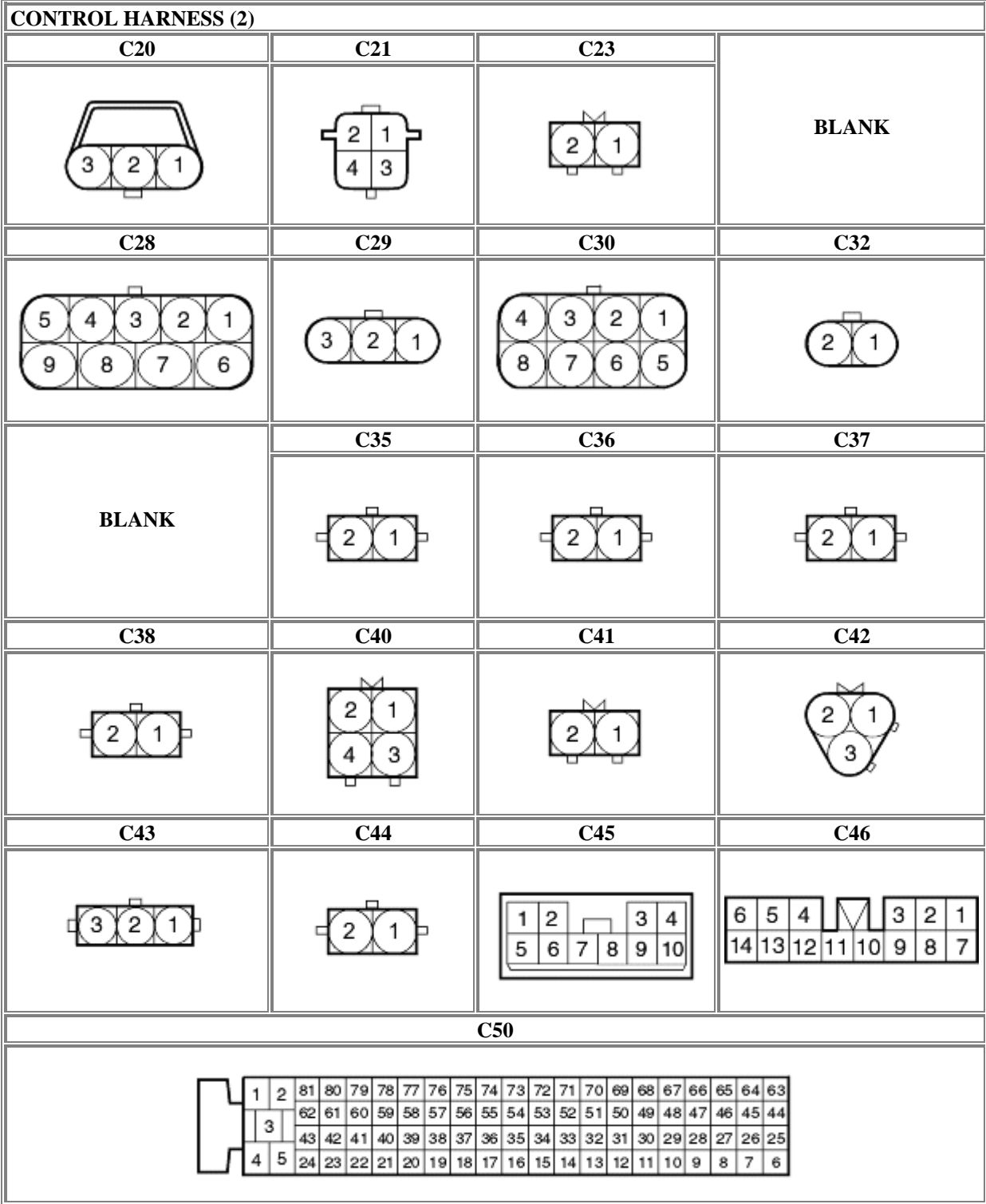
MAIN HARNESS (3)			
M46	M47	BLANK	M50
			
M51	M52	M53	
			
M54	BLANK	M60	
			
M61		M62	M64
			
MC01		MC02	BLANK
			
MD01			BLANK
			
MAIN HARNESS (4)			
MD02		MD03	

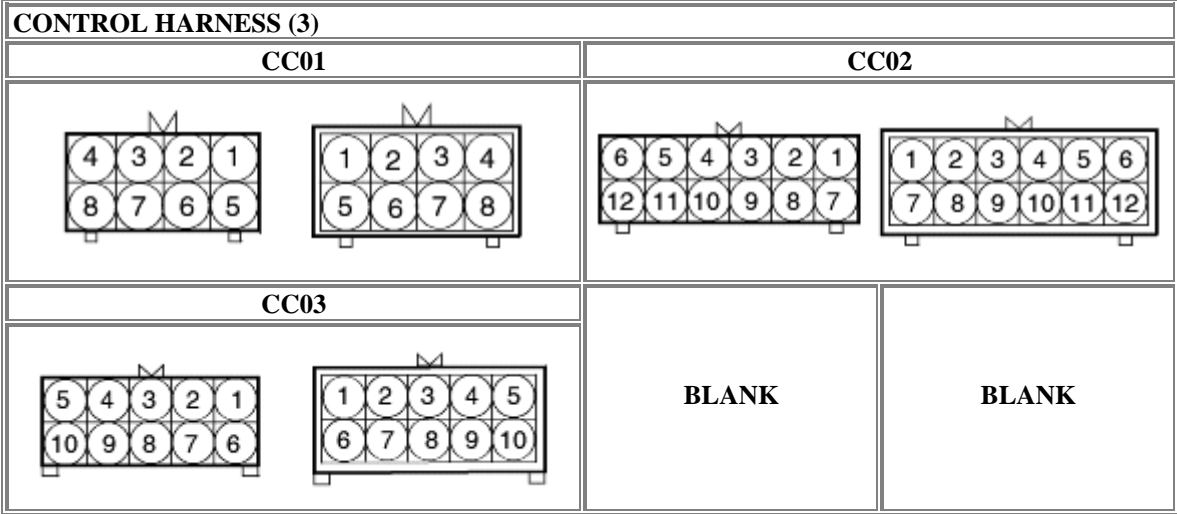
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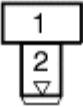
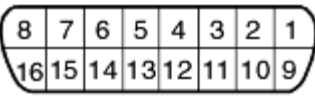

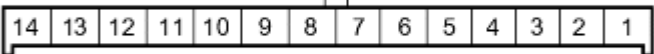
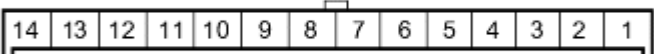
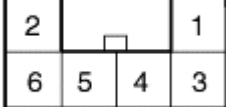
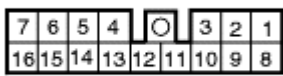
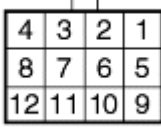
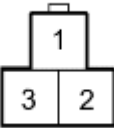
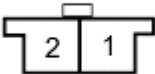
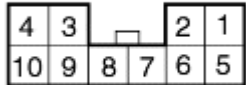
