



RANGER 2003 Right-hand-drive (RHD) Wiring Diagrams

FOREWORD

This manual has been prepared to provide information covering normal service repairs and maintenance for the RANGER series.

As all information in this manual was the best available at the time of printing, vehicle specification and other information will be updated in Service Information.

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SECTION TITLE	SECTION
General Information	GI
Ground points	Y
Schematic	W
System circuit diagrams / Component Location Views	A~U
Connectors	X
Parts index	PI

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Wire colours

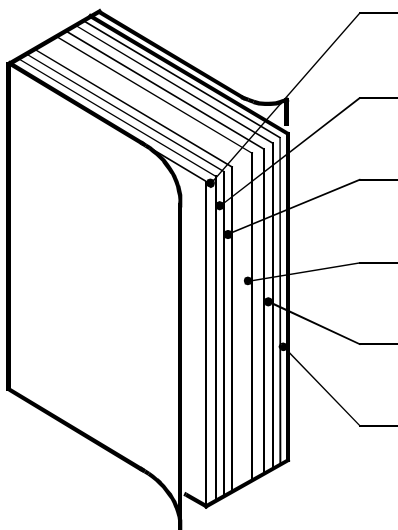
Colour	Code	Colour	Code
Black	B	Orange	O
Blue	L	Pink	P
Brown	BR	Purple	PU
Dark blue	DL	Red	R
Dark green	DG	Sky blue	SB
Green	G	Tan	T
Grey	GY	Violet	V
Light blue	LB	White	W
Light green	LG	Yellow	Y
Natural	N		

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Contents of wiring diagrams

- This wiring diagram comprises the sections shown below.

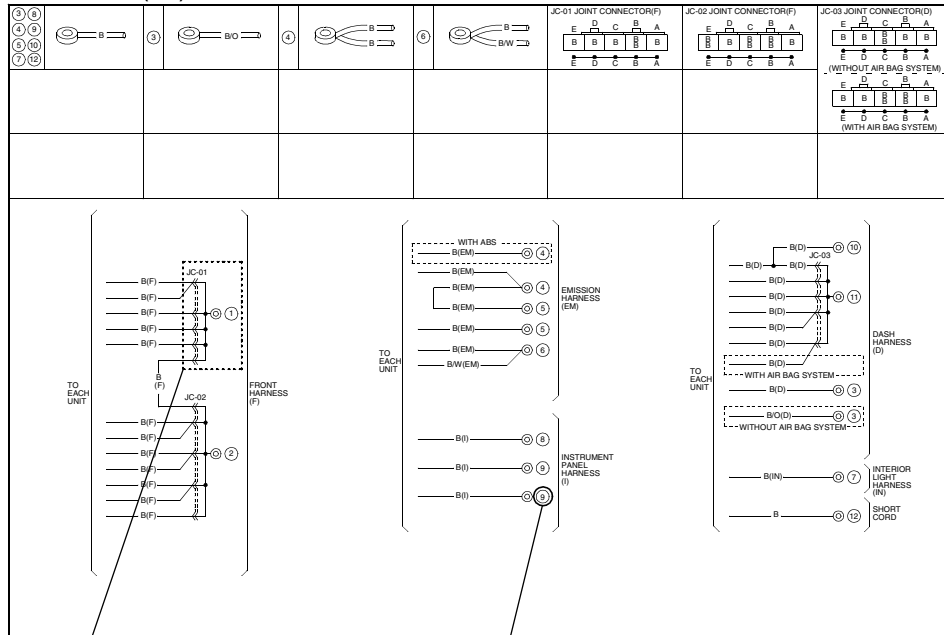


GI	General information	A how-to on using and reading wiring diagrams, using test equipment, checking harnesses and connectors, and finding trouble spots
Y	Ground points	Ground routes from and to the battery
W	Schematic	Shows main fuses and other fuses for each system
A~U	System circuit diagrams / Component location views	Shows circuit and connector diagrams and component and connector location diagrams
X	Connectors	Shows connectors common throughout system
PI	Parts index	Gives page number of circuit diagram for each component

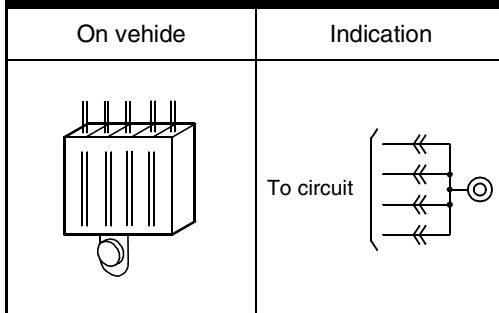
Ground points

- This shows ground points of the harness.

GROUND POINTS(4SD)



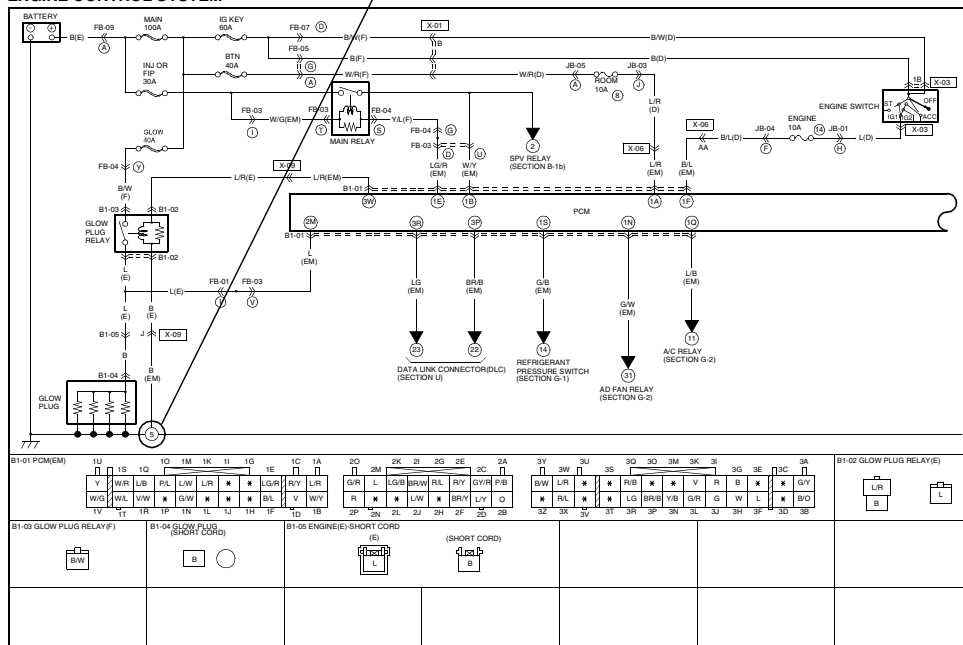
Ground indication



On circuit diagrams and ground points

The ground connection numbers in system circuit diagrams correspond to those in the ground point diagram.

ENGINE CONTROL SYSTEM



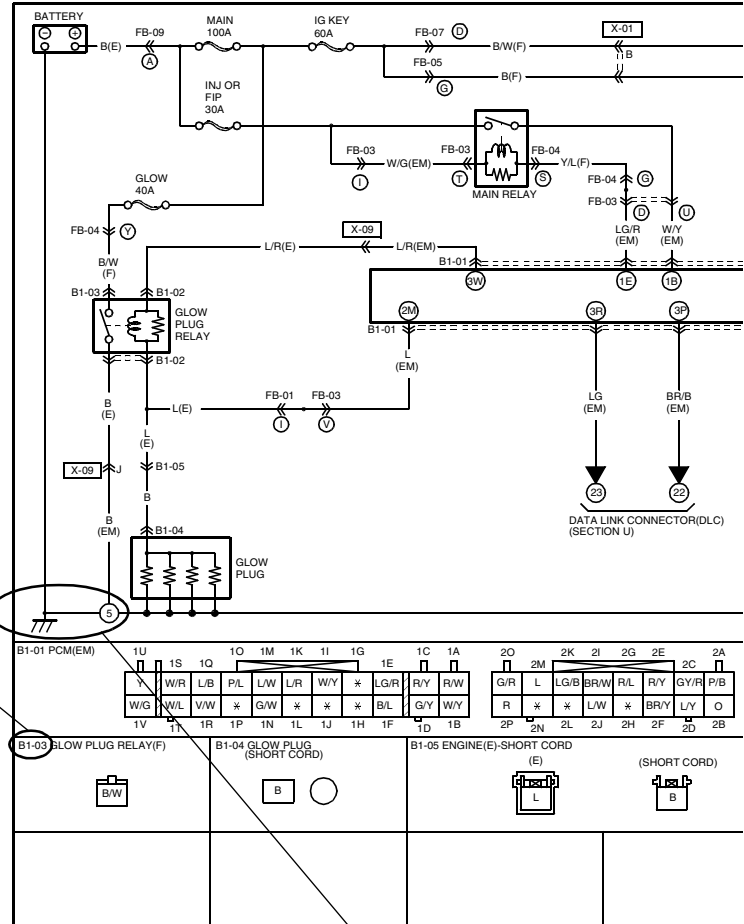
System circuit diagram/connector diagram

- These diagrams show the circuits for each system, from the power supply to the ground. The power supply side is on the upper part of the page, the ground side on the lower part. The diagrams describe circuits with the ignition switch off.

Below is an explanation of the various points in the diagram.

System name

ENGINE CONTROL SYSTEM



Connector code

The prefix letter indicates the system in which the connector is used.

- Y : Ground connector
- A : Charging system/starting system connectors
- B : Engine control system connectors
- C : Gauge control system connectors
- D : Wiper system connectors
- E : Lighting system connectors
- F : Signal system connectors
- G : Air-conditioning system connectors
- H : Transmission control/Key interlock/Shift-lock system connectors
- I : Interior light system connectors
- J : Audio/radio connectors
- K : Power window/power door lock system connectors
- L : Remote control mirror system connectors
- M : Sliding sunroof system connectors
- O : Anti-lock brake system connectors
- P : Power seat/seat warmer system connectors
- Q : Auto cruise control system connectors
- S : Passive shoulder belt control/Airbag system connectors
- T : Others
- U : Data link connector
- X : Common connectors
- JB : Joint box connections
- FB : Main fuse block

Ground numbers

A harness ground is represented differently than a unit ground.

Types of grounds	Symbol
Harness 	
Unit 	

The number indicates that the circuit continues to the related system diagram.

System code

Multiplex communication

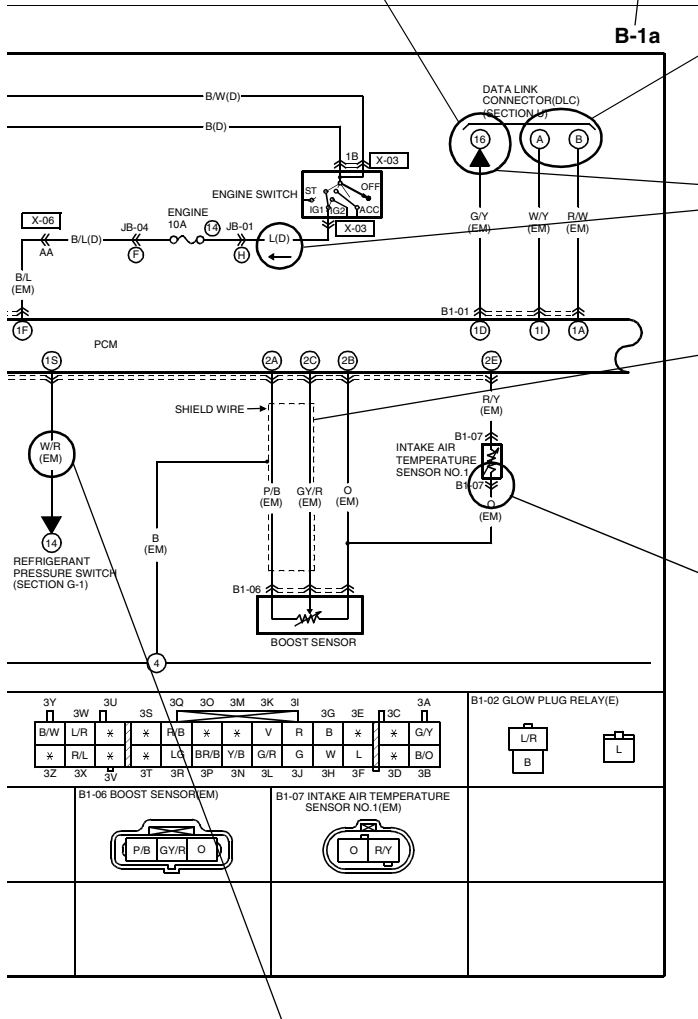
Indicates communication with connected parts. Signals are transmitted back and forth between connected parts.

Current symbol

Current flows in the direction of the arrow.

Indicates shielded wire.*

* Shielded wire :
Prevents signal disturbances from electrical interference.
Wire is covered by a metal meshing for grounding.

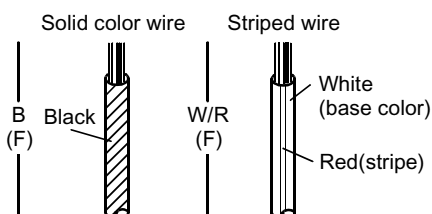


Wire color code (harness symbol)

- Two-color wires are indicated by a two-letter symbol. The first indicates the base color of the wire, the second the color of the stripe. For example:

W/R is a white wire with a red strip
BR/Y is a brown wire with a yellow strip

Symbol
(Example)



- The harness symbol is in () following the harness symbols (refer to P-7.).

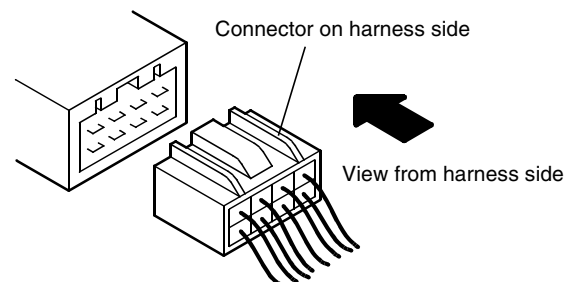
Connector symbols

- Male and female connectors are represented as follows in the circuit and connector diagrams.

		Circuit diagram symbol	Connector diagram symbol
Male			
Female			

- Like connectors are linked by dashed lines between the connector symbols.
- Connector diagrams show connectors on the harness side. The terminal indicates the view from the harness side.

(Example)



- Colors for connectors except white are given in locations.
- Unused terminals are indicated by *.

Routing diagram

- The routing diagram shows where electrical components are on the system circuit diagram by call out line and connector symbols.

Connector symbol

Shows the system that uses the connector.

(Example)

Connector	Symbol
Common connectors	X-19
System connectors	I-03

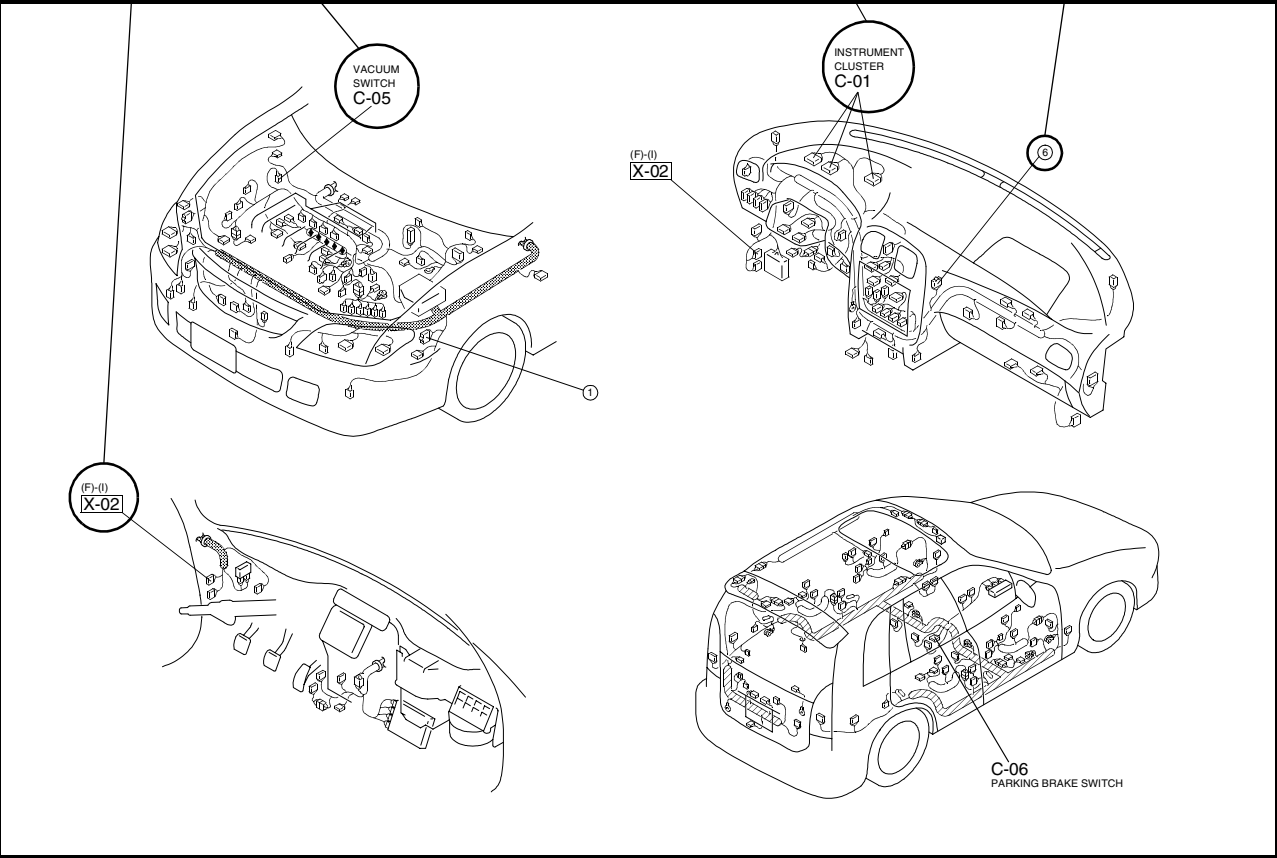
Component name

Shows the names of components in routing diagrams.

Ground symbol

Shows the ground in system diagrams.

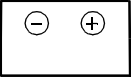
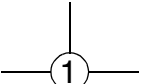
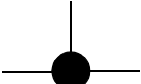
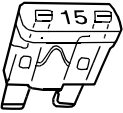
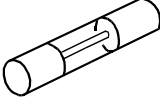
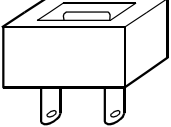
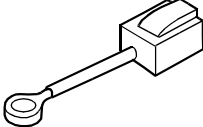
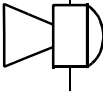
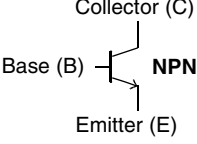
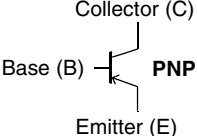
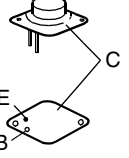
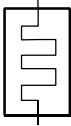
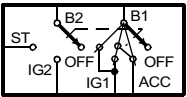
HARNESS SYMBOL :  (F)  (E)  (R)

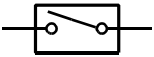
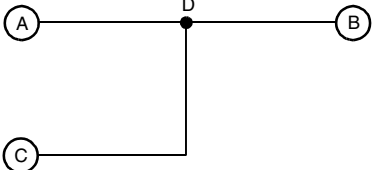
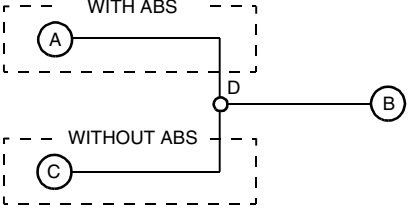
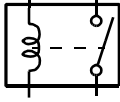
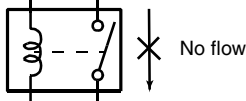
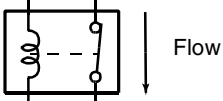
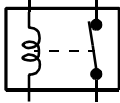
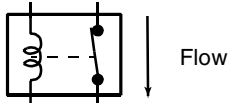
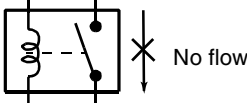
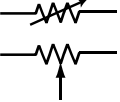
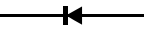
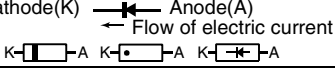
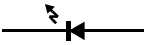
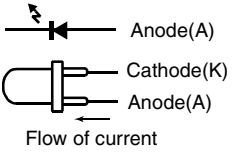
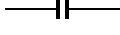


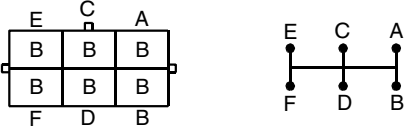
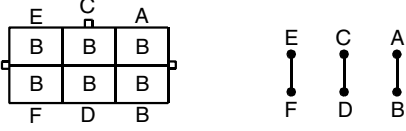
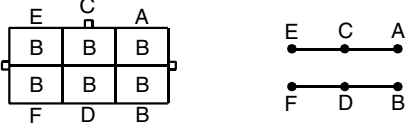
Harness symbols

DESCRIPTION OF HARNESS	SYMBOL		DESCRIPTION OF HARNESS	SYMBOL	
FRONT HARNESS	(F)		DOOR NO.1 HARNESS	(DR1)	
FRONT NO.2 HARNESS	(F2)		DOOR NO.2 HARNESS	(DR2)	
ENGINE HARNESS	(E)		DOOR NO.3 HARNESS	(DR3)	
DASH HARNESS	(D)		DOOR NO.4 HARNESS	(DR4)	
REAR HARNESS	(R)		FLOOR HARNESS	(FR)	
REAR NO.2 HARNESS	(R2)		INTERIOR LIGHT HARNESS	(IN)	
REAR NO.3 HARNESS	(R3)		A/C HARNESS	(AC)	
INSTRUMENT PANEL HARNESS	(I)		INJECTION HARNESS	(INJ)	
EMISSION HARNESS	(EM)		HAND BRAKE HARNESS	(HB)	
EMISSION NO.2 HARNESS	(EM2)				
EMISSION NO.3 HARNESS	(EM3)				

Symbols

Symbol	Meaning	Symbol	Meaning
Battery 	- Generates electricity through chemical reaction. - Supplies direct current to circuits.	Light 	Emits light and generates heat when current flows through filament.
Ground (1) 	- Connecting point to vehicle body or other ground wire where current flows from positive to negative terminal of battery. - Ground (1) indicates a ground point to body through wire harness. - Ground (2) indicates point where component is grounded directly to body.	Resistance 	- A resistor with a constant value. - Mainly used to protect electrical components in circuits by maintaining rated voltage.
Ground (2) 		Motor 	Converts electrical energy into mechanical energy.
Fuse (1) 	- Melts when current flow exceeds that specified for circuit, interrupts current flow. Precautions - Do not replace with fuses exceeding specified capacity. <Blade type>  <Tube type>  <Cartridge type>  <Fusible link> 	Pump 	Pulls in and discharges gases and liquids.
Fuse (2) 		Cigarette lighter 	Electrical coil that generates heat.
Main fuse/ Fusible link 		Horn 	Generates sound when current flows.
Transistor (1) 		Speaker 	
Transistor (2) 	- Electrical switching component. - Turns on when voltage is applied to the base (B).  Collector indication mark  ECB  C B E	Heater 	Generates heat when current flows.
	Reading code. 2 S C 828 A Semiconductor Number of terminals Revision mark A: High-frequency PNP B: Low-frequency PNP C: High-frequency NPN D: Low-frequency NPN	Speed sensor 	Movement of magnet in speedometer turns contact within sensor on and off.
		Ignition switch 	Turning ignition key switches circuit to operate various component. (NOTE) Ignition switch is called engine switch on diesel vehicles.