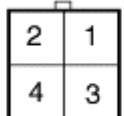
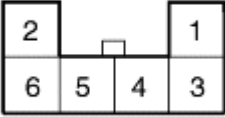
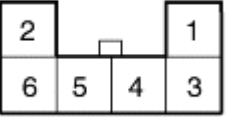
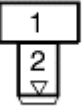
ENGINE HARNESS (1)			
E01	E02	E03	E04
E05	BLANK	E07	E08
E09	E10		BLANK
E13	E14	E15	E16
E17	BLANK	E19	E20
E21	E22	E23	E24
ENGINE HARNESS (2)			
E25	E26	E27	E29

		
E30	E31	E33
		BLANK
E34	E35	E36
		
E37-2	E38	E01
		
EM01	EM02	EM03
		
EM04	EM05	EM06
	BLANK	
EM07	EM08	EM09
		
EM10	EM11	



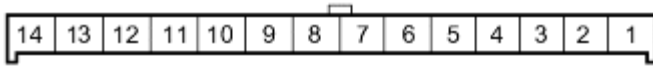




INSTRUMENT HARNESS (1)			
I01	I02	I03	BLANK
			
I04-1			BLANK
			
I04-2			I06
			
I07		I08	I09
			
I10	I11	I12	BLANK
			
I14	I15	I16	BLANK
			

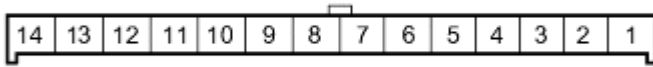
INSTRUMENT HARNESS (2)

I17-1

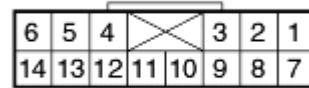


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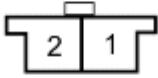
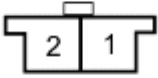



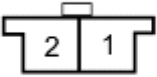

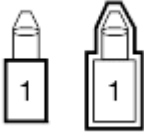
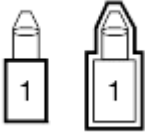
I17-2



I18



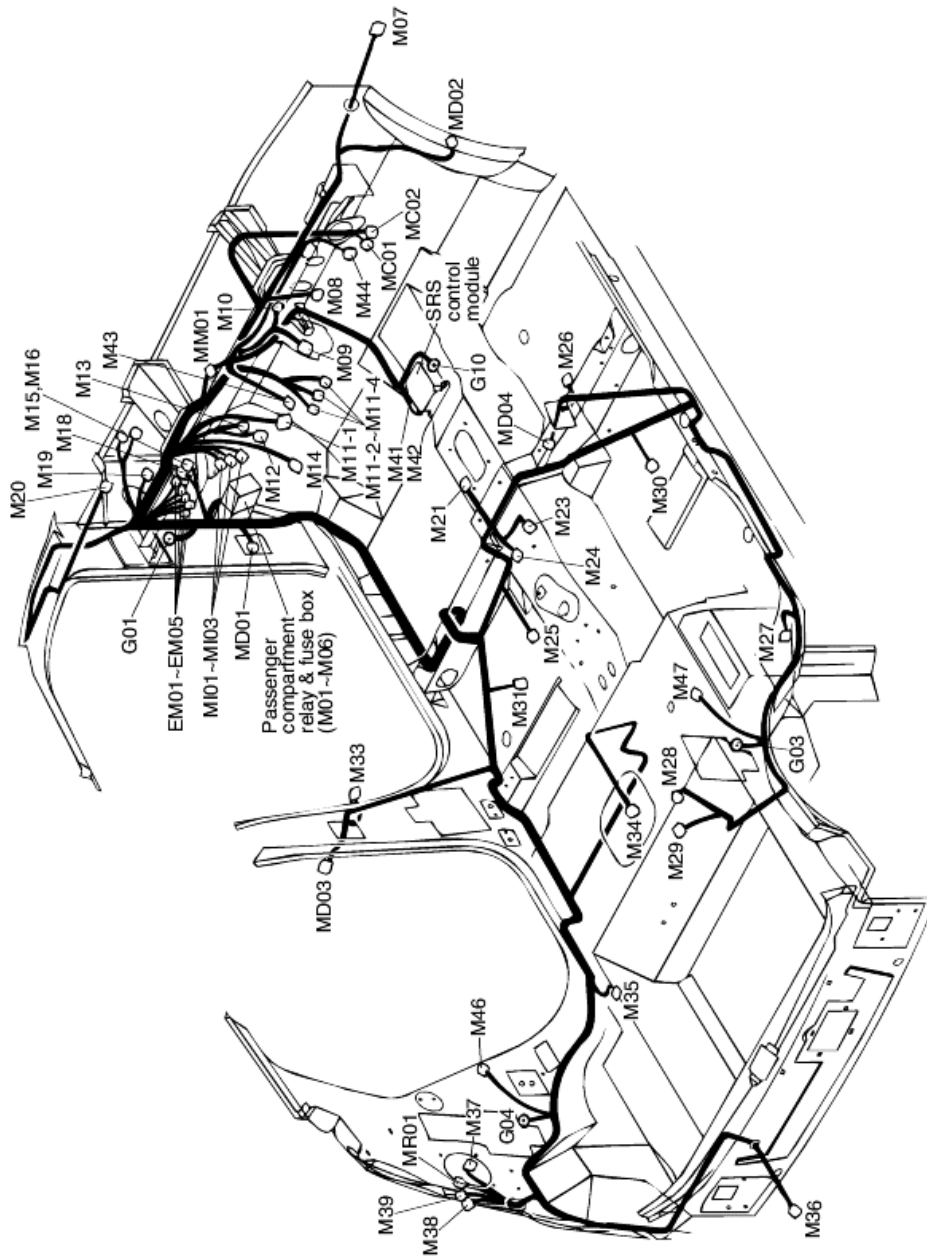
DOOR HARNESS (1)			
D01	D02	D03	D04
D05	D06	D07	D08
BLANK	D10	BLANK	BLANK