Symbol	Meaning	Symbol	Meaning
Switch (1)  Normally open (NO)	Allows or breaks current flow by opening and closing circuits.	Harness Connection  When circuit C-D is connected to circuit A-B, the connection D is indicated by a black dot.	 For vehicles with ABS, use the A-B circuit.
Switch (2)  Normally closed (NC)		Selection  Diversion point D for the different circuits according to the vehicle's specification is indicated by a white dot.	 For vehicles without ABS, use the C-B circuit.
Relay (1)  Normally open (NO)	Current flowing through coil produces electromagnetic force causing contact to open or close. No current to coil  No flow Current to coil  Flow		
Relay (2)  Normally closed (NC)	Current flowing through coil produces electromagnetic force causing contact to close. No current to coil  Flow Current to coil  No flow		
Sensor (variable) 	Resistance changes with other components operation.	Diode 	Known as a semiconductor rectifier, the diode allows current flow in one direction only. Cathode(K) Anode(A) 
Sensor (thermistor) 	Resistance changes with temperature.	Light-emitting diode (LED) 	- A diode that lights when current flows. - Unlike ordinary bulbs, the diode does not generate heat when lit. Cathode(K) Anode(A) 
Capacitor 	Component that temporarily stores electrical charge.		
Solenoid 	Current flowing through coil generates electromagnetic force to operate plungers.	Reference diode (Zener diode) 	Allows current to flow in one direction up to a certain voltage; allows current to flow in the other direction once that voltage is exceeded.

Symbol	Meaning
Extent of the change in the wiring position (1) 	The wiring position can be exchanged freely within the connector.
Extent of the change in the wiring position (2) 	The wiring position can be exchanged according to the following combinations only. Between A and B, Between C and D, Between E and F
Extent of the change in the wiring position (3) 	The wiring position can be exchanged according to the following combinations only. Between A, C and E, Between B, D and F

Abbreviations used in this booklet

3GR	Third Gear
4GR	Fourth Gear
A	Ampere
A/C	Air Conditioning
A/F	Air Fuel
A/R	Auto Reverse
AAS	Auto Adjusting Suspension
ABS	Anti-lock Braking System
ACC	Accessories
ACV	Air Control Valve
ADD	Additional
AIR	Secondary Air Injection
AIS	Air Injection System
ALL	Automatic Load Leveling
AM	Amplitude Modulation
AMP	Amplifier
ANT	Antenna
AP	Accelerator Pedal
AS	Autoshop
ASV	Air Supply Valve
AT	Automatic Transmission
ATX	Automatic Transaxle
B+	Battery Positive Voltage
BAC	Bypass Air Control
BARO	Barometric Pressure
CAC	Charge Air Cooler
CARB	Carburetor

CCT	Circuit
CIGAR	Cigarette
CIS	Continuous Fuel Injection System
CKP	Crankshaft Position Sensor
CLS	Closed Loop System
CMP	Camshaft Position Sensor
COMBI	Combination
CON	Conditioner
CONT	Control
CPU	Central Processing Unit
CSD	Cold Start Device
CTP	Closed Throttle Position
DEF	Defroster
DI	Distributor Ignition
DIS	Drive Information System
DLC	Data Link Connector
DLI	Distributorless Ignition
DOHC	Double-Overhead Camshaft
DTC	Diagnostic Trouble Code(s)
DTM	Diagnostic Test Mode
ECPS	Electronically Controlled Power Steering
ECT	Engine Control Temperature
EGR	Exhaust Gas Recirculation
EI	Electronic Ignition
ELEC	Electric
ELR	Emergency Locking Retractor
ETR	Electronic Tuner

F	Front
F/I	Fuel Injector
FC	Fan Control
FICB	Fast-Idle Cam Breaker
FM	Frequency Modulation
FP	Fuel Pump
FPR	Fuel Pump Relay
GEN	Generator
GND	Ground
H/D	Heater/Defroster
HEAT	Heater
HEI	High-Energy Ignition
HI	High
HO2S	Heated Oxygen Sensor
IAC	Idle Air Control
IAT	Intake Air Temperature
ICM	Ignition Control Module
IG	Ignition
ILLUMI	Illumination
INT	Intermittent
JB	Joint Box
KS	Knock Sensor
LCD	Liquid Crystal Display
LF	Left Front
LH	Left Hand
LO	Low
LR	Left Rear
M	Motor
MAF	Mass Air Flow Sensor
MAP	Manifold Absolute Pressure
MFI	Multipoint Fuel Injection
MID	Middle
MIL	Malfunction Indicator Lamp
MIN	Minute
MIX	Mixture
MPX	Multiplex
MT	Manual Transmission
MTR	Mechanical Tuning Radio
MTX	Manual Transaxle
NC	Normally Closed
NO	Normally Open
O2S	Oxygen Sensor
OBD	On-board Diagnostic
OFF	Switch Off
ON	Switch On
OSC	Oscillator

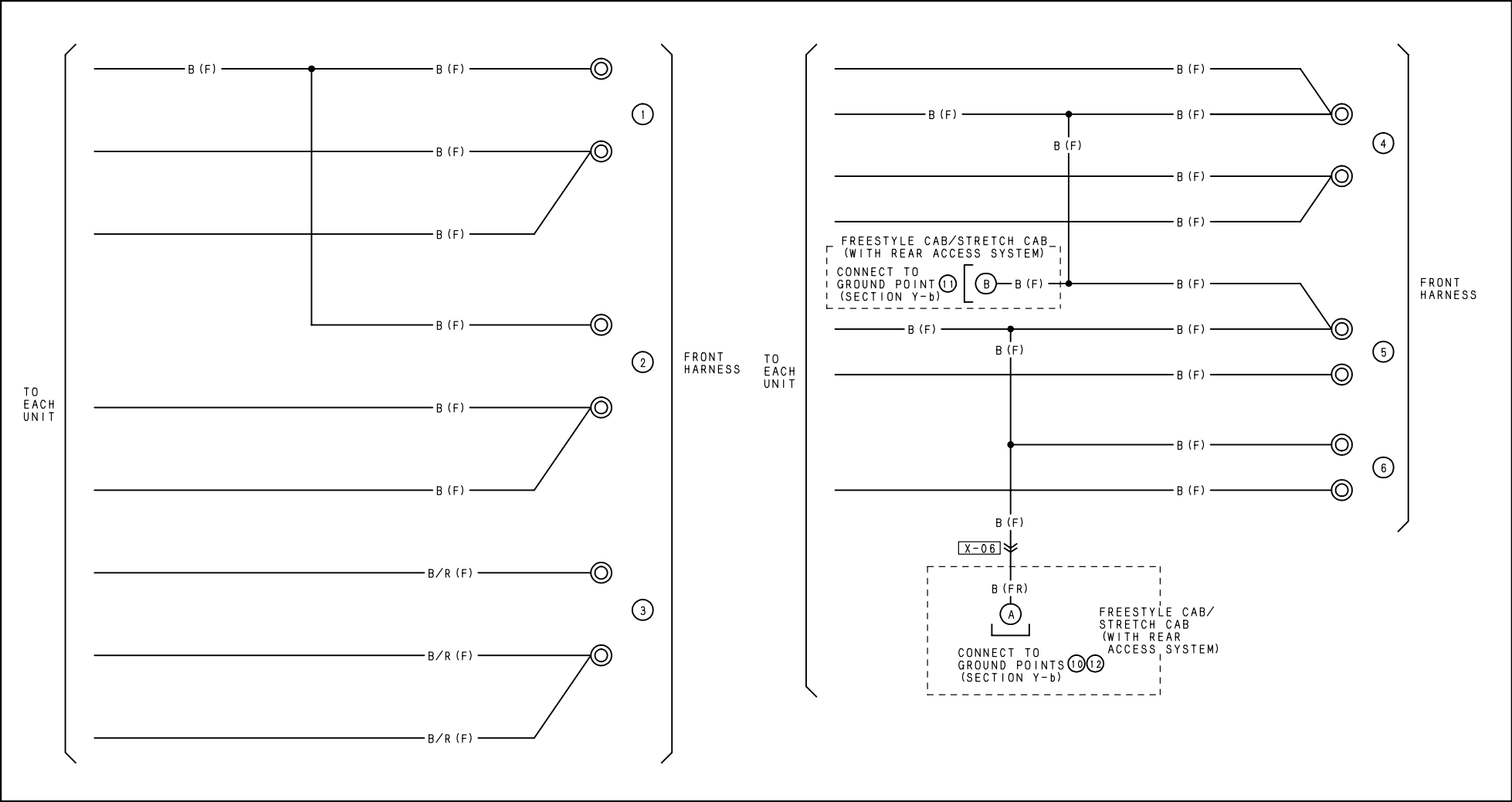
P	Power
P/S	Power Steering
P/W CU	Power Window Control Unit
PAIR	Pulsed Secondary Air Injection
PCM	Powertrain Control Module
PNP	Park/Neutral Position
PRCV	Pressure Regulator Control Solenoid Valve
PRG	Purge Solenoid Valve
PSP	Power Steering Pressure
PTC	Positive Temperature Coefficient Heater
QSS	Quick-Start System
R	Rear
REC	Recirculation
RF	Right Front
RH	Right Hand
RPM	Engine Speed
RR	Right Rear
SAPV	Secondary Air Pulse Valve
SFI	Sequential Multipoint Fuel Injection
SOL	Solenoid
SPV	Spill Valve
ST	Start
SW	Switch
TC	Turbocharger
TCM	Transmission(Transaxle)Control Module
TCS	Traction control system
TCV	Twin Scroll Turbocharger Solenoid Valve
TDC	Top dead center
TEMP	Temperature
TICS	Triple Induction Control System
TP	Throttle Position Sensor
TR	Transmission Range
TR	Transmission(Transaxle)Range
TWS	Total Wiring System
V	Volt
VAF	Volume Air Flow Sensor
VENT	Ventilation
VOL	Volume
VR	Voltage Regulator
VRIS	Variable Resonance Induction System
VSS	Vehicle Speed Sensor
W	Watt(s)
WOT	Wide Open Throttle

GROUND POINT

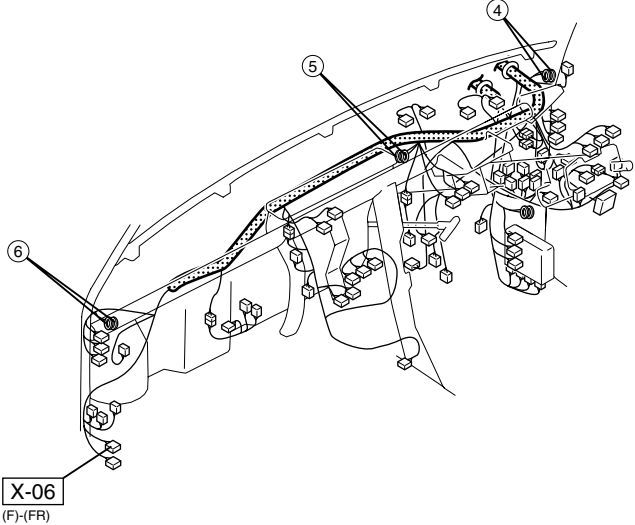
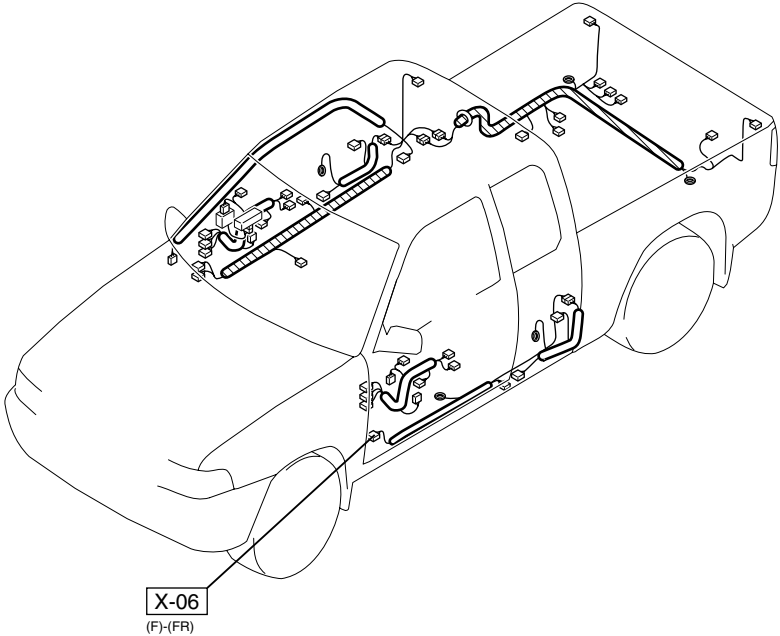
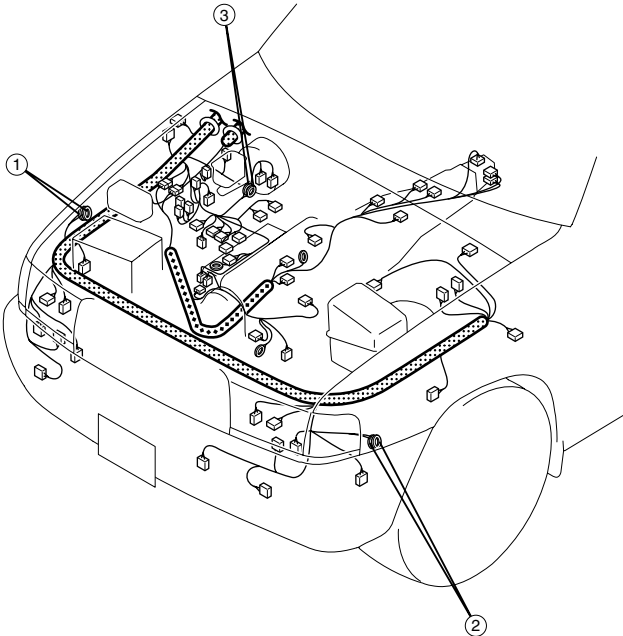
Y-a

1 B B	2 B B	3 B/R B/R	4 B B	5 B B	6 B B	

12



HARNESS SYMBOL:  (F)  (E)  (R)

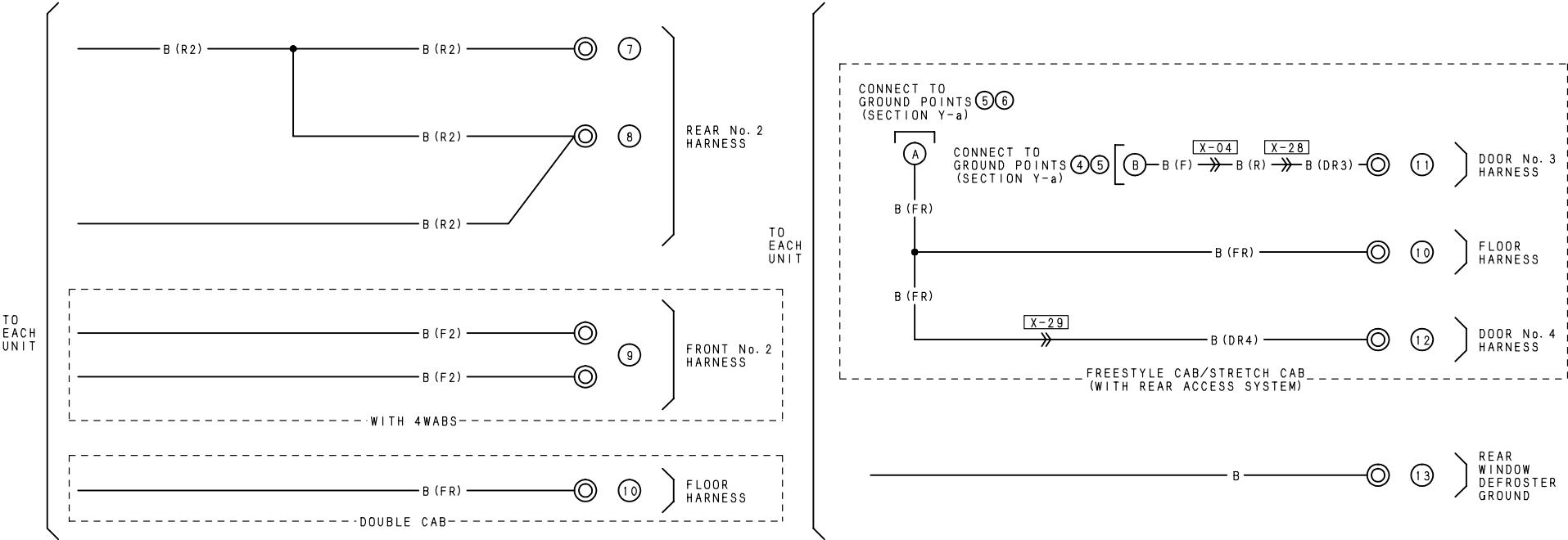


GROUND POINT

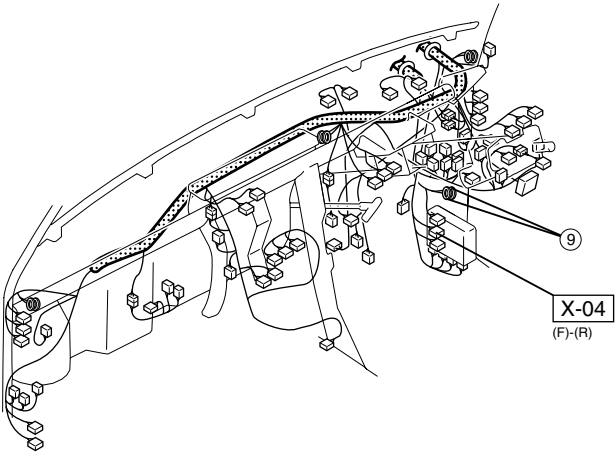
Y-b

7 B	8 B B	9 B B	FREESTYLE CAB/STRETCH CAB (WITH REAR ACCESS SYSTEM)		DOUBLE CAB	11 B
12 B	13 B					

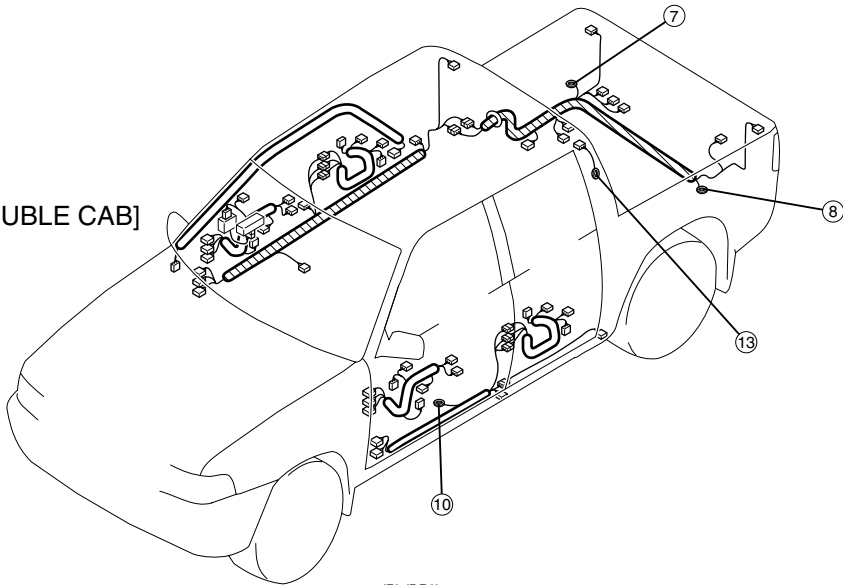
... NOT USED



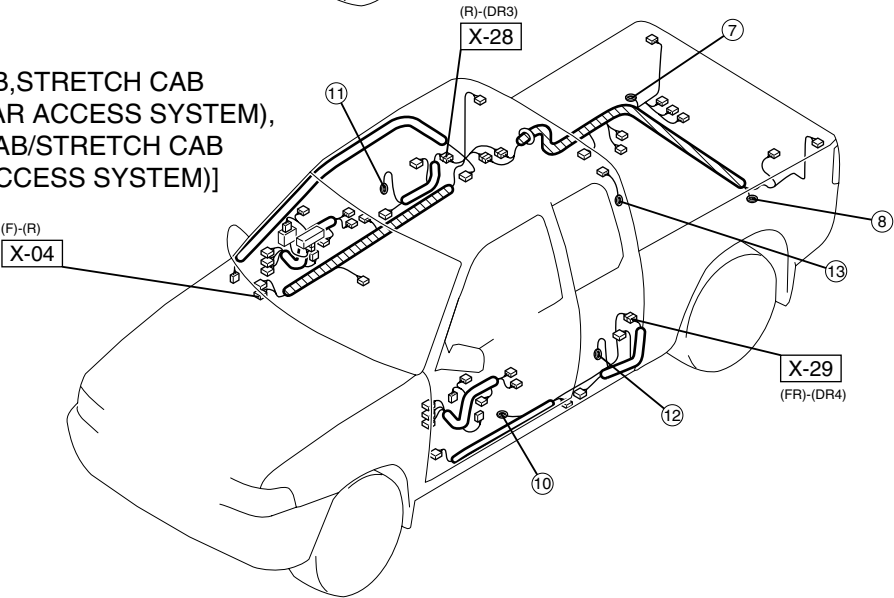
HARNESS SYMBOL:  (F)  (E)  (R)



[DOUBLE CAB]

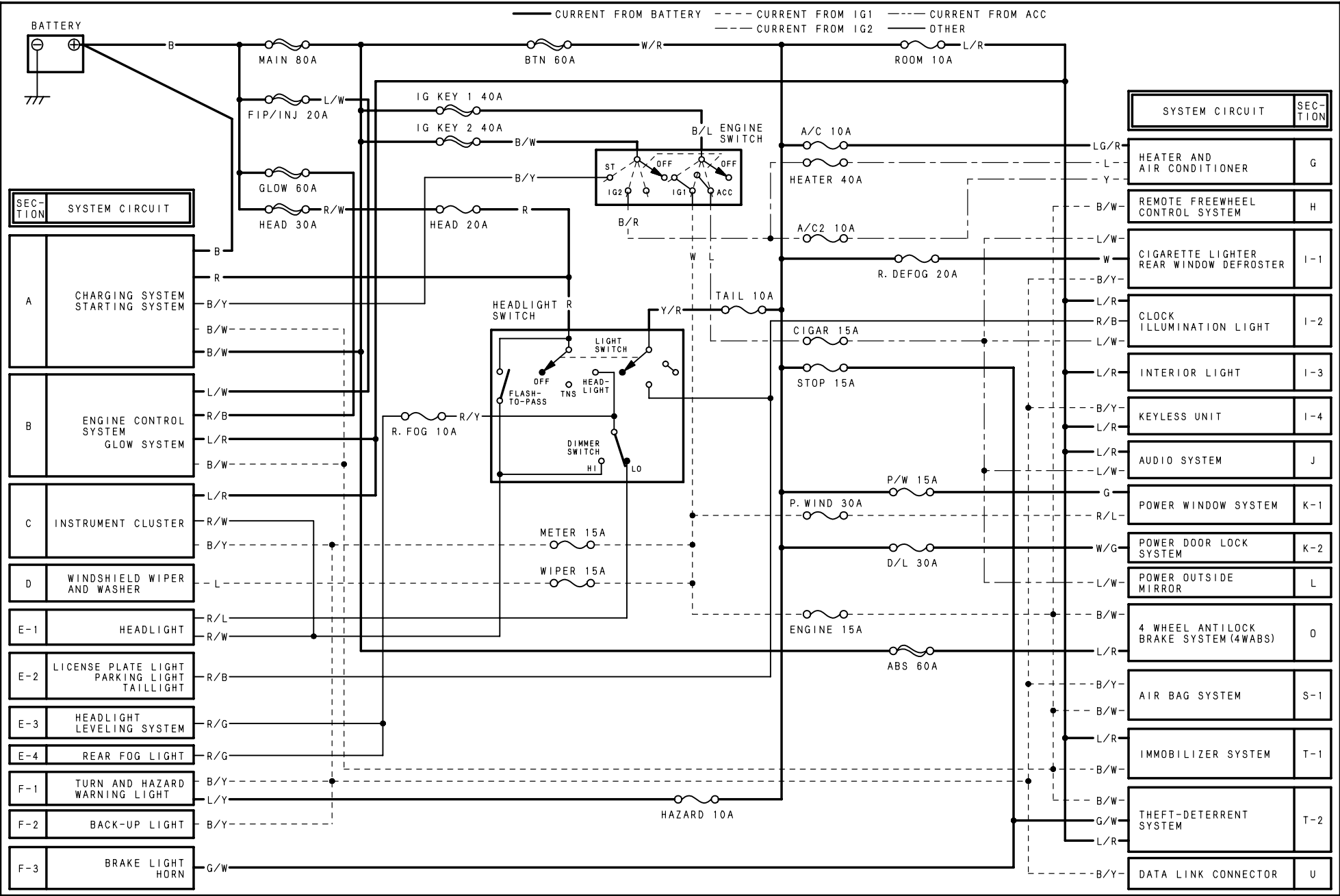


[REGULAR CAB,STRETCH CAB
(WITHOUT REAR ACCESS SYSTEM),
FREESTYLE CAB/STRETCH CAB
(WITH REAR ACCESS SYSTEM)]



ELECTRICAL WIRING SCHEMATIC

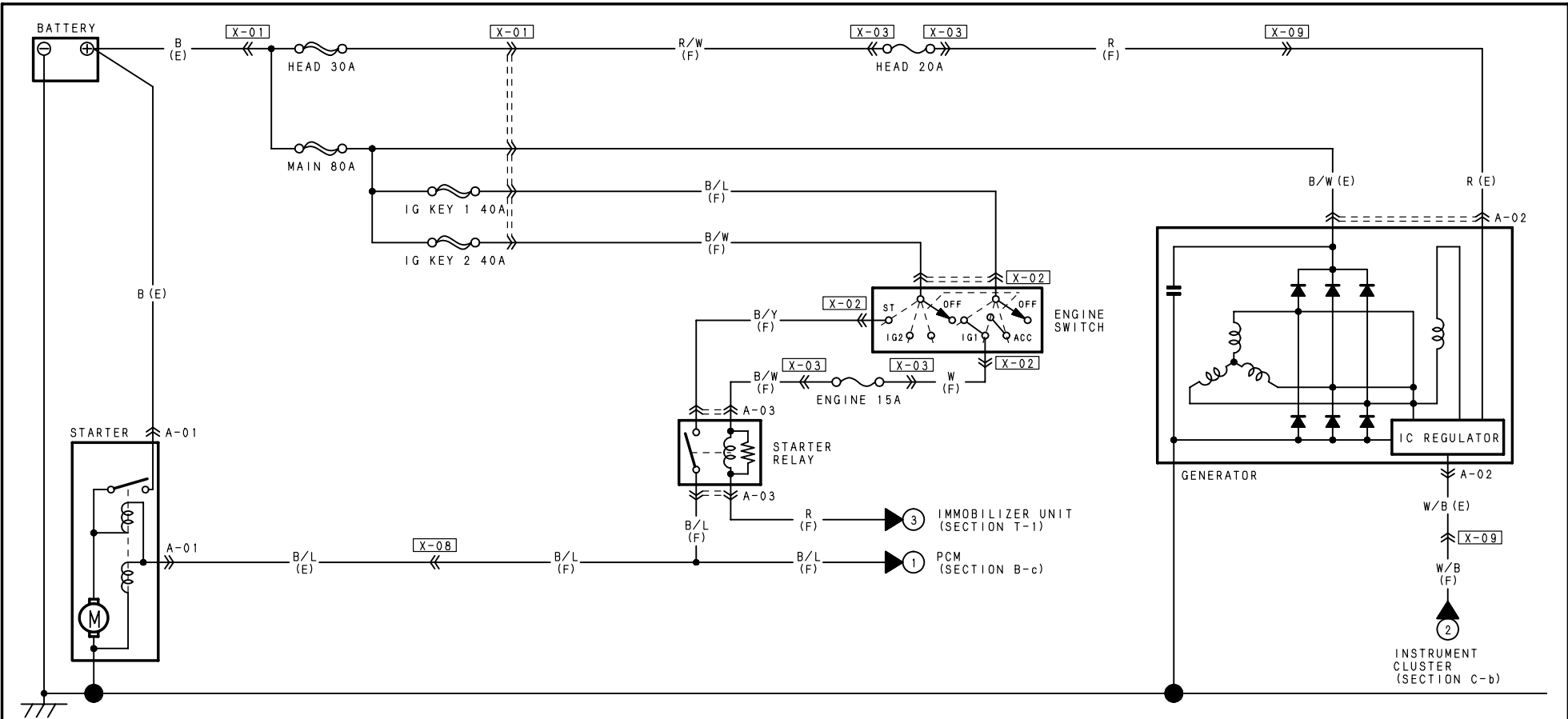
W



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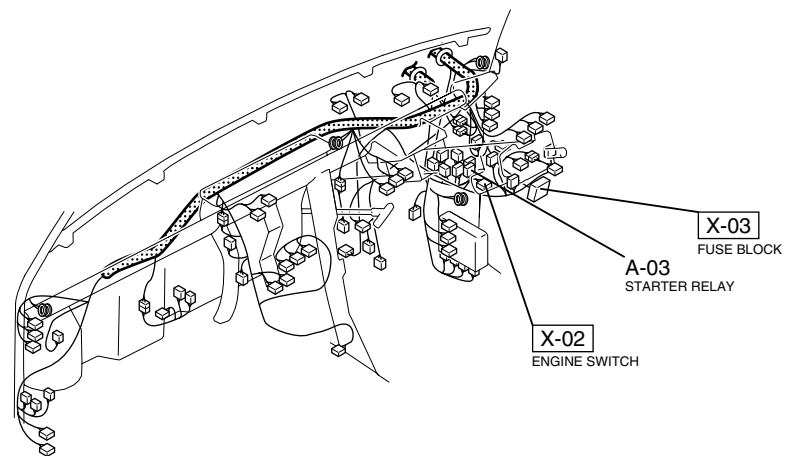
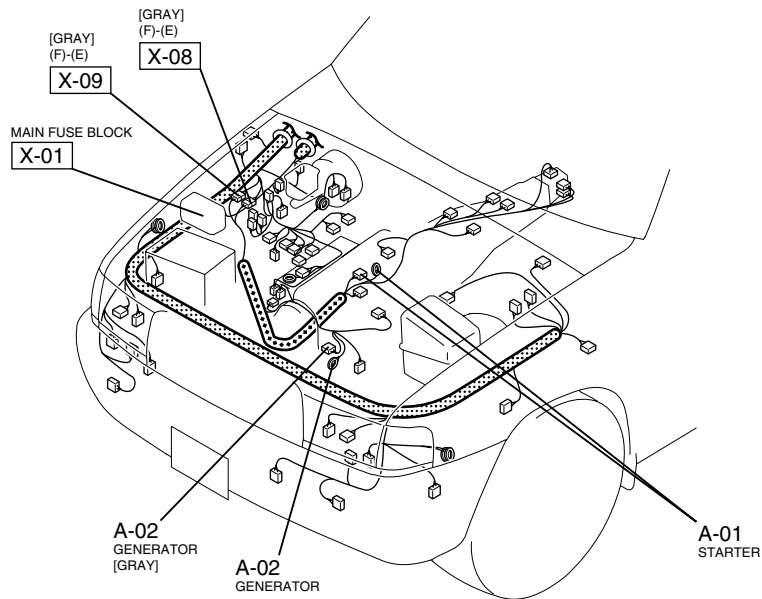
CHARGING SYSTEM / STARTING SYSTEM

A



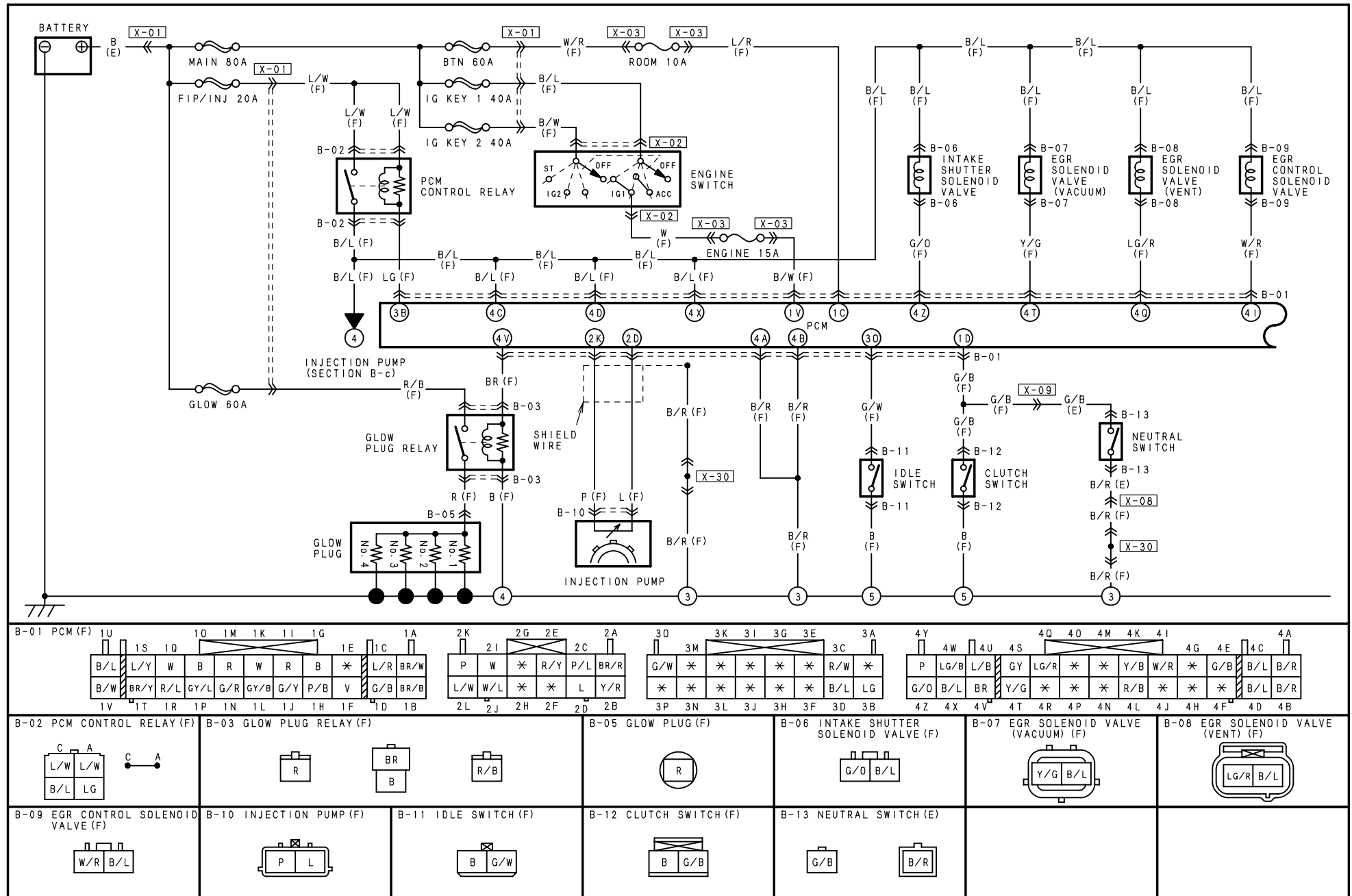
A-01 STARTER (E)		A-02 GENERATOR (E)		A-03 STARTER RELAY (F)	

HARNESS SYMBOL:  (F)  (E)  (R)

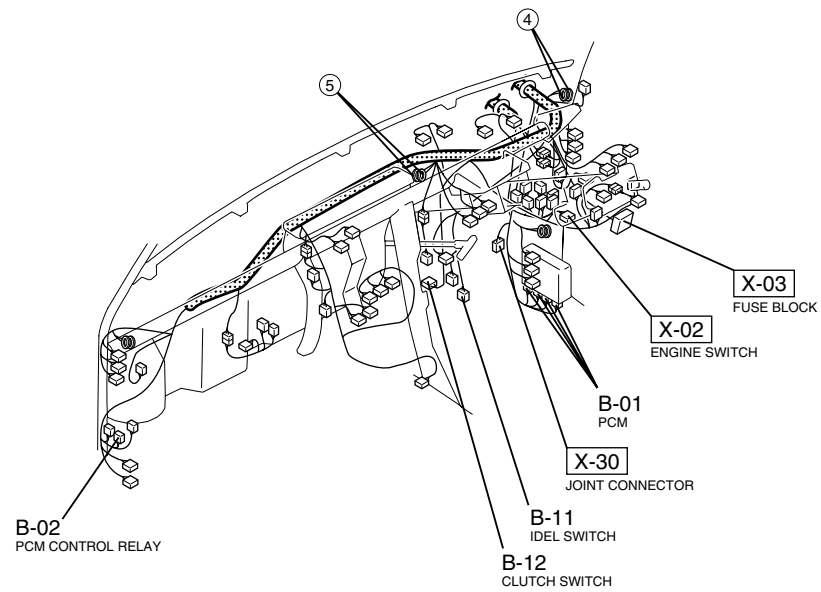
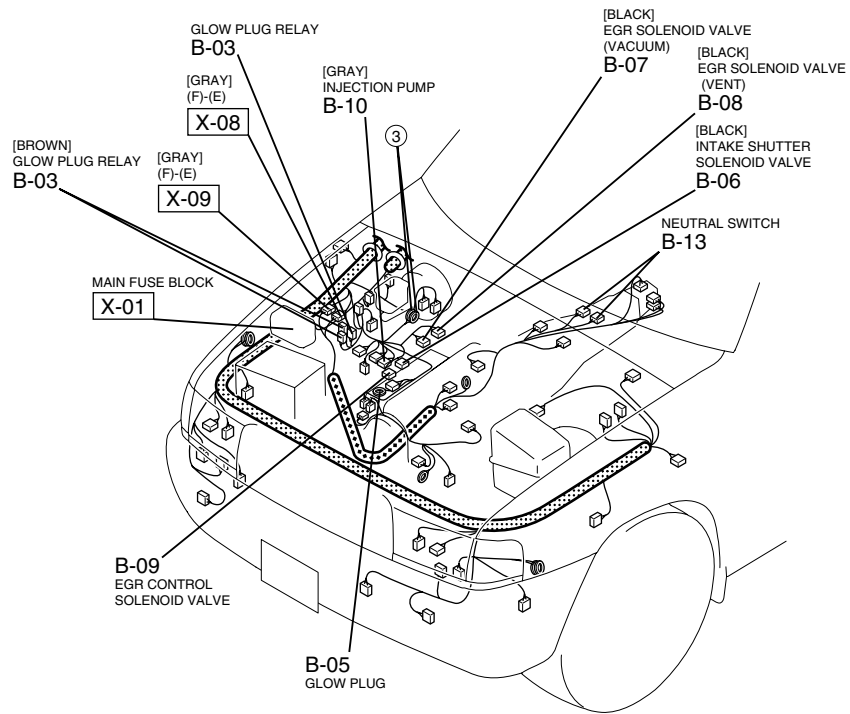


ENGINE CONTROL SYSTEM / GLOW SYSTEM

B-a

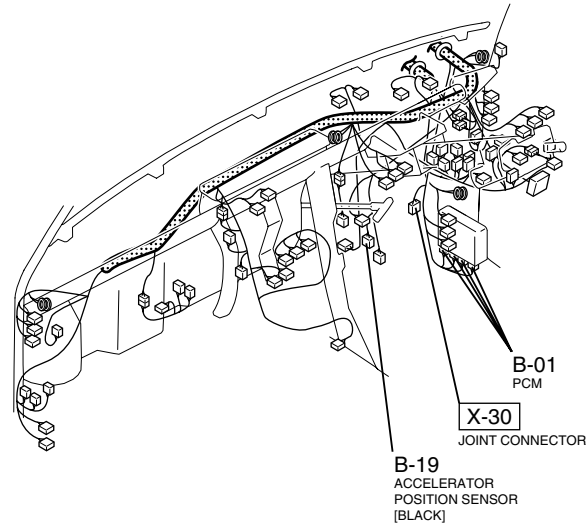
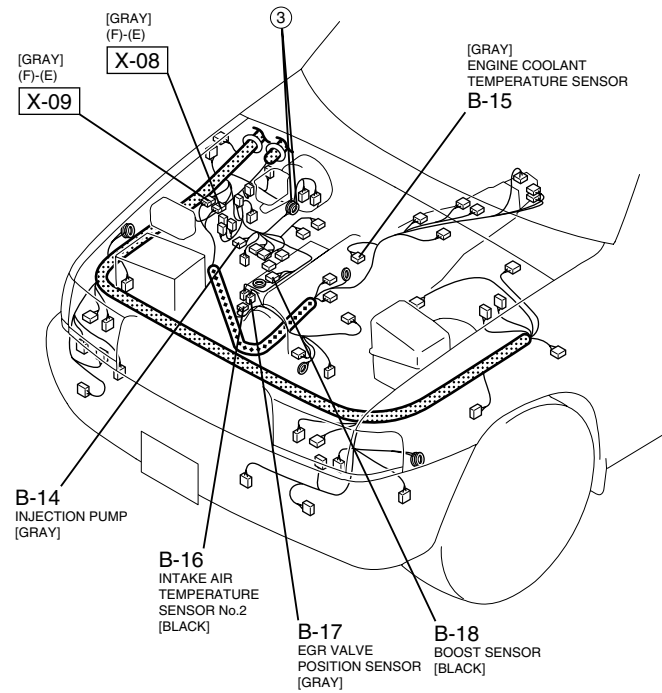


HARNESS SYMBOL:  (F)  (E)  (R)

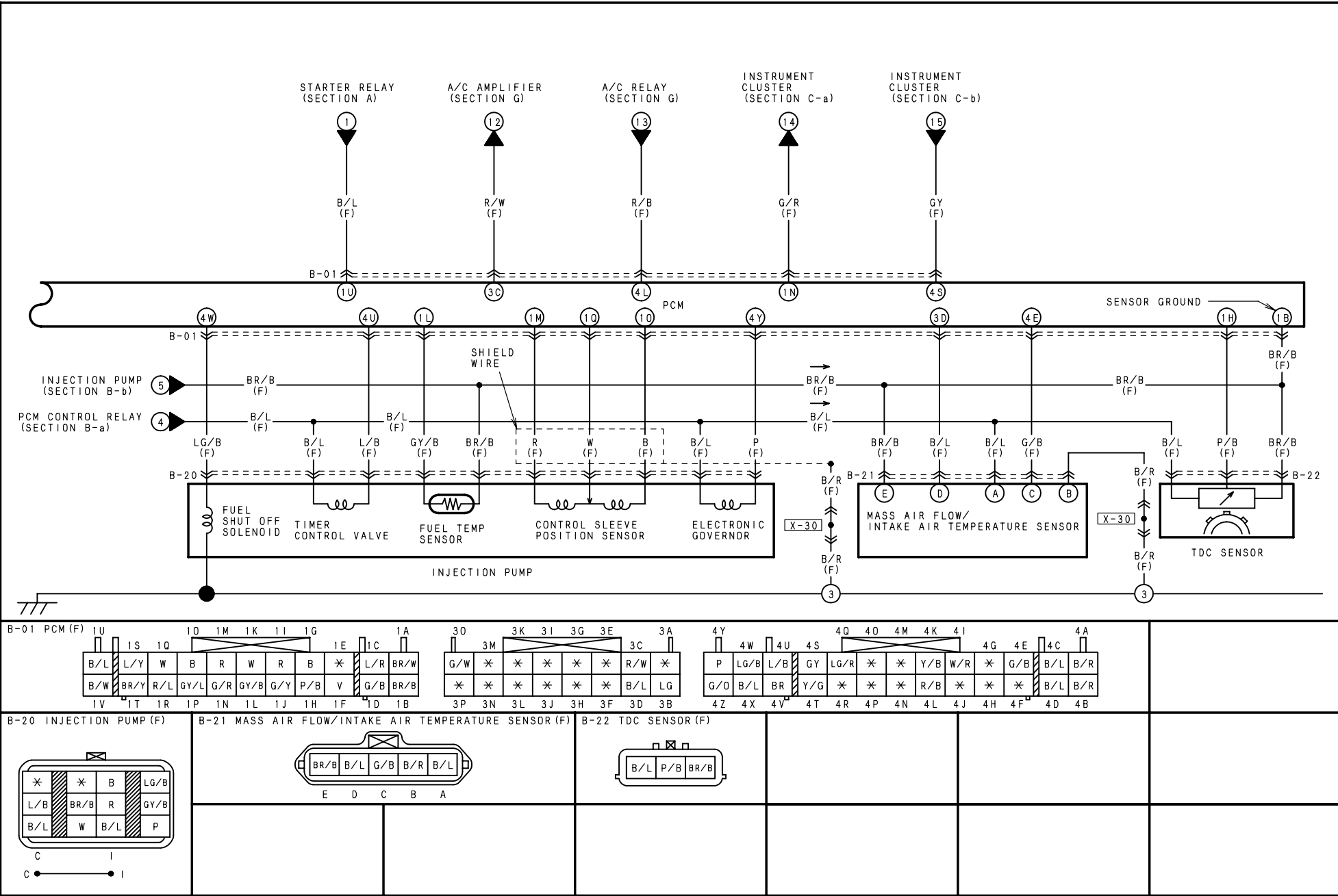




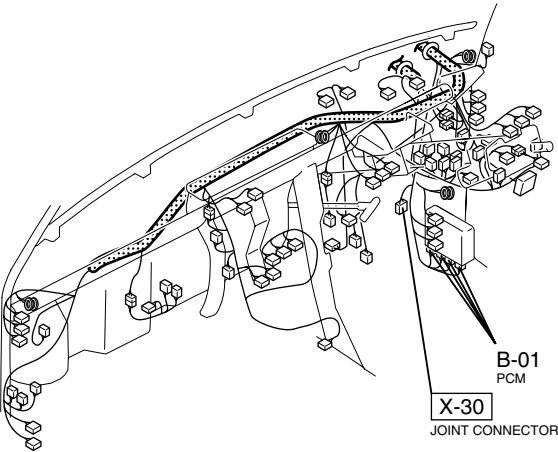
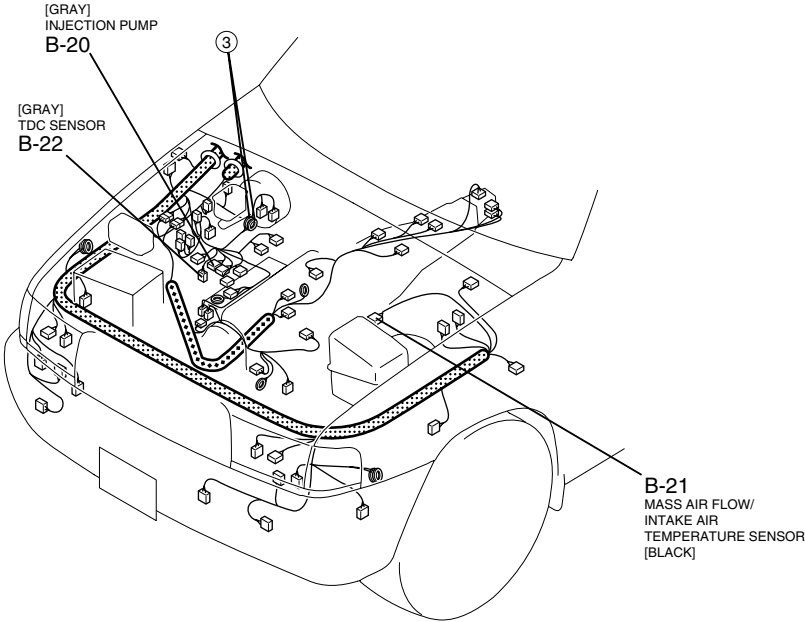
HARNESS SYMBOL:  (F)  (E)  (R)