REAR HARNESS (1)			
R01	R02	R03	
			BLANK
R05	R06	R07	R08
			
RR01	RR02		
		BLANK	BLANK

13.5 Harness Layouts

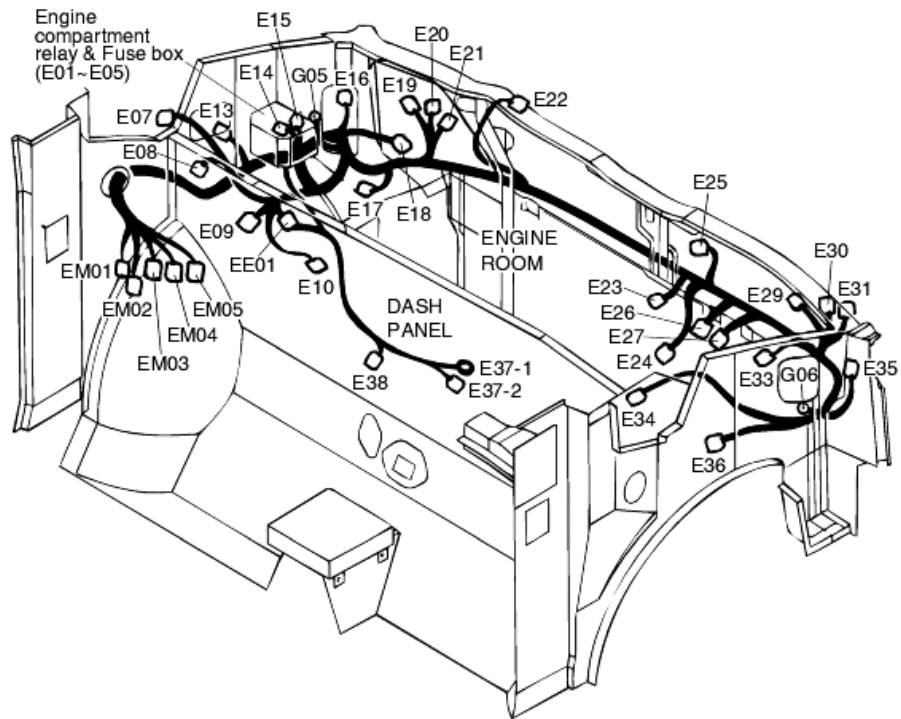
MAIN HARNESS E51C0010

MAIN HARNESS (1)