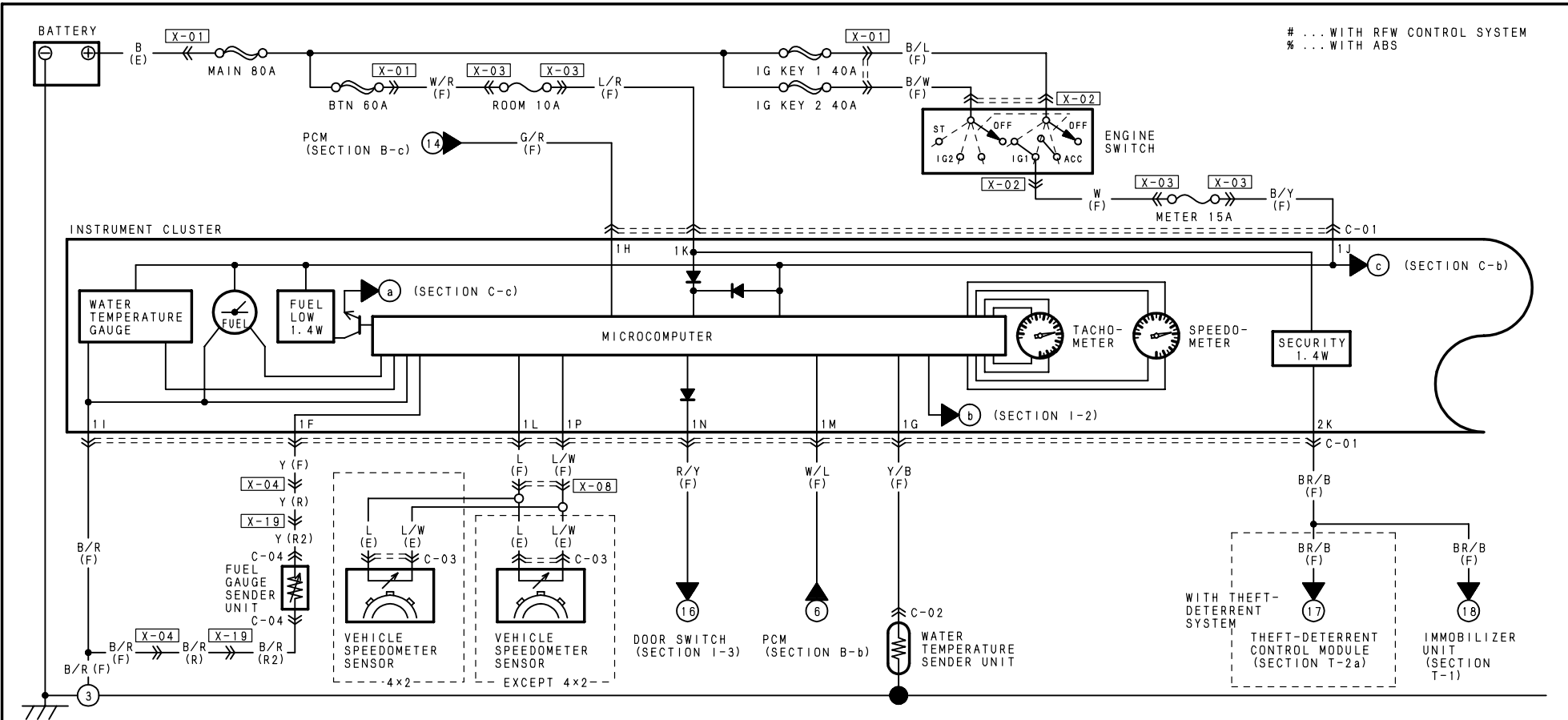


24



HARNESS SYMBOL:  (F)  (E)  (R)





C-01 INSTRUMENT CLUSTER (F)

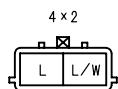
L/W	*	R/Y	W/L	L	L/R	B/Y	B/R	G/R	Y/B	Y	R/B	B	R/G	G/B	G/W
1P	1D	1N	1M	1L	1K	1J	1I	1H	1G	1F	1E	1D	1C	1B	1A

B/L	R/L	G/Y	BR/B	Y/G	W	#BR	#LG/R	*	L/Y	Y/R	W/B	#LG	R/W
2N	2M	2L	2K	2J	2I	2H	2G	2F	2E	2D	2C	2B	2A

C-02 WATER TEMPERATURE SENDER UNIT (F)



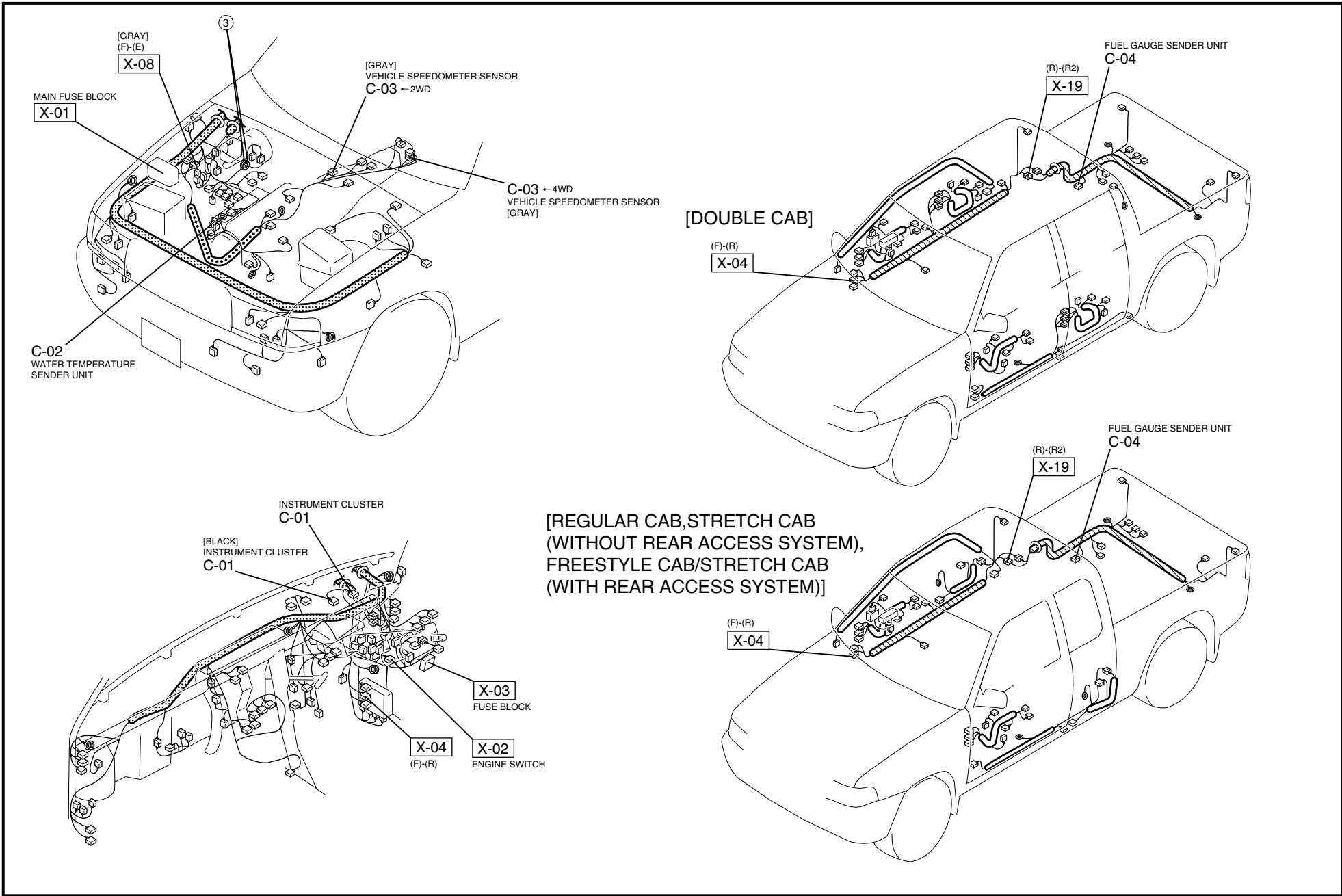
C-03 VEHICLE SPEEDOMETER SENSOR (E)



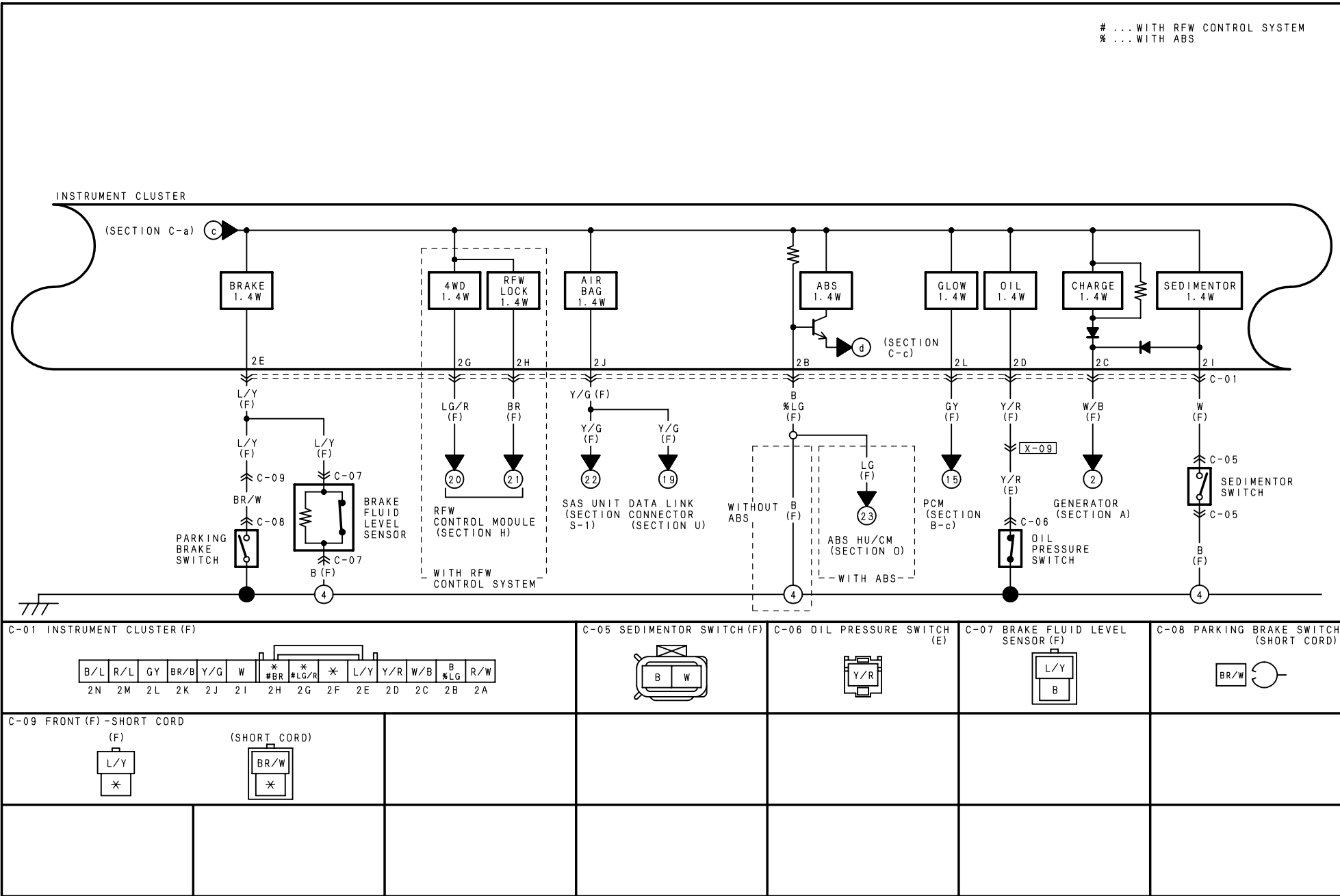
C-04 FUEL GAUGE SENDER UNIT (R2)



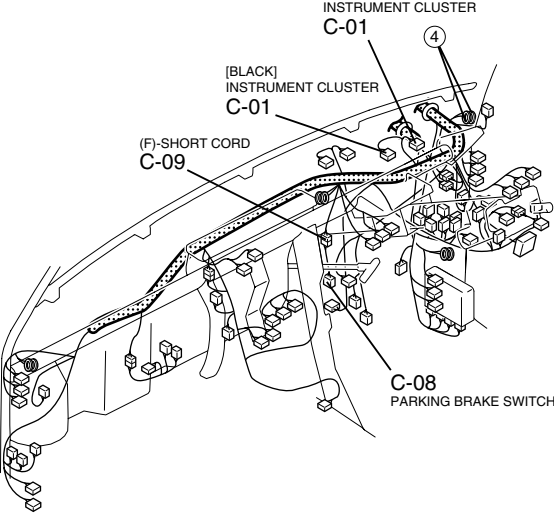
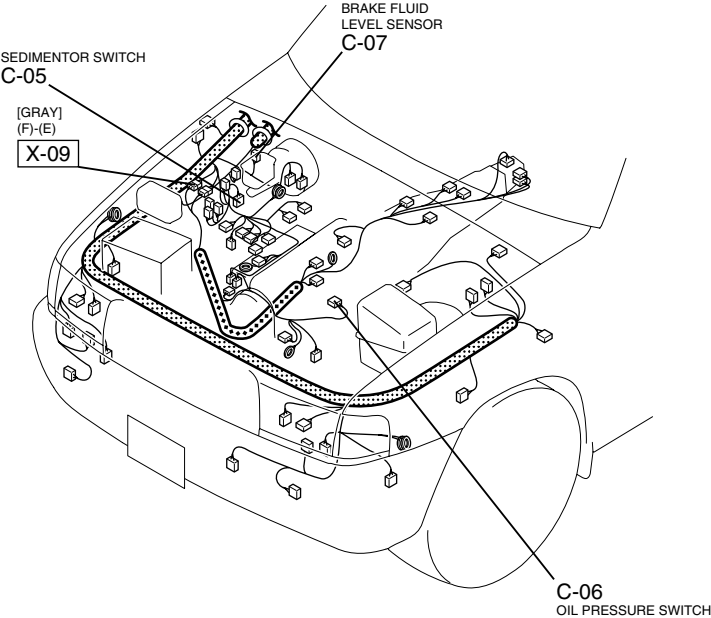
HARNESS SYMBOL:  (F)  (E)  (R)

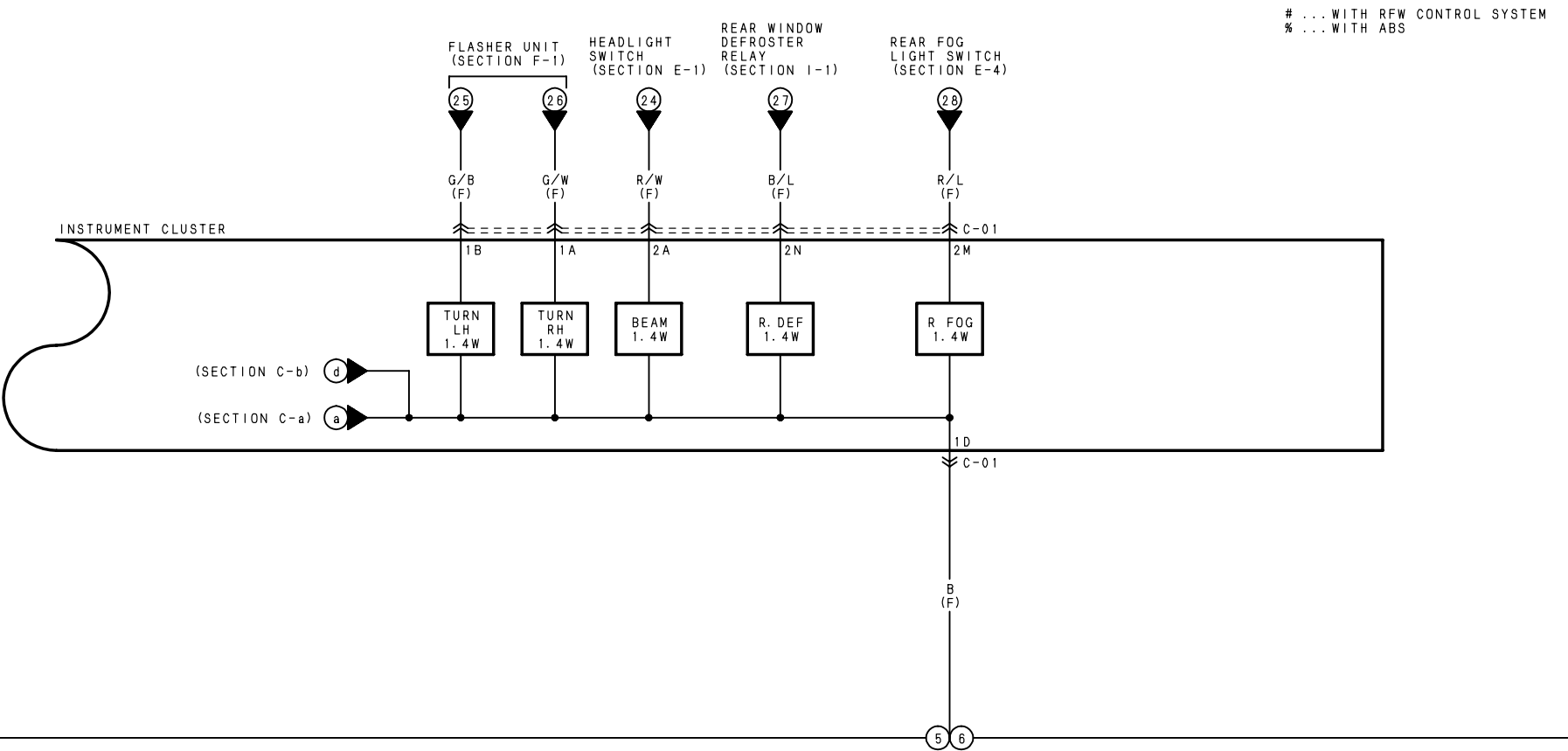


... WITH RFW CONTROL SYSTEM
% ... WITH ABS



HARNESS SYMBOL:  (F)  (E)  (R)



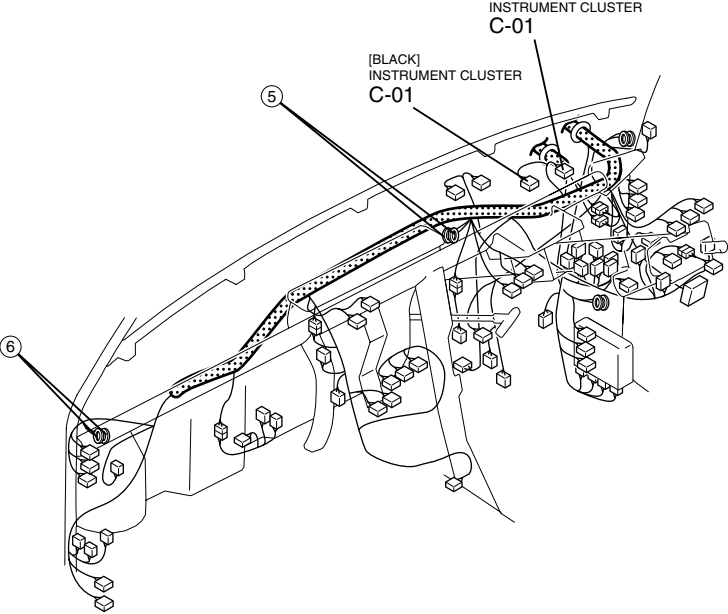


C-01 INSTRUMENT CLUSTER (F)

L/W	*	R/Y	W/L	L	L/R	B/Y	B/R	G/R	Y/B	Y	R/B	B	R/G	G/B	G/W
1P	1O	1N	1M	1L	1K	1J	1I	1H	1G	1F	1E	1D	1C	1B	1A

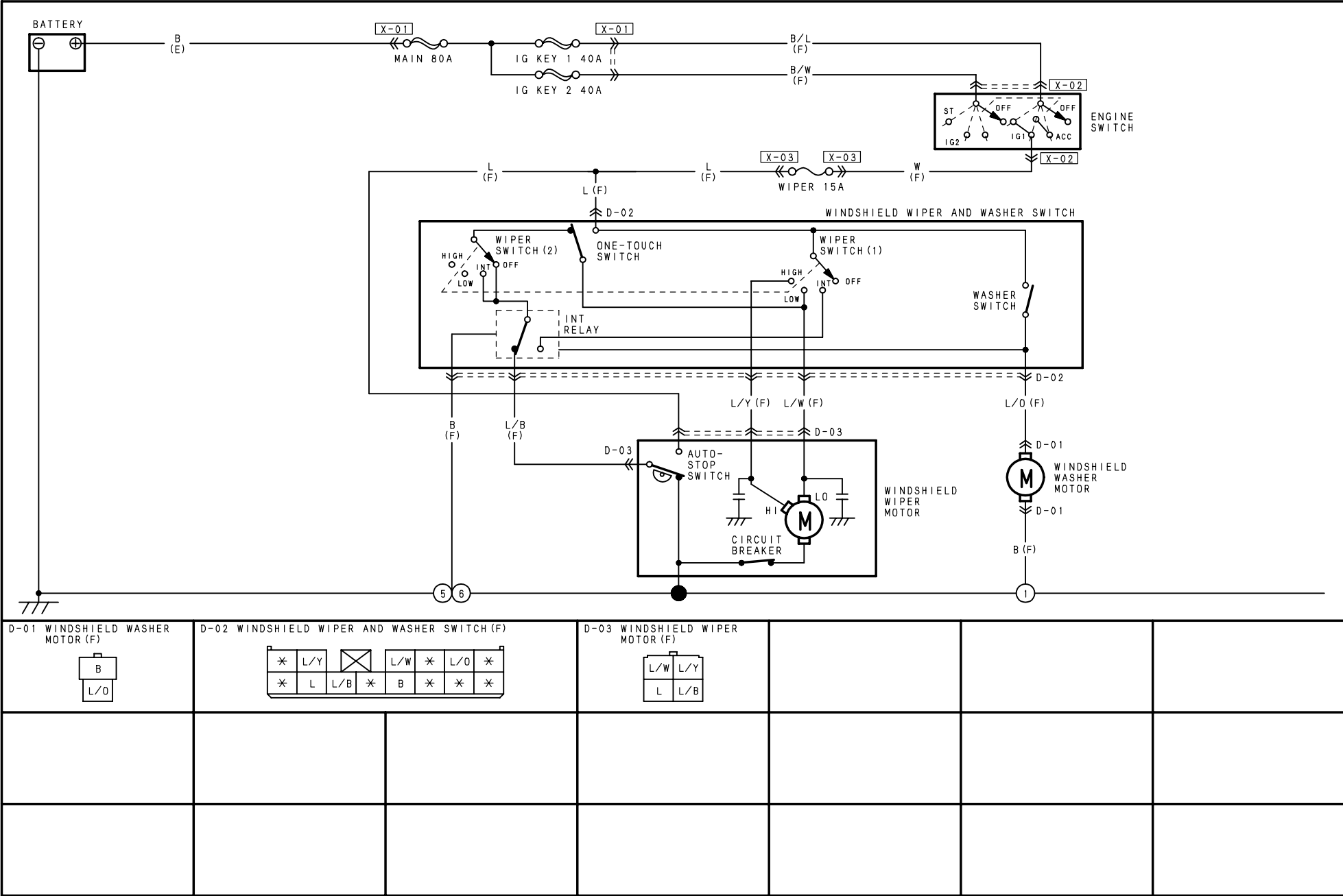
B/L	R/L	GY	BR/B	Y/G	W	*	#BR	*#LG/R	*	L/Y	Y/R	W/B	B	R/W
2N	2M	2L	2K	2J	2I	2H	2G	2F	2E	2D	2C	2B	2A	

HARNESS SYMBOL:  (F)  (E)  (R)

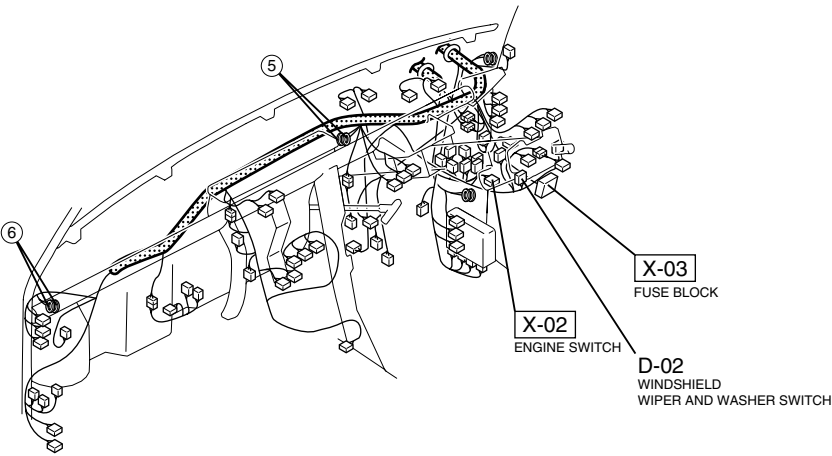
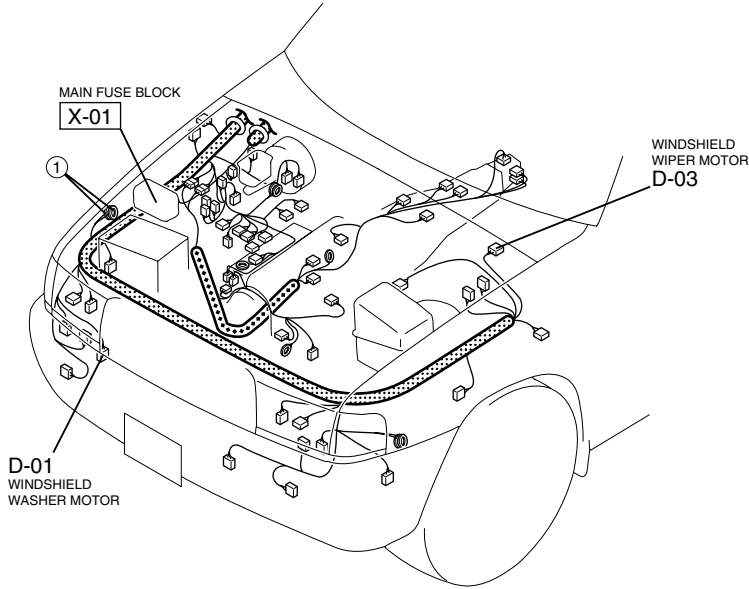