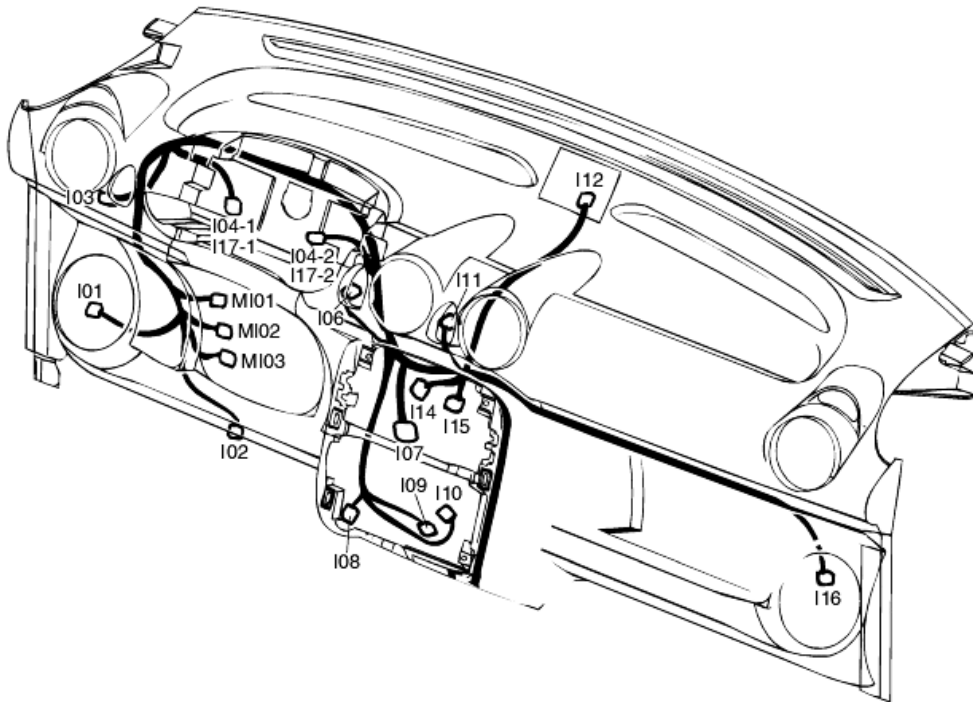
M01	Flasher unit	M39	Left rear combination lamp
M02	EBD relay	M41	SRS control module (DAB+PAB)
M03	Blower relay	M42	SRS control module (DAB)
M04	Rear defogger relay	M43	Steering wheel (Contact coil)
M05	Horn relay	M44	Passenger air bag
M06	ABS relay	M46	Left rear door switch
M07	Right side repeater lamp	M47	Right rear door switch
M08	Thermostatic switch	M50	Door lock relay
M09	Blower motor	M51	Hazard relay
M10	Blower resistor	M52	Door warning switch
M11-1	Multifunction switch	M53	TACM
M11-2	Multifunction switch	M54	Code saver connector
M11-3	Multifunction switch	M60	ATM interlock control module
M11-4	Multifunction switch	M61	ATM connector
M12	Ignition switch	M62	ATM key interlock solenoid
M13	Antenna coil	M64	Seat belt timer
M14	Stop lamp switch	EM01	Connection with ENGINE harness
M15	Acoustic warning buzzer	EM02	Connection with ENGINE harness
M16	Chime bell	EM03	Connection with ENGINE harness
M18	Intermittent wiper relay	EM05	Connection with ENGINE harness (ABS)
M19	SMATRA	MC01	Connection with CONTROL harness (Immobilizer)
M20	Courtesy lamp	MC02	Connection with CONTROL harness (Immobilizer)
M21	Parking brake switch	MD01	Connection with LH FRONT DOOR harness
M23	Right seat warmer switch	MD02	Connection with RH FRONT DOOR harness
M24	Left seat warmer switch	MD03	Connection with LH REAR DOOR harness
M25	Seat belt switch	MD04	Connection with RH REAR DOOR harness
M26	Right front door switch	MI01	Connection with INSTRUMENT harness
M27	Right rear wheel sensor	MI02	Connection with INSTRUMENT harness
M28	Right rear speaker	MI03	Connection with INSTRUMENT harness
M29	Right rear combination lamp	MM01	Connection with AIR BAG harness
M30	Right seat warmer	MR01	Connection with TAIL GATE harness
M31	Left seat warmer	G01	Left front ground
M33	Left front door switch	G03	Right rear ground
M34	Fuel sender & Fuel pump motor	G04	Left rear ground
M35	Left rear wheel sensor	G10	Air bag ground
M36	Rear fog lamp		
M37	Left rear speaker		
M38	Luggage room lamp		

ENGINE HARNESS(1)



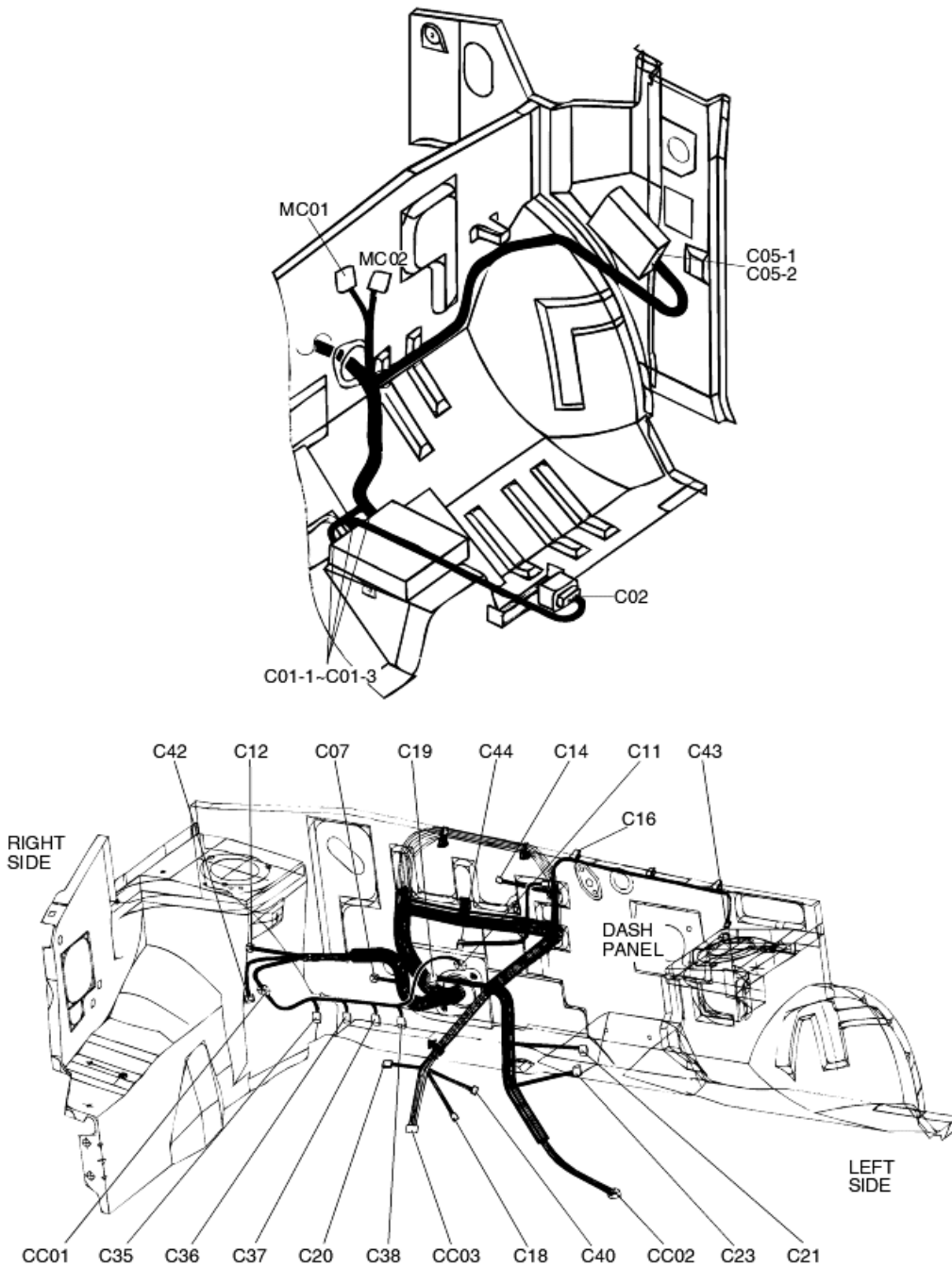
E01	Start relay	E26	A/C compressor
E02	Radiator fan relay	E27	Power steering switch (without TCI)
E03	Front fog lamp relay	E29	Right head lamp leveling actuator
E04	A/C relay	E30	Right head lamp
E05	Tail lamp relay	E31	Right front parking lamp
E07	Front wiper motor	E33	Right front fog lamp
E08	Brake fluid level sensor	E34	DRL control module
E09	Left front wheel sensor	E35	Right front turn signal lamp
E10	ABS control module	E36	Right front wheel sensor
E13	Left side repeater lamp	E37-1	Generator (B+)
E14	Rear washer motor	E37-2	Generator (L, S)
E15	Front washer motor	E38	Start solenoid
E16	Left front turn signal lamp	EE01	Connection with BATTERY EXT. harness
E17	Left front fog lamp	EM01	Connection with MAIN harness
E19	Left front parking lamp	EM02	Connection with MAIN harness
E20	Left head lamp	EM03	Connection with MAIN harness
E21	Left head lamp leveling actuator	EM05	Connection with MAIN harness (ABS)
E22	Radiator fan motor	G05	Left ground
E23	Horn	G06	Right ground
E24	Oil pressure switch (without TCI)	Z04	Diode
E25	A/C pressure switch		