WINDSHIELD WIPER AND WASHER

D



HARNESS SYMBOL:  (F)  (E)  (R)

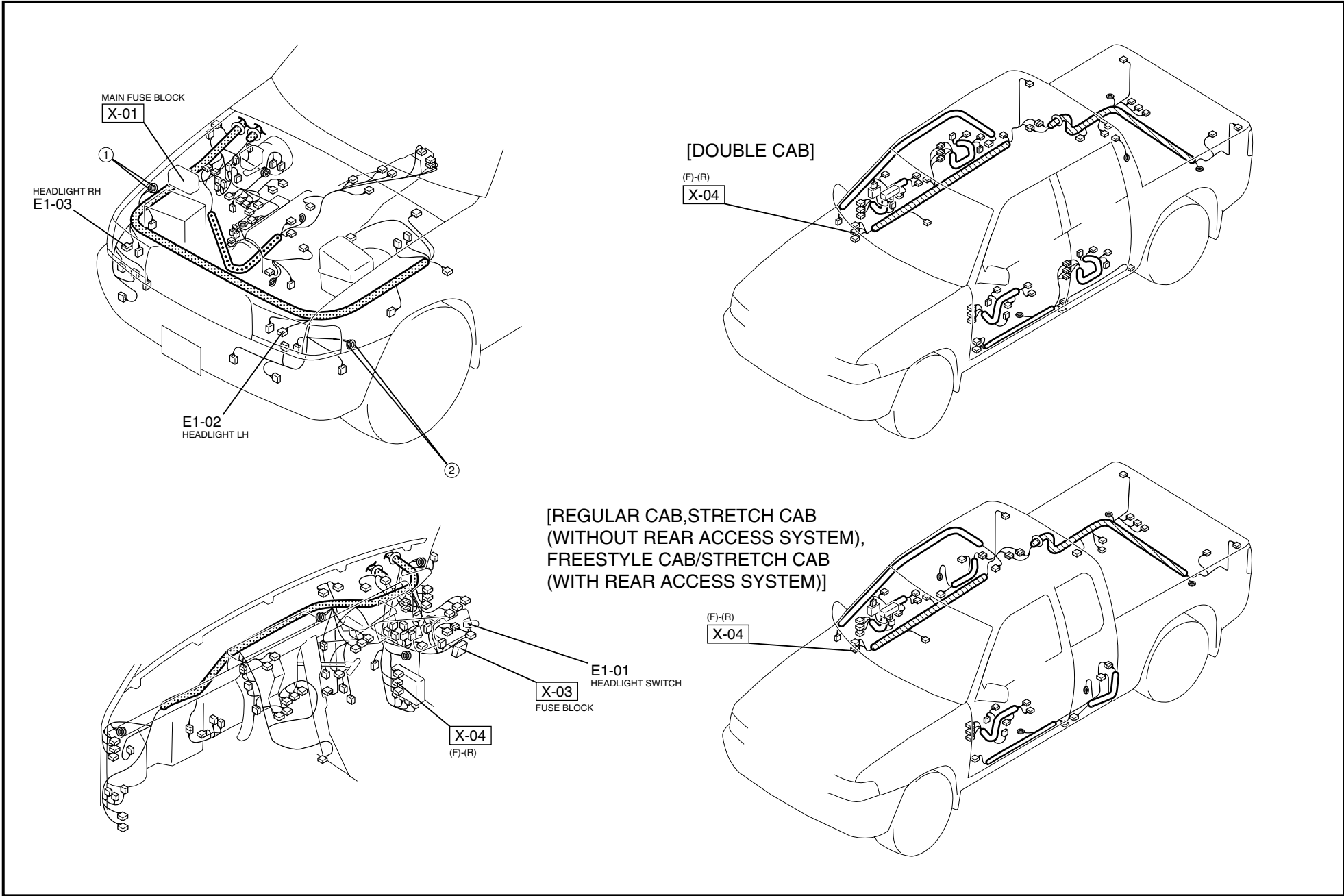


34

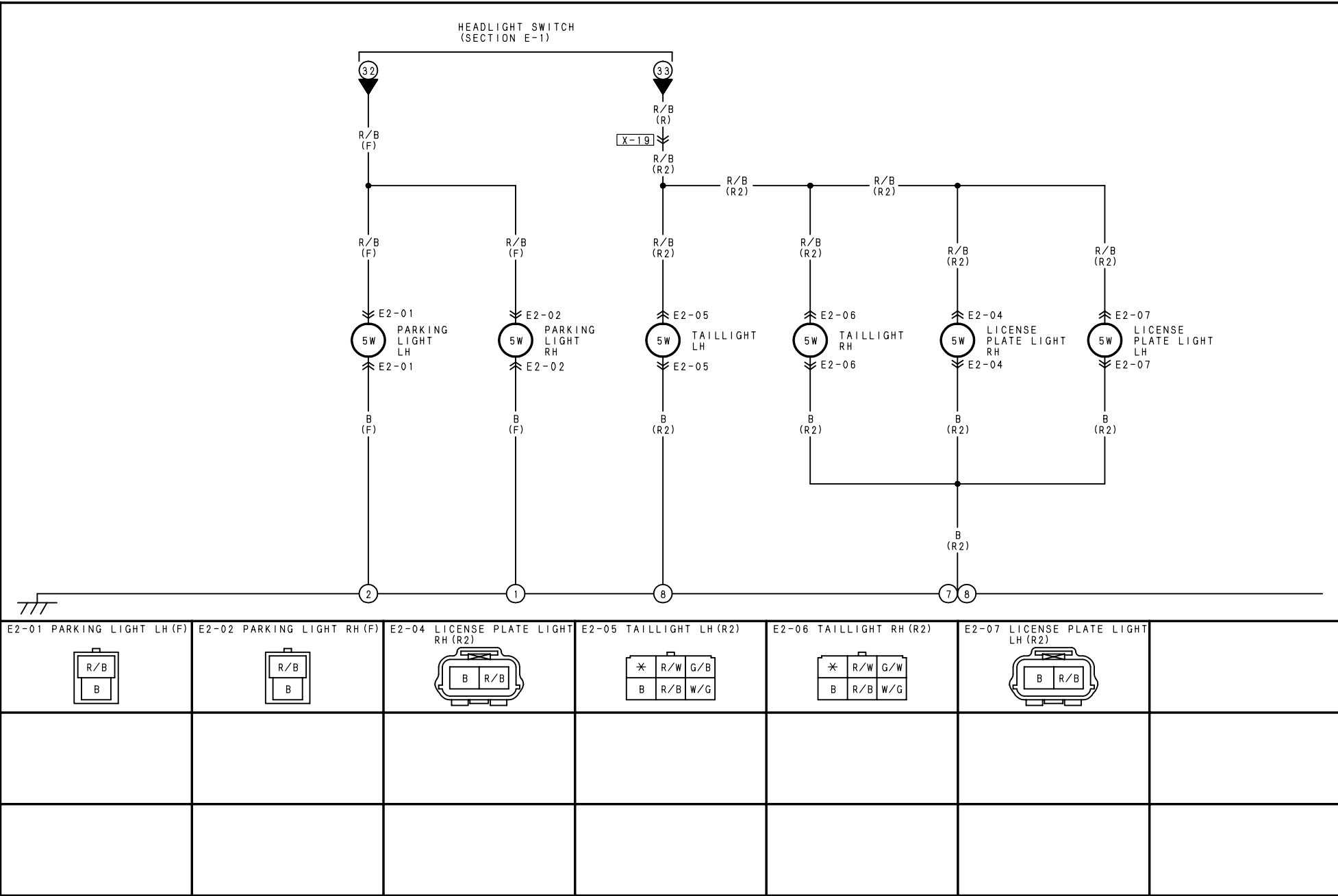
34



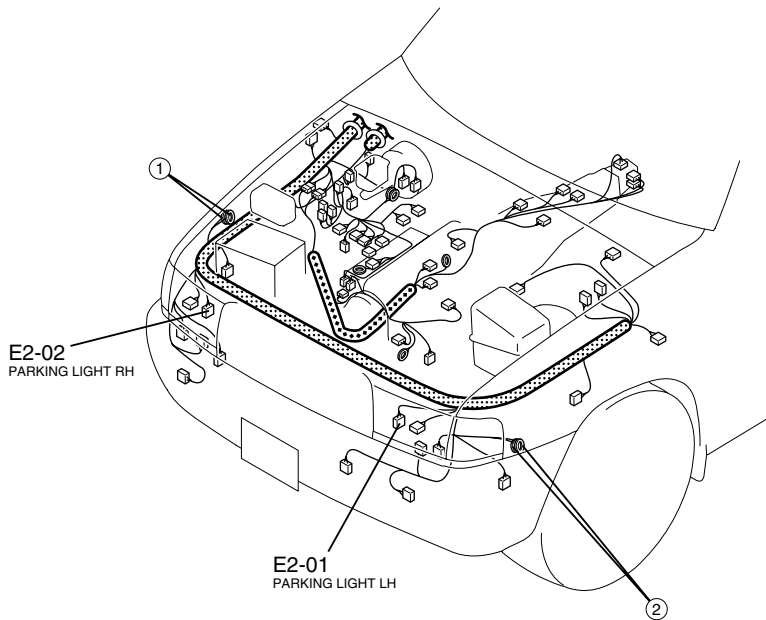
HARNESS SYMBOL:  (F)  (E)  (R)



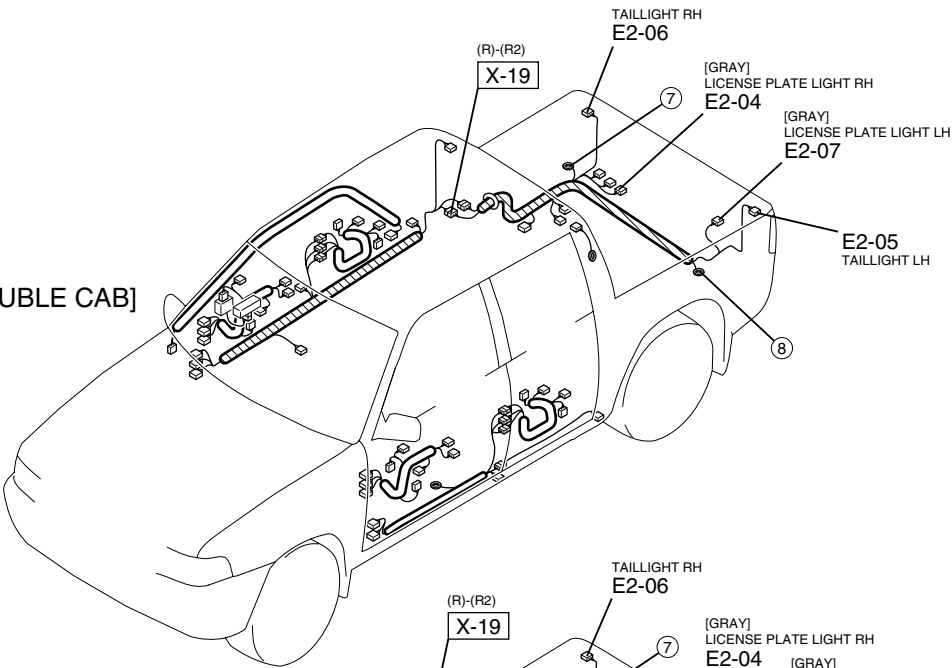
36



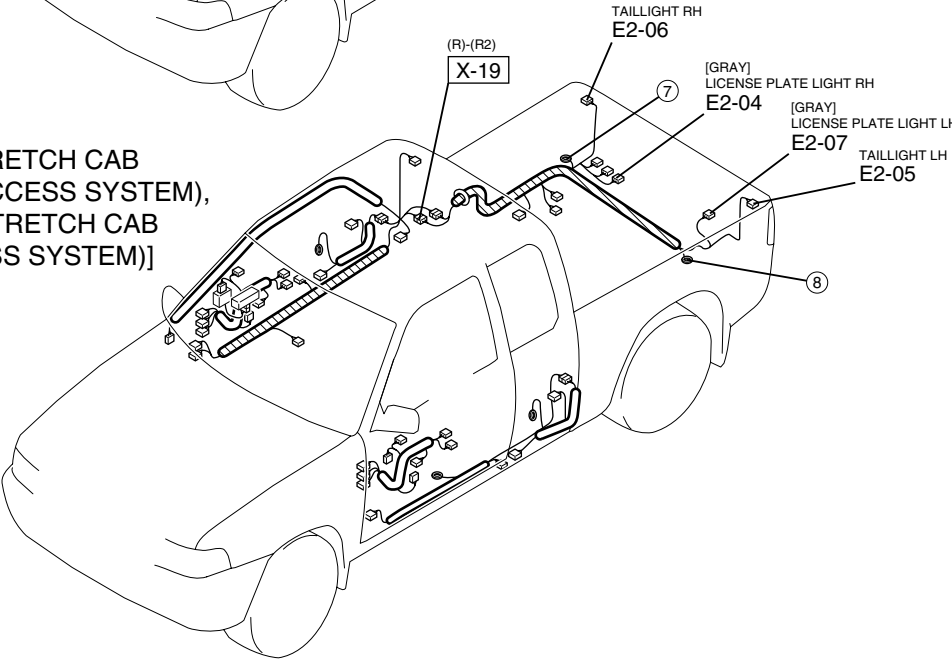
HARNESS SYMBOL:  (F)  (E)  (R)



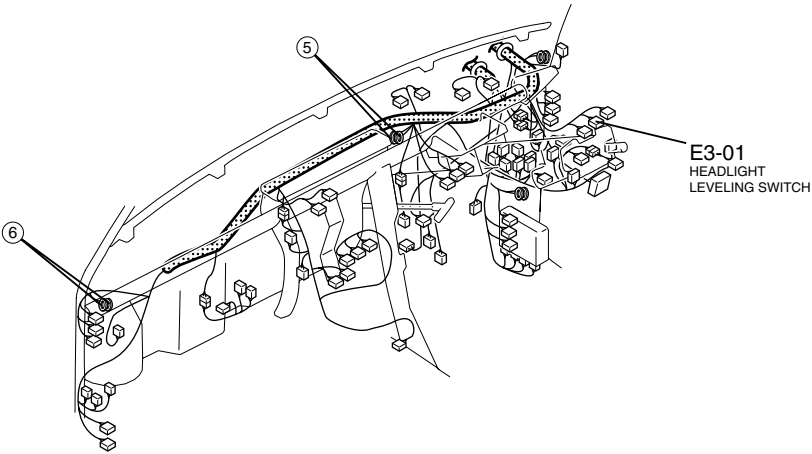
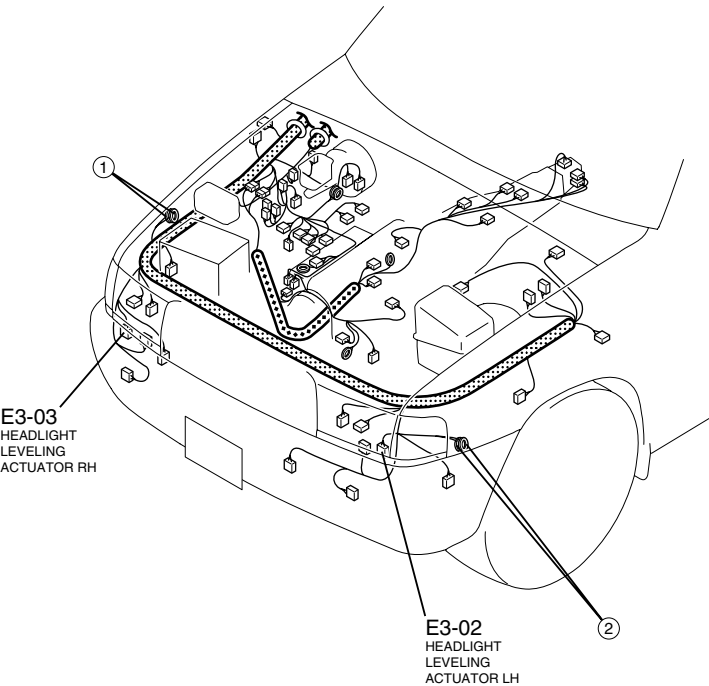
[DOUBLE CAB]



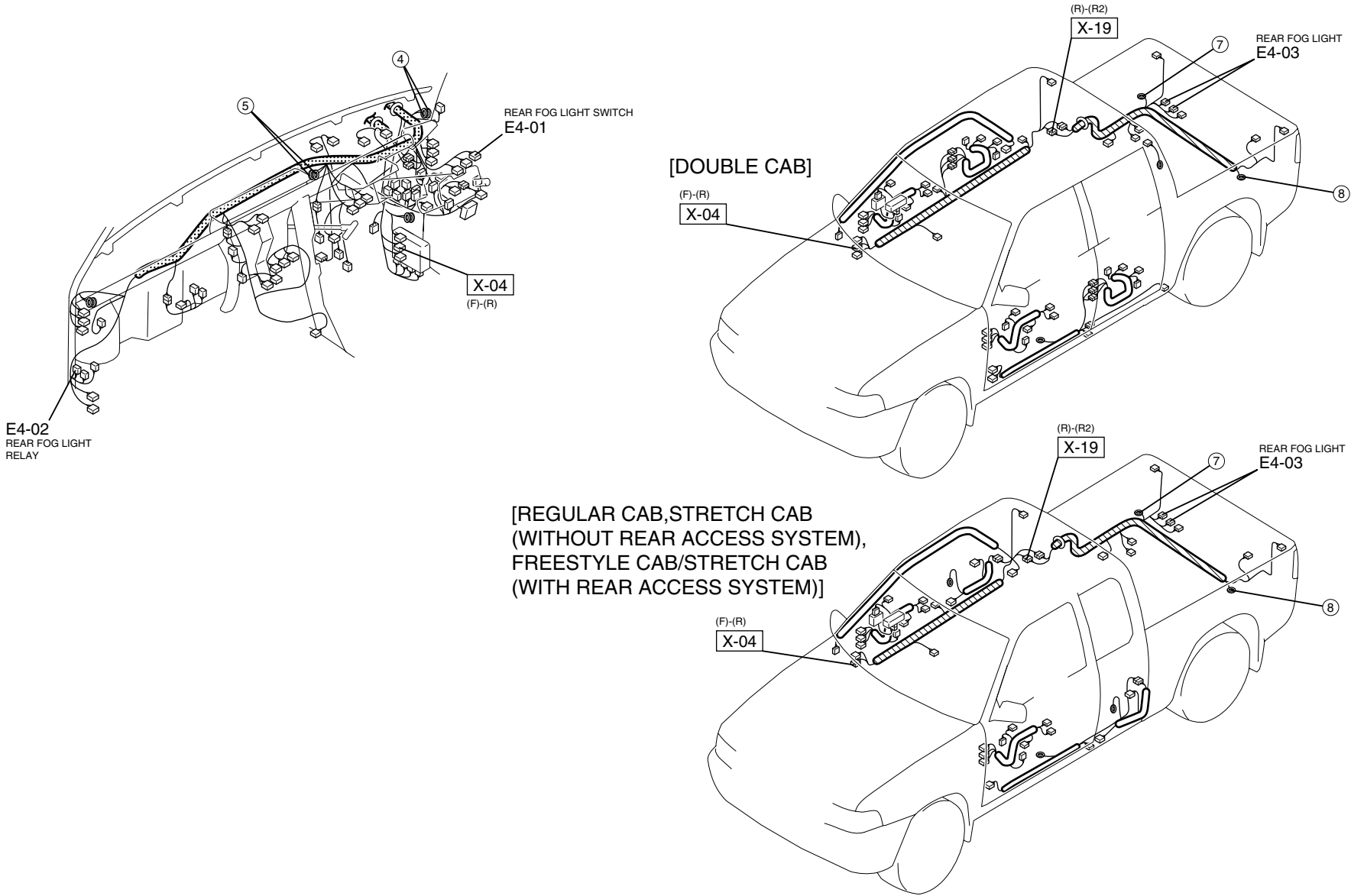
[REGULAR CAB,STRETCH CAB
(WITHOUT REAR ACCESS SYSTEM),
FREESTYLE CAB/STRETCH CAB
(WITH REAR ACCESS SYSTEM)]



HARNESS SYMBOL:  (F)  (E)  (R)

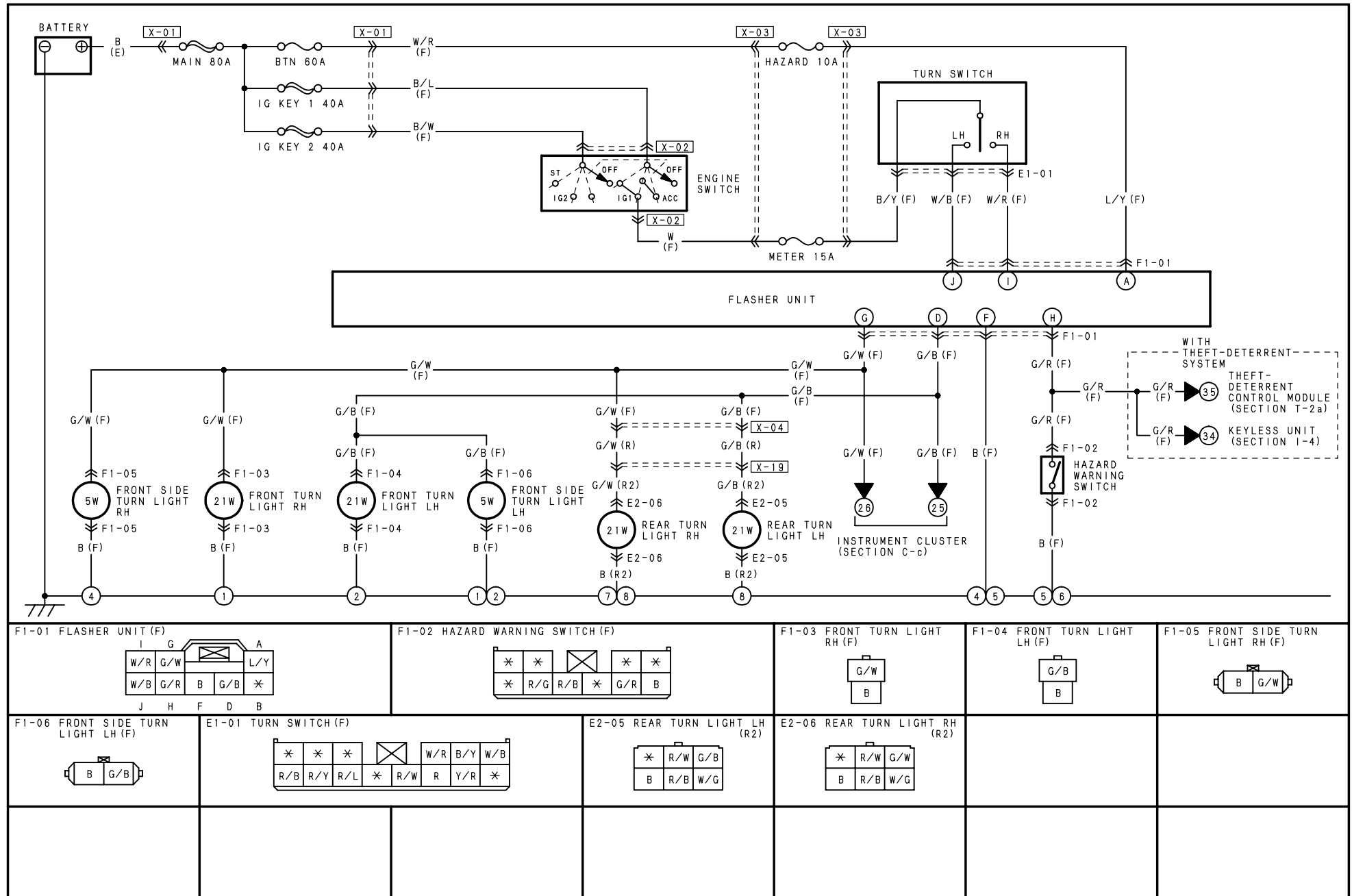


HARNESS SYMBOL:  (F)  (E)  (R)