INSTRUMENT HARNESS (1)



I01	Left front speaker	I12	Digital clock
I02	Data link connector	I14	Front fog lamp switch
I03	Head lamp leveling switch	I15	Rear fog lamp switch
I04-1	Instrument cluster (M/T)	I16	Right front speaker
I04-2	Instrument cluster (M/T)	I17-1	Instrument cluster (A/T)
I06	Rear defogger switch	I17-2	Instrument cluster (A/T)
I07	Audio	I18	Audio (Non audio)
I08	A/C & Blower switch	MI01	Connection with MAIN harness
I09	Cigarette lighter	MI02	Connection with MAIN harness
I10	Heater control illumination	MI03	Connection with MAIN harness
I11	Hazard switch		

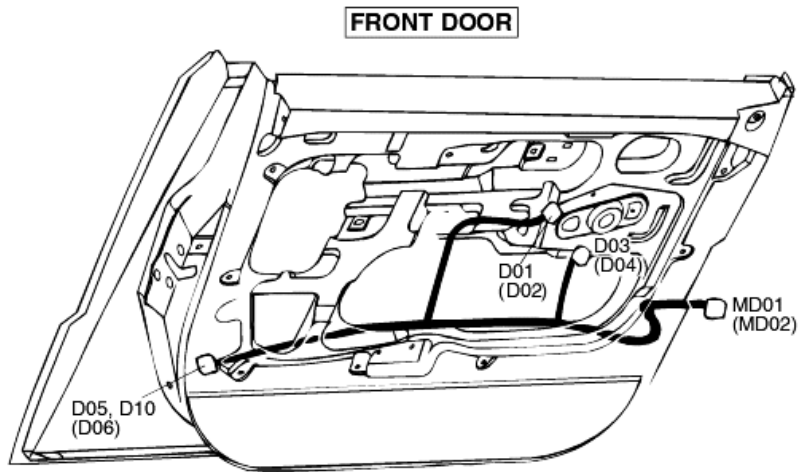
CONTROL HARNESS (1)



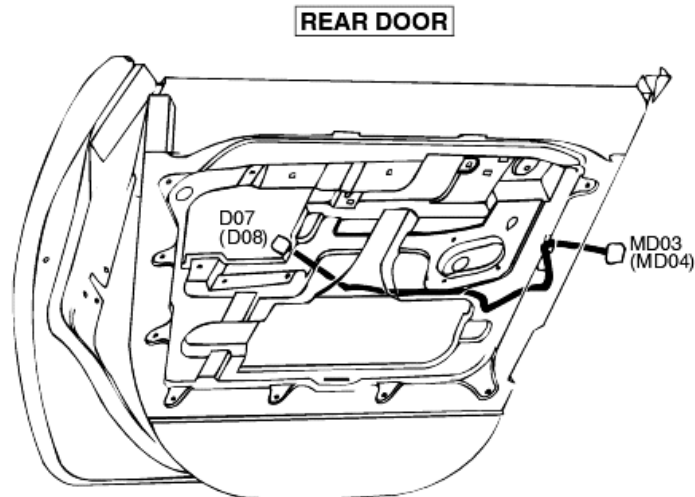
C01-1	Engine Control Module (Except EOBD)	C30	ATM solenoid assembly (A/T)
C01-2	Engine Control Module (Except EOBD)	C32	Turbine RPM sensor
C01-3	Engine Control Module (Except EOBD)	C35	Injector #1
C01-4	Engine Control Module (Except EOBD)	C36	Injector #2
C02	Engine Control relay	C37	Injector #3
C05-1	Transaxle control module (TCM)	C38	Injector #4
C05-2	Transaxle control module (TCM)	C40	Rear oxygen sensor (EOBD)
C07	Ignition timing adjusting connector &	C41	Oil pressure switch &

	Fuel pump check connector (Except EOBD)		Power steering switch (TCI)
C11	Idle speed control actuator	C42	Crankshaft position sensor
C12	Front oxygen sensor	C43	Accel sensor (EOBD)
C14	Intake air temperature & Manifold absolute pressure sensor	C44	Knock sensor (TCI)
C16	Purge control solenoid valve	C45	Multipurpose check connector
C18	Ignition coil	C46	ATM shift lever
C19	Throttle position sensor	C50	Engine Control Module (EOBD)
C20	Camshaft position sensor	CC01	Connection with INJECTOR EXT. harness
C21	Engine coolant temperature sensor & sender	CC02	Connection with ATM harness
C23	Back-up lamp switch (M/T)	CC03	Connection with ATM harness
C28	Transaxle range switch (A/T)	MC01	Connection with MAIN harness
C29	Vehicle speed sensor (A/T)	MC02	Connection with MAIN harness (Immobilizer)
		G07	Ground
		G08	Ground

DOOR HARNESS (1)



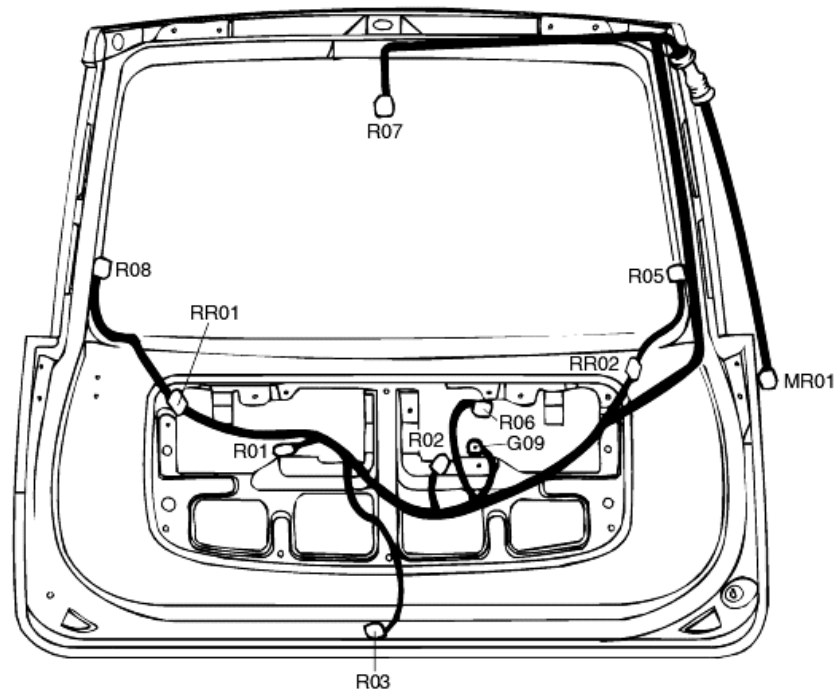
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- | | | | |
|-----|--|------|---|
| D01 | Power window main switch | D08 | Right rear door lock actuator |
| D02 | Right front power window switch | D10 | Left front door lock actuator (with TACM) |
| D03 | Left front power window motor | MD01 | Connection with LH MAIN harness |
| D04 | Right front power window motor | MD02 | Connection with RH MAIN harness |
| D05 | Left front door lock actuator (W/O TACM) | MD03 | Connection with LH MAIN harness |
| D06 | Right front door lock actuator | MD04 | Connection with RH MAIN harness |
| D07 | Left rear door lock actuator | | |

REAR HARNESS (TAIL GATE)



- | | | | |
|-----|--------------------------|------|---|
| R01 | Right license lamp | MR01 | Connection with MAIN harness |
| R02 | Left license lamp | RR01 | Connection with REAR WINDOW DEFOGGER
EXTENSION (-) harness |
| R03 | Luggage room lamp switch | RR02 | Connection with REAR WINDOW DEFOGGER
EXTENSION (+) harness |
| R05 | Rear window defogger (+) | G09 | Tail gate ground |
| R06 | Rear wiper motor | | |
| R07 | High mounted stop lamp | | |
| R08 | Rear window defogger (-) | | |