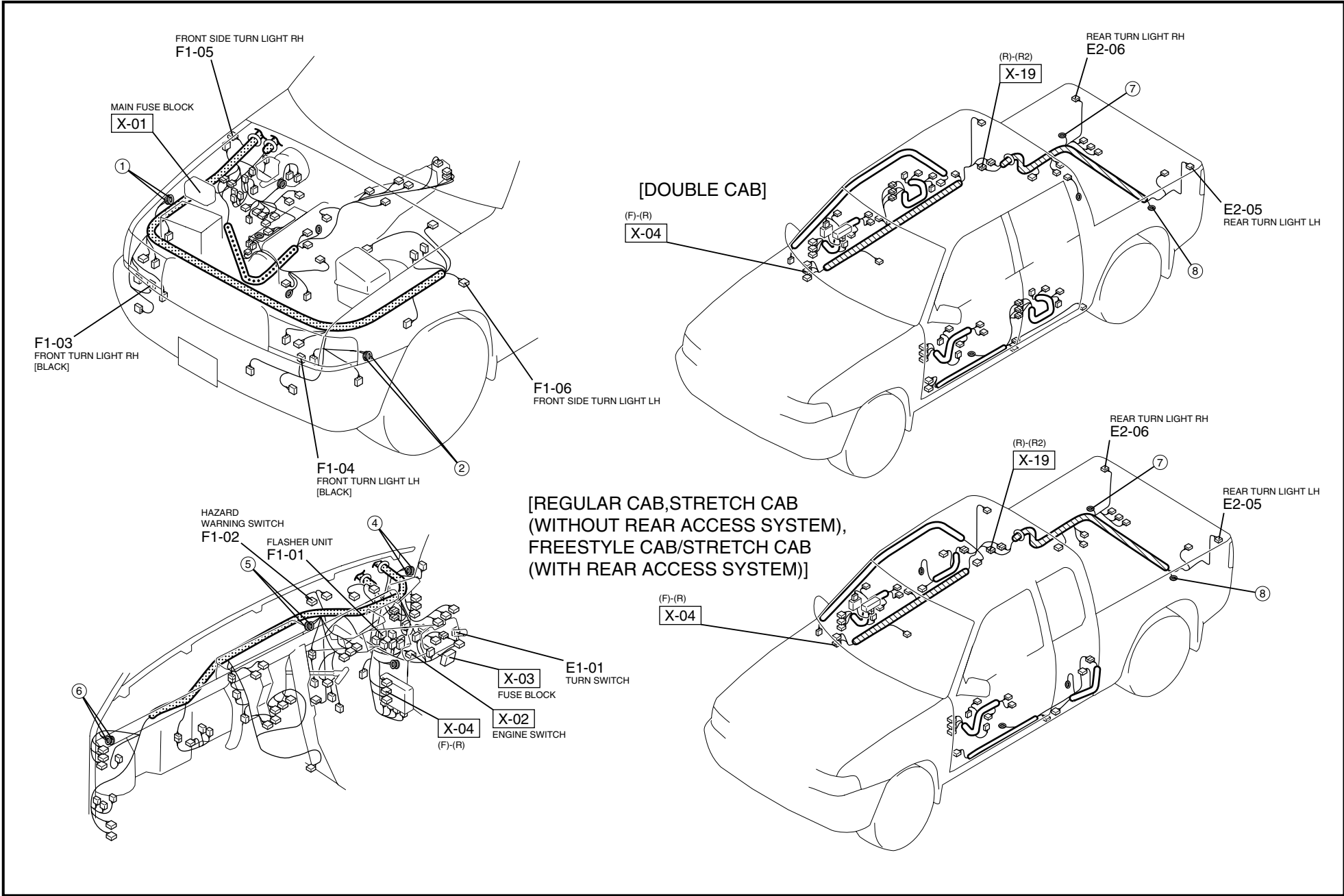


TURN AND HAZARD WARNING LIGHT

F-1

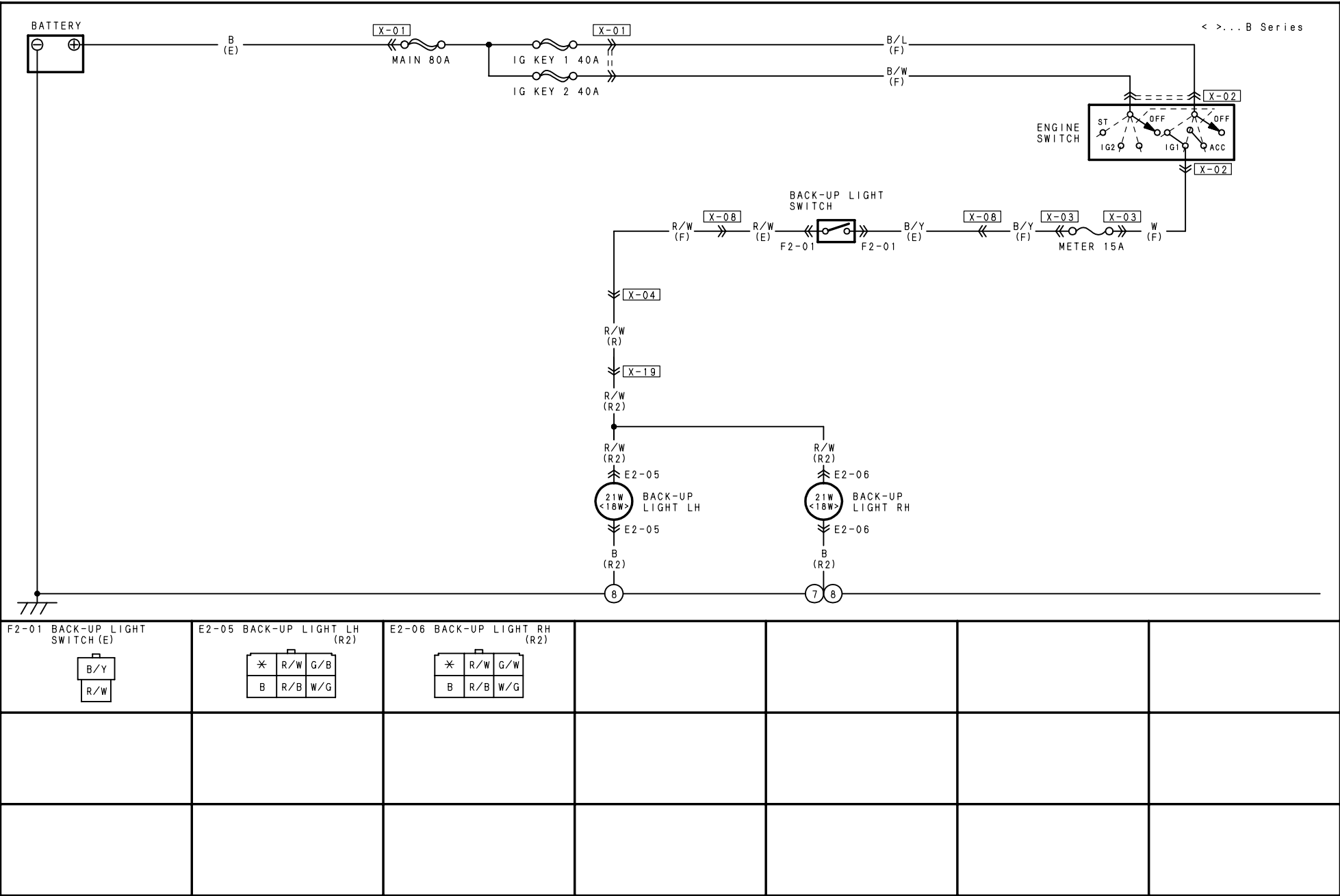


HARNESS SYMBOL:  (F)  (E)  (R)

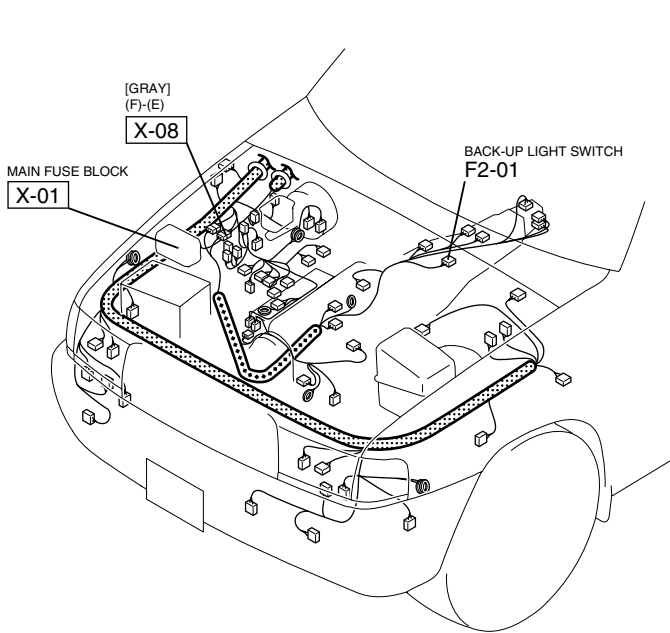


BACK-UP LIGHT

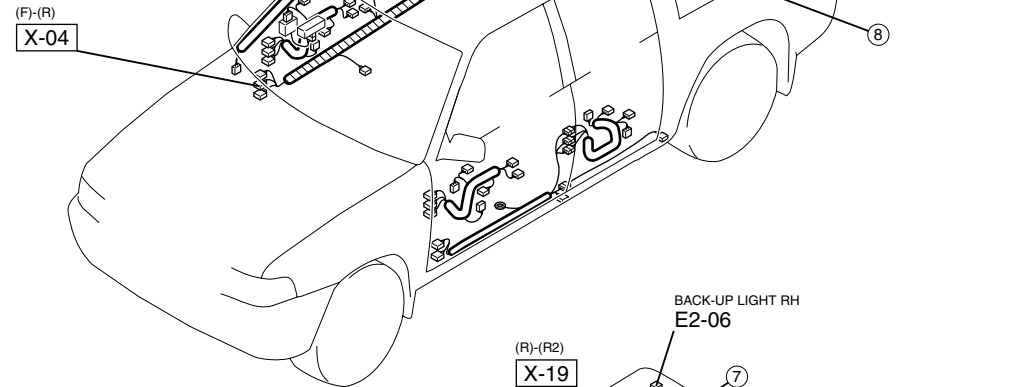
F-2



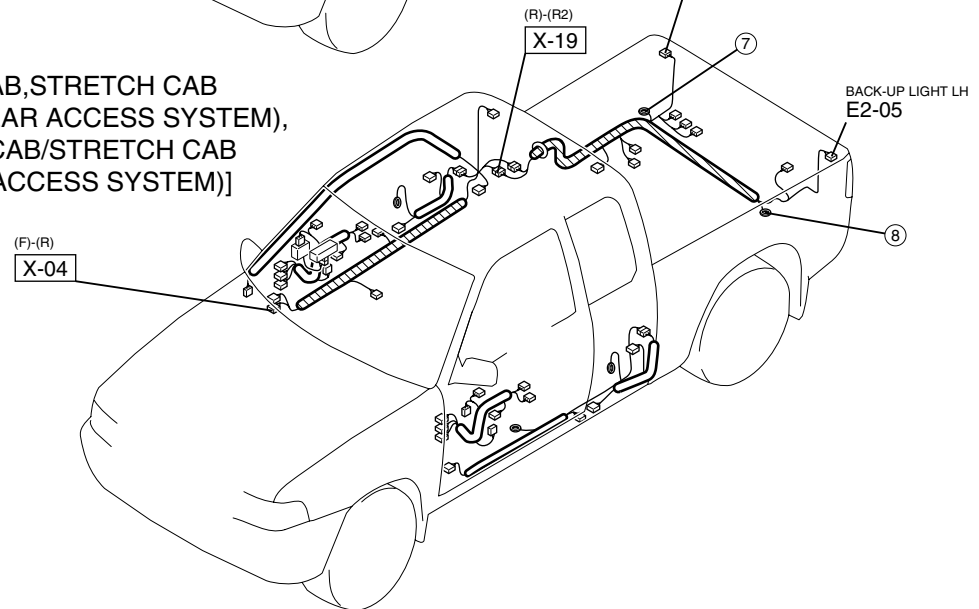
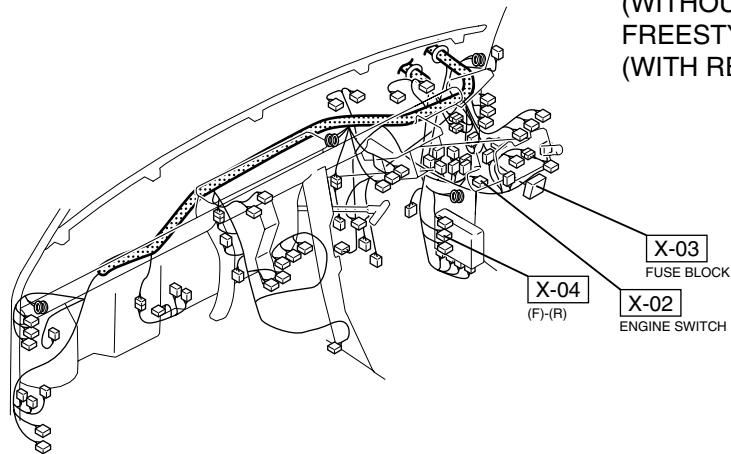
HARNESS SYMBOL:  (F)  (E)  (R)

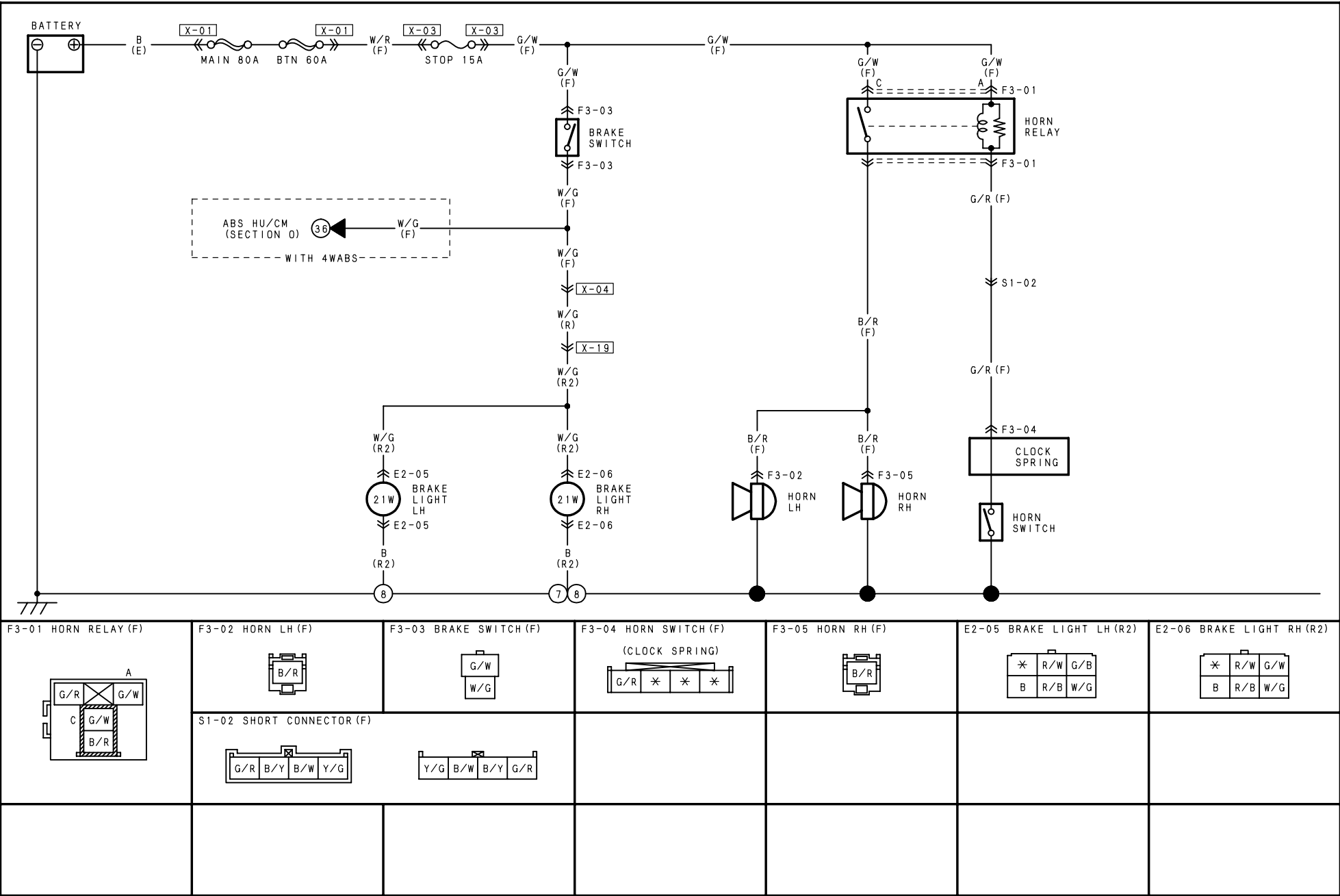


[DOUBLE CAB]

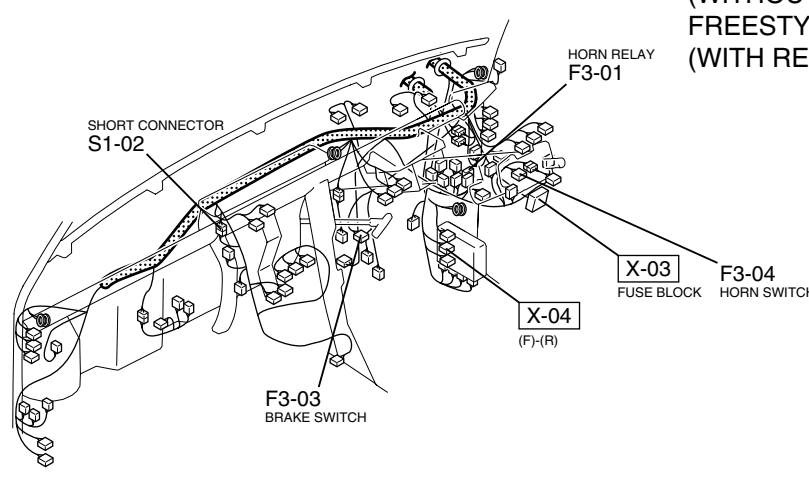
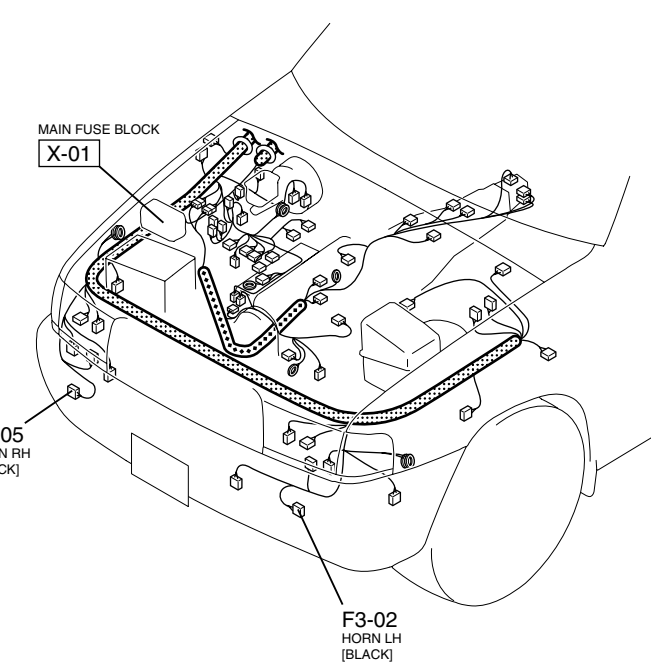


[REGULAR CAB,STRETCH CAB
(WITHOUT REAR ACCESS SYSTEM),
FREESTYLE CAB/STRETCH CAB
(WITH REAR ACCESS SYSTEM)]

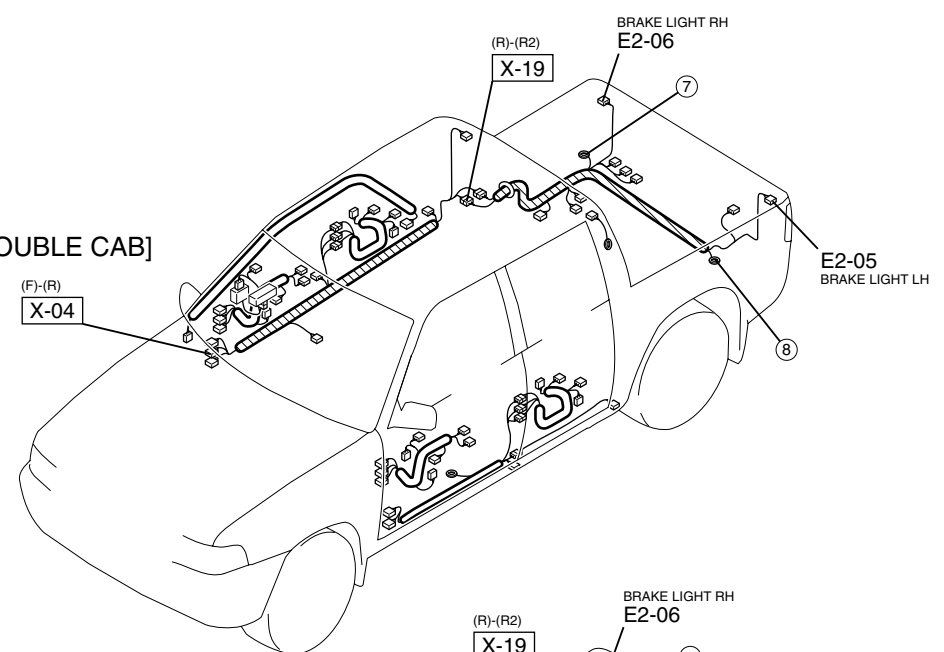




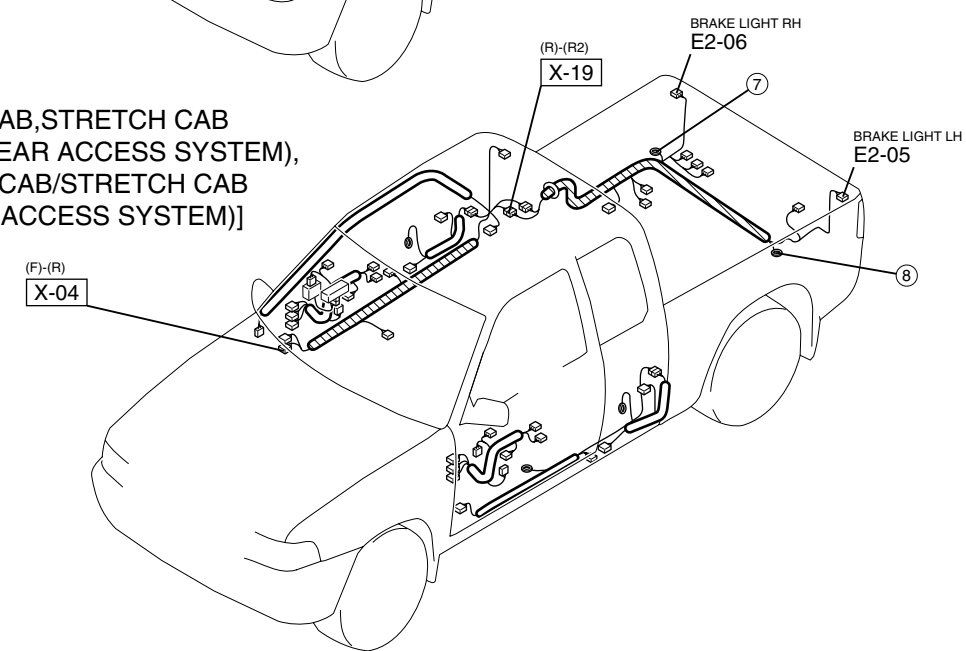
HARNESS SYMBOL:  (F)  (E)  (R)



[DOUBLE CAB]



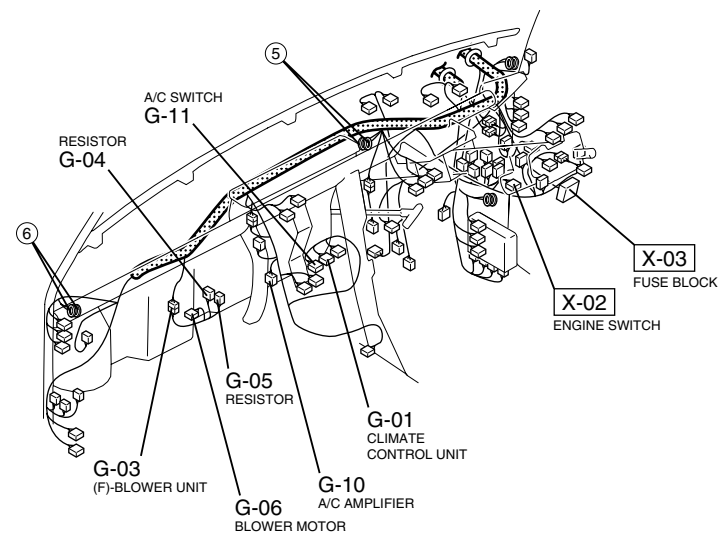
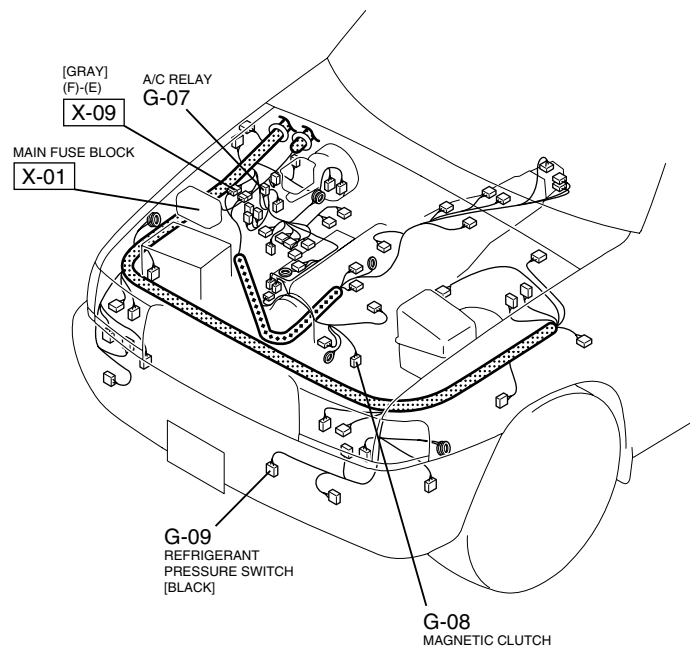
[REGULAR CAB,STRETCH CAB
(WITHOUT REAR ACCESS SYSTEM),
FREESTYLE CAB/STRETCH CAB
(WITH REAR ACCESS SYSTEM)]



G



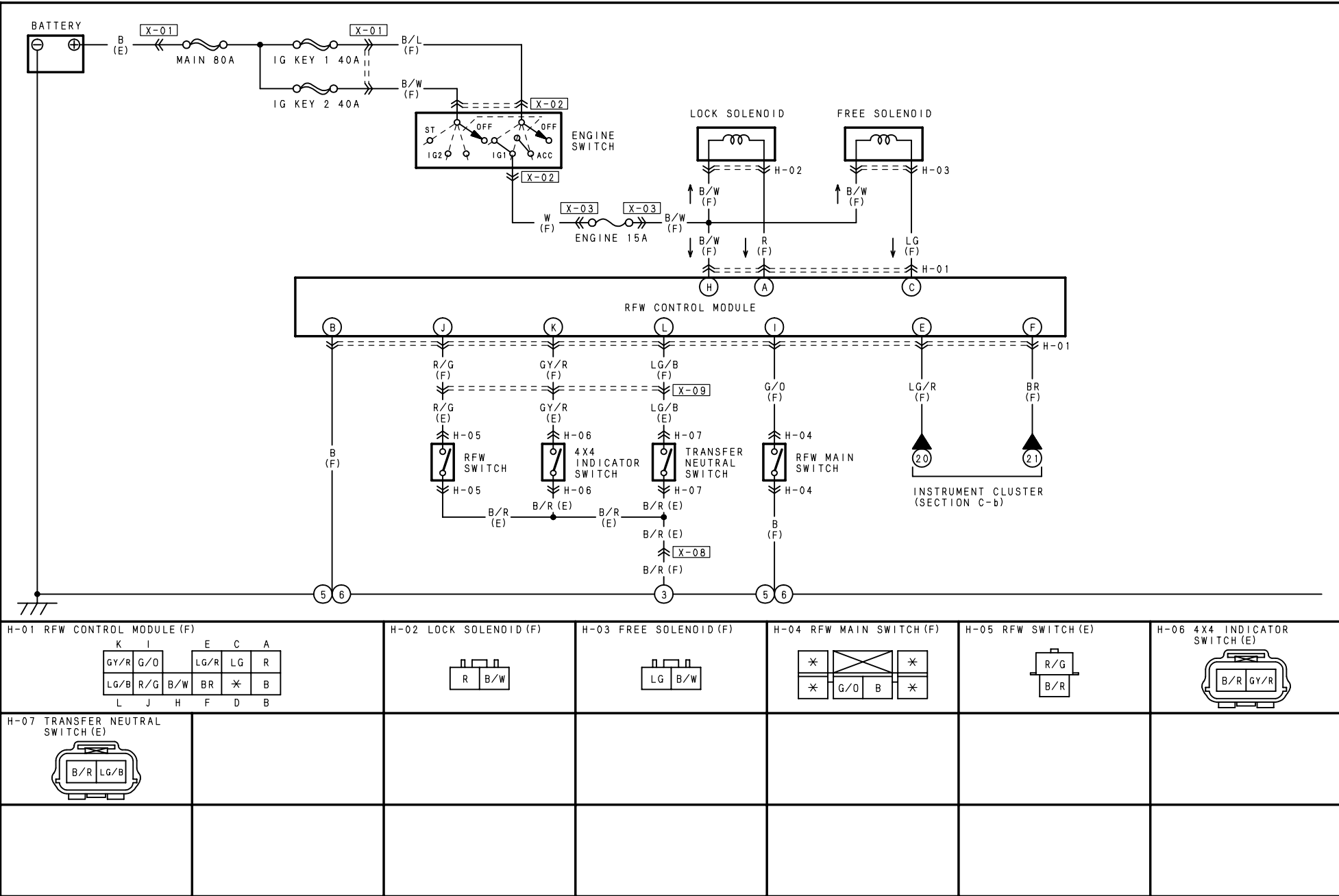
HARNESS SYMBOL:  (F)  (E)  (R)



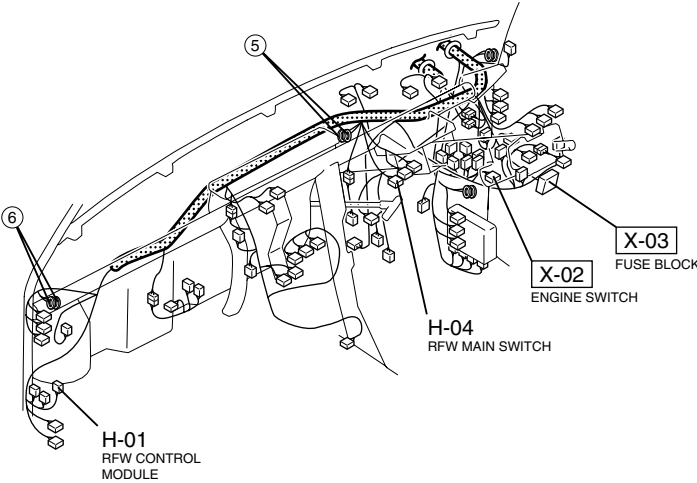
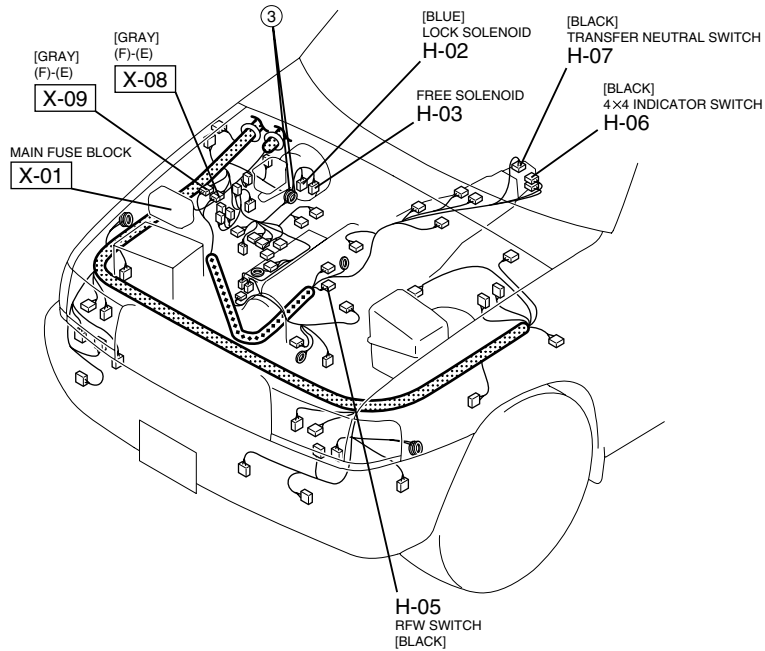
REMOTE FREEWHEEL CONTROL SYSTEM

H

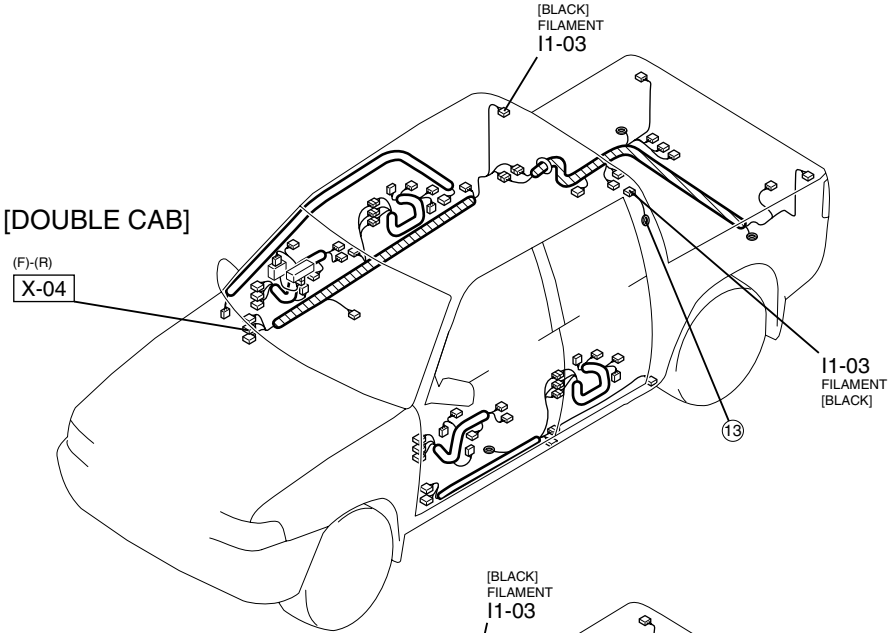
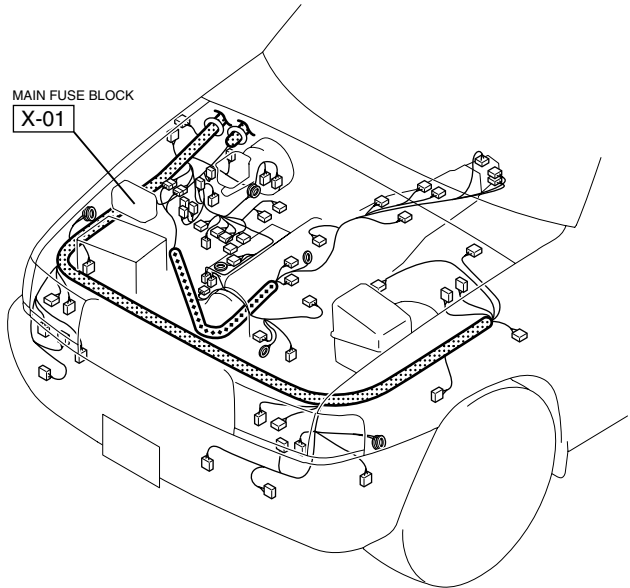
50



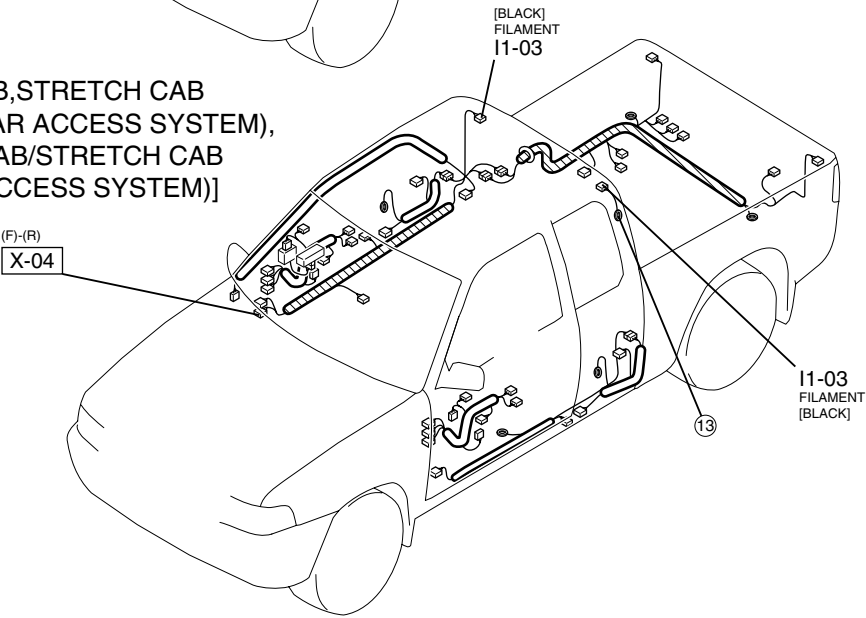
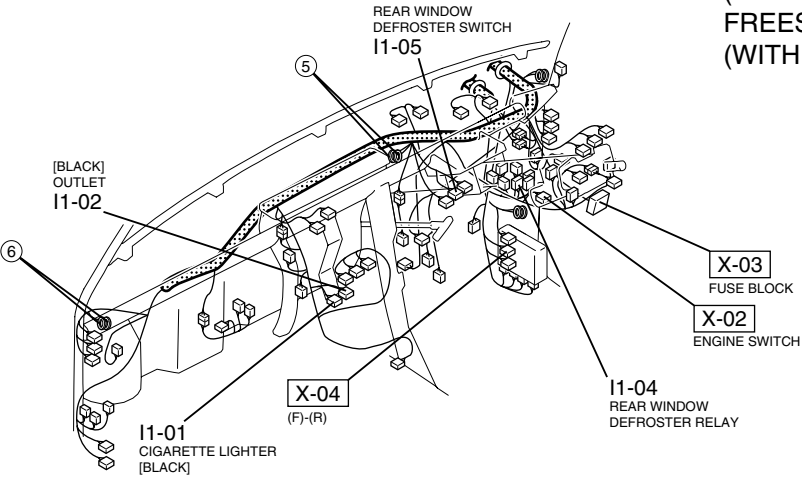
HARNESS SYMBOL:  (F)  (E)  (R)



HARNESS SYMBOL:  (F)  (E)  (R)



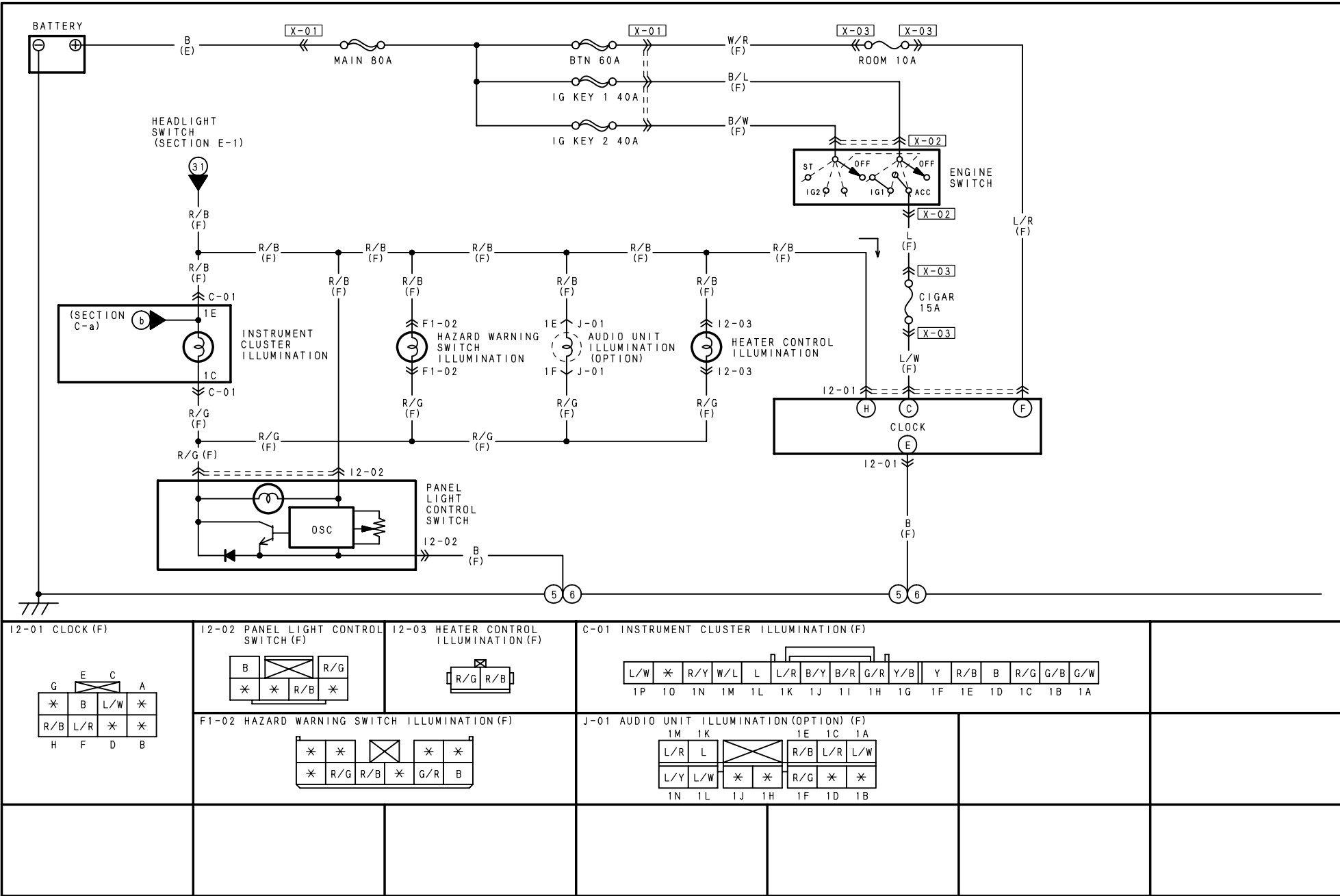
[REGULAR CAB,STRETCH CAB
(WITHOUT REAR ACCESS SYSTEM),
FREESTYLE CAB/STRETCH CAB
(WITH REAR ACCESS SYSTEM)]



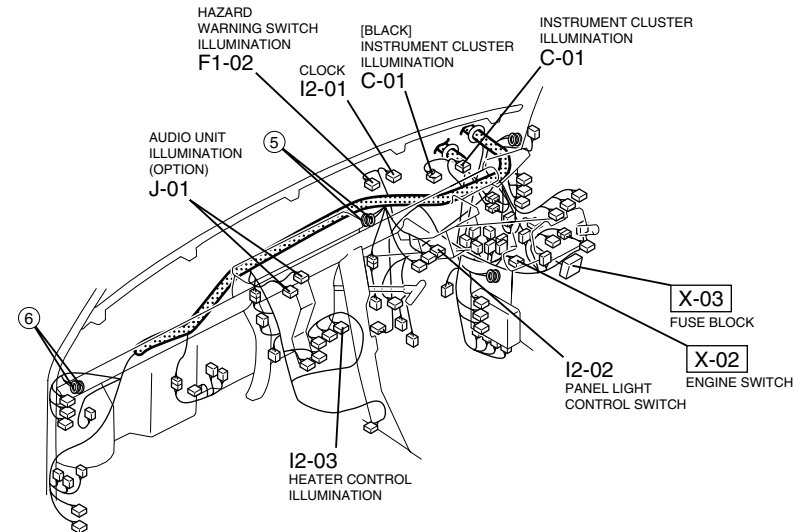
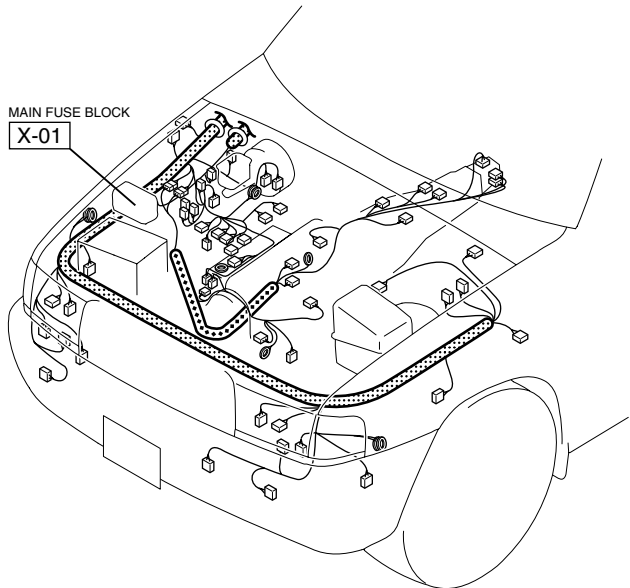
CLOCK / ILLUMINATION LIGHT

I-2

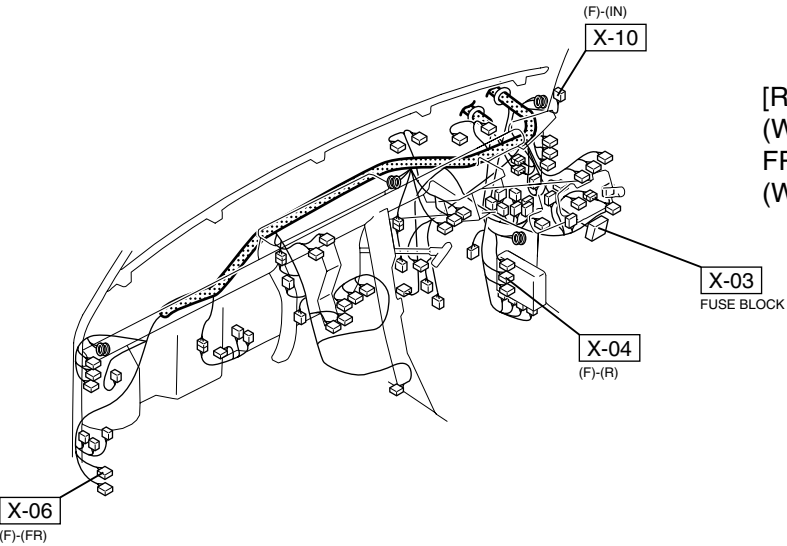
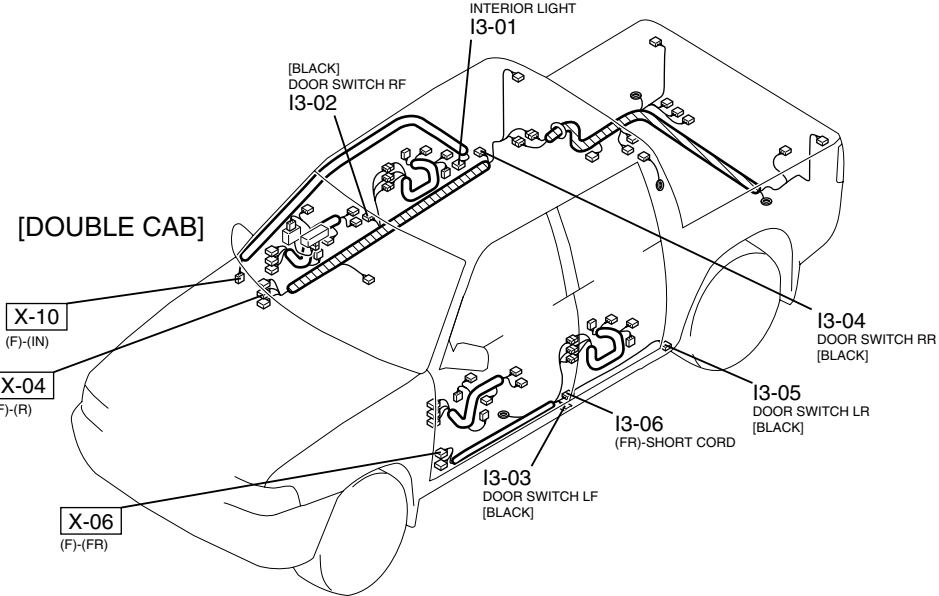
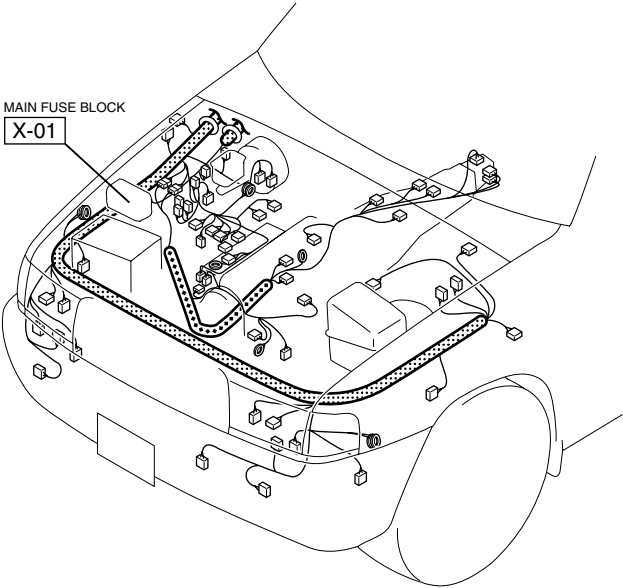
54



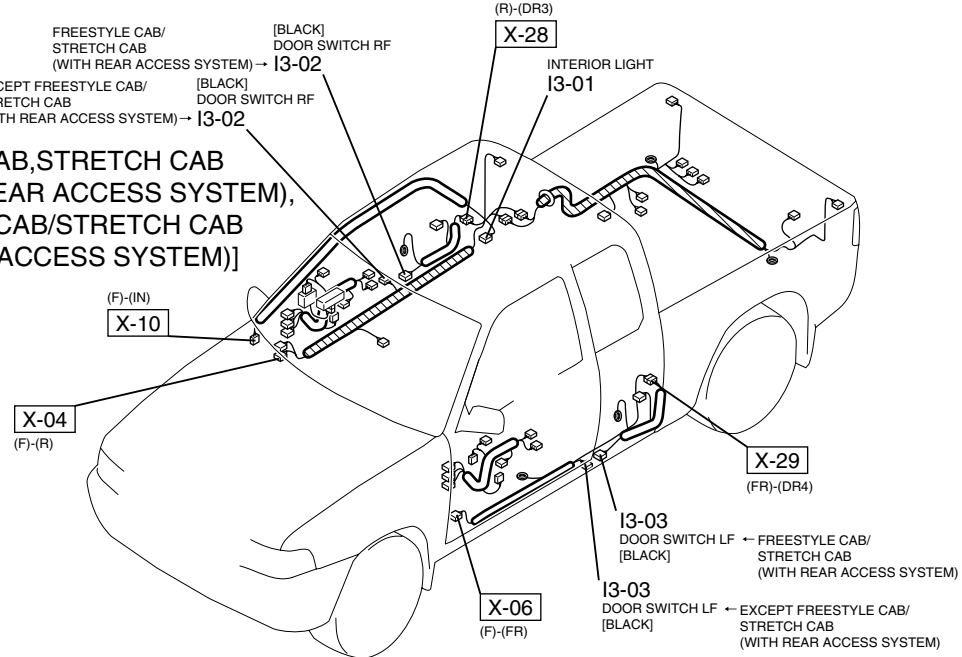
HARNESS SYMBOL:  (F)  (E)  (R)



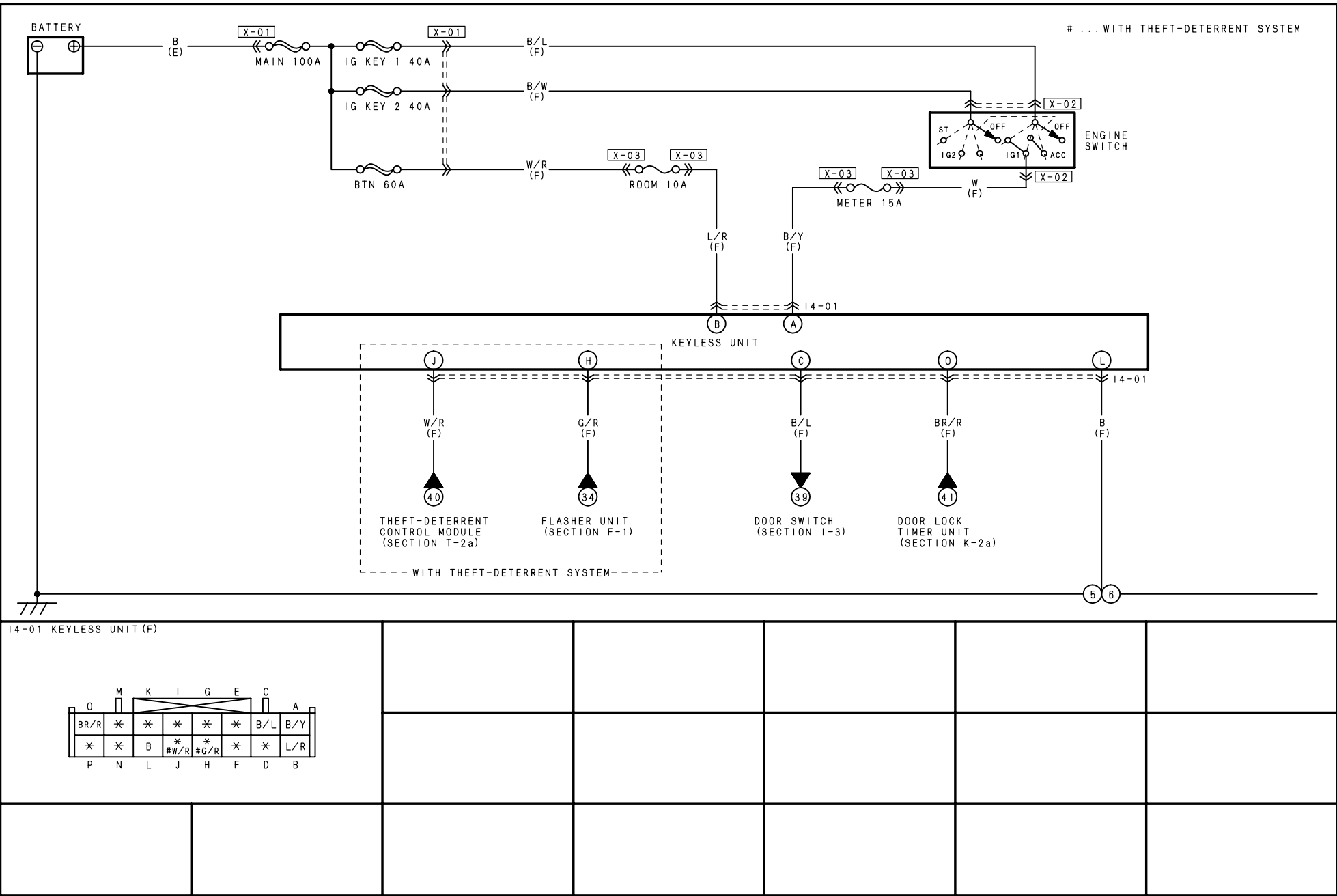
HARNESS SYMBOL:  (F)  (E)  (R)



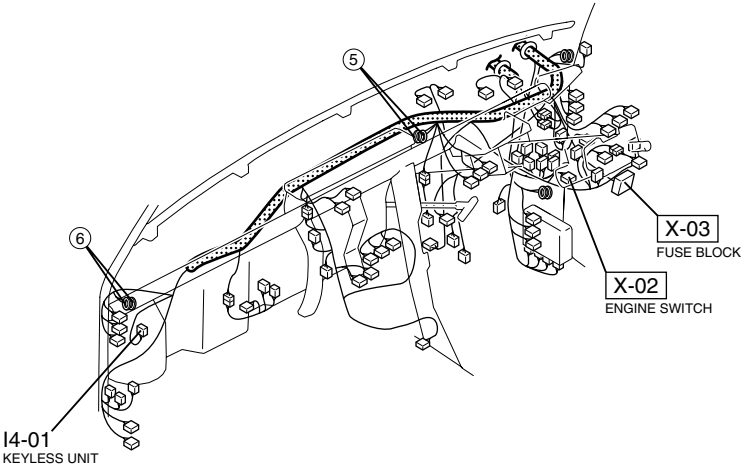
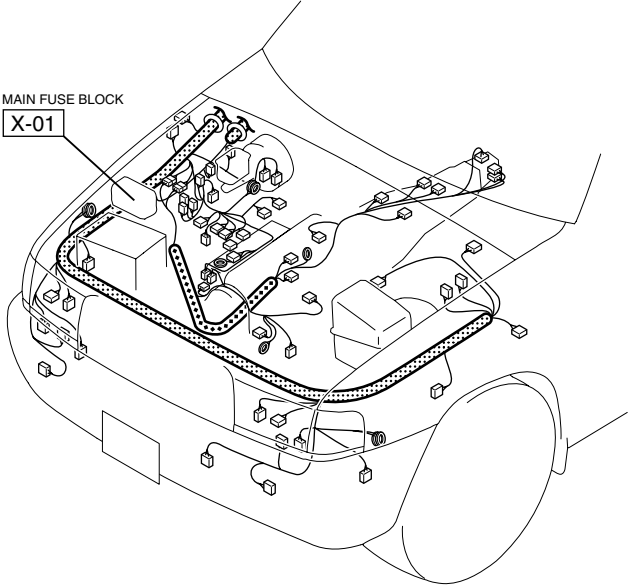
[REGULAR CAB,STRETCH CAB
(WITHOUT REAR ACCESS SYSTEM),
FREESTYLE CAB/STRETCH CAB
(WITH REAR ACCESS SYSTEM)]

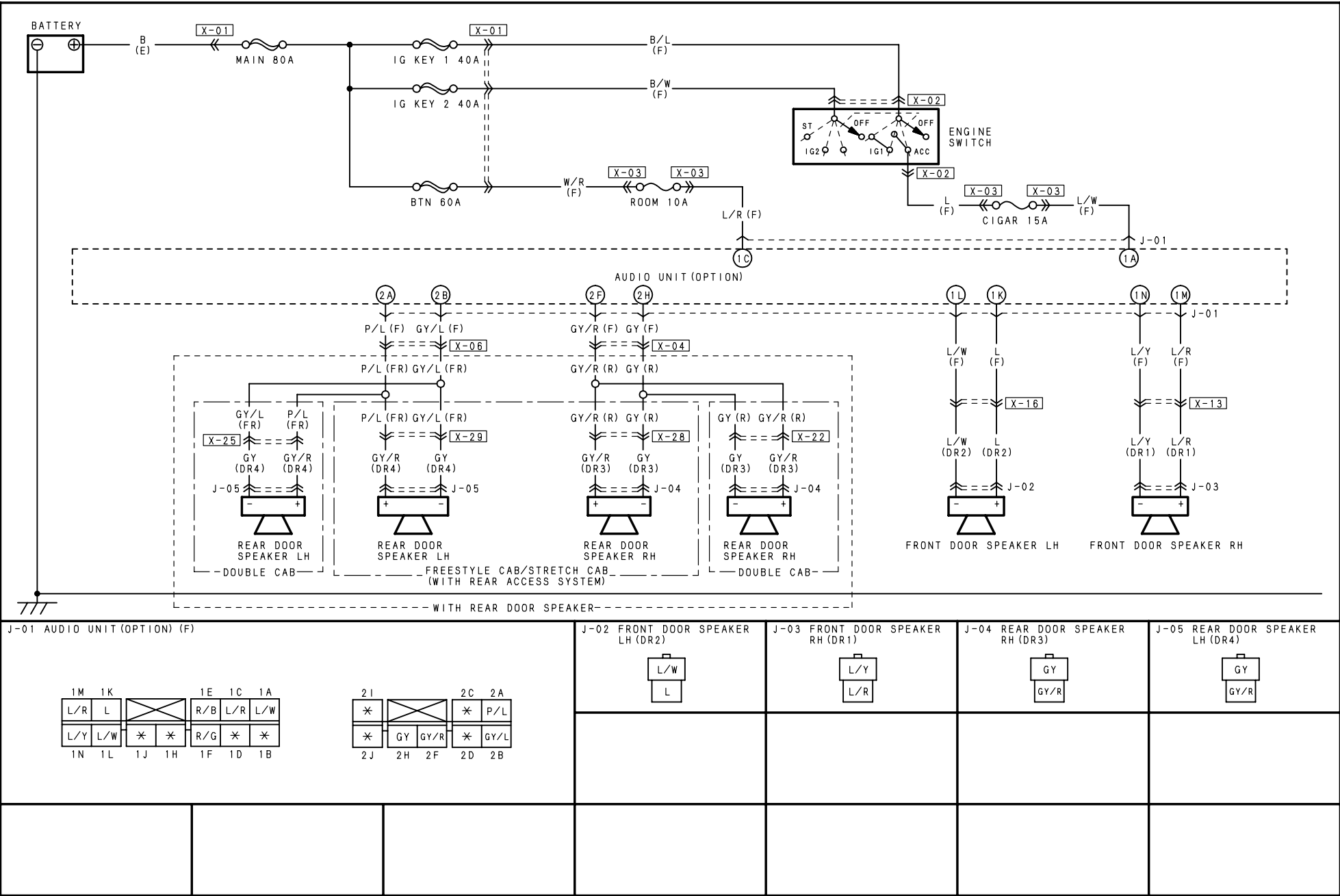


58

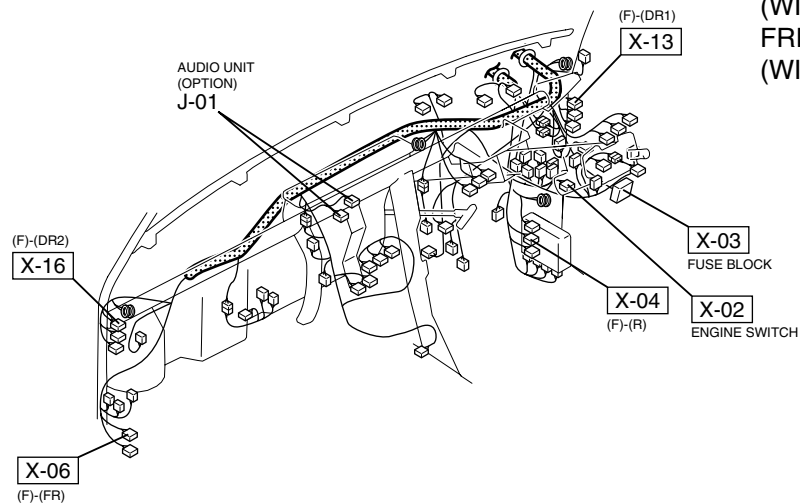
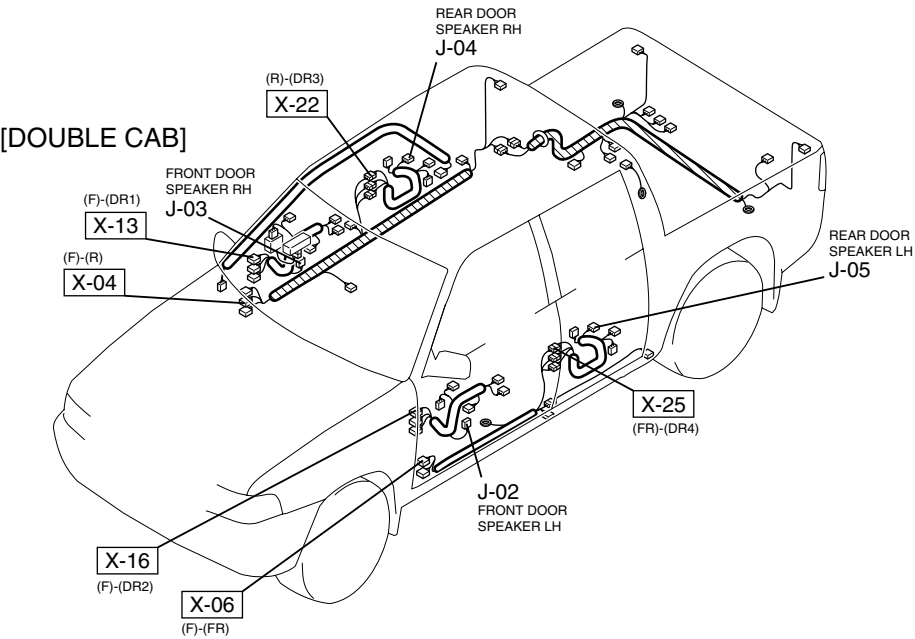
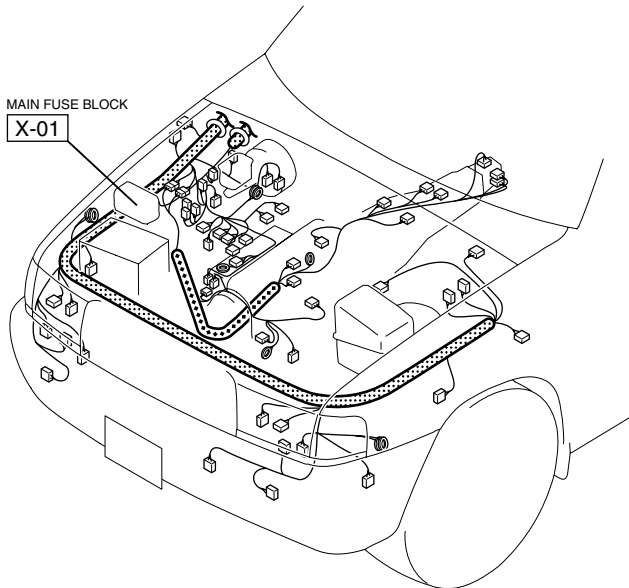


HARNESS SYMBOL:  (F)  (E)  (R)

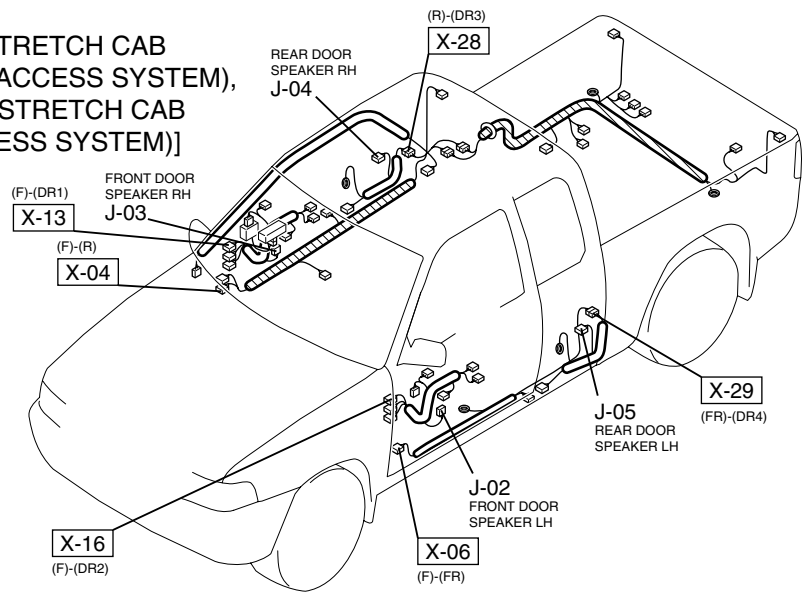




HARNESS SYMBOL:  (F)  (E)  (R)

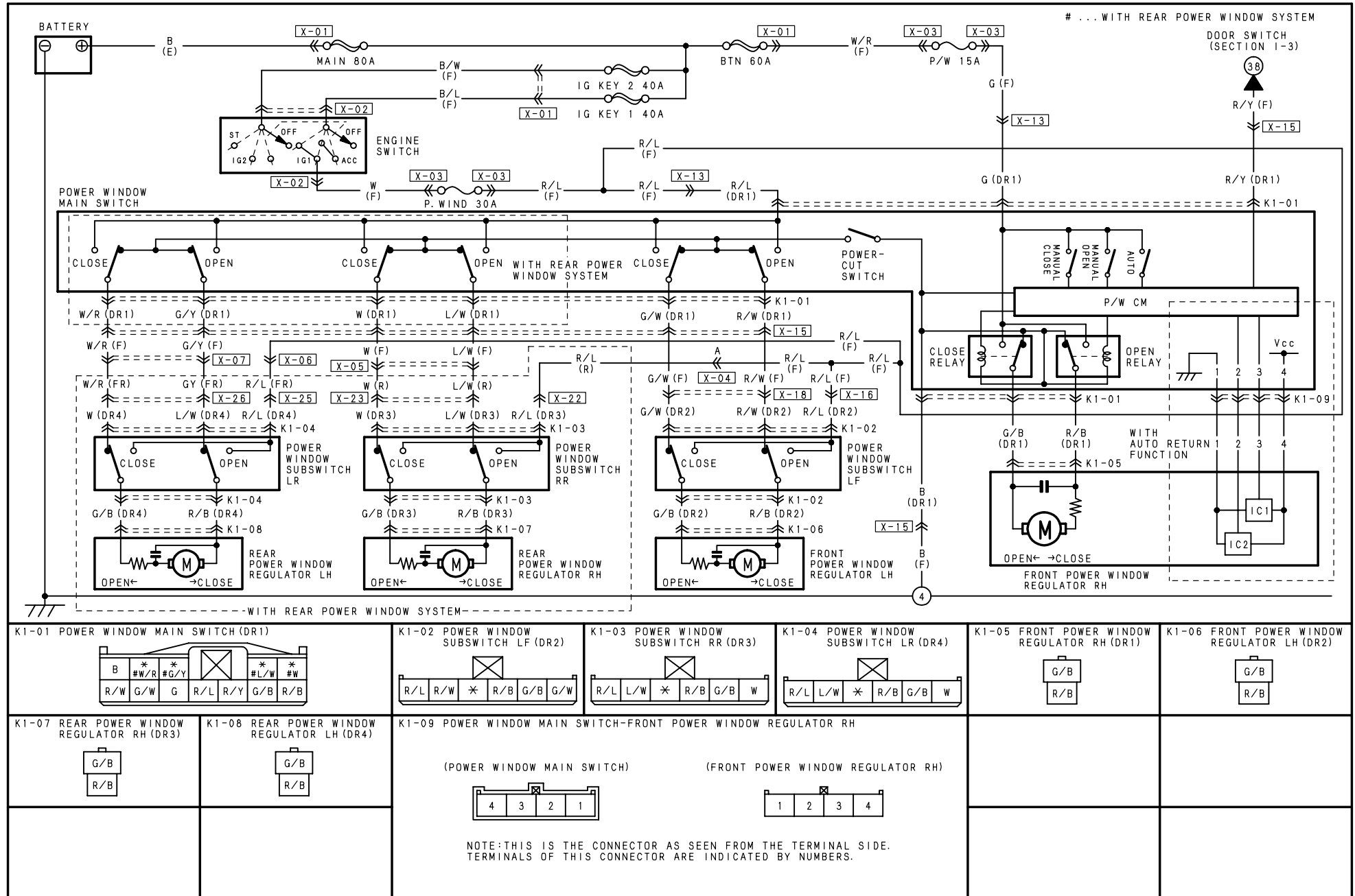


[REGULAR CAB,STRETCH CAB
(WITHOUT REAR ACCESS SYSTEM),
FREESTYLE CAB/STRETCH CAB
(WITH REAR ACCESS SYSTEM)]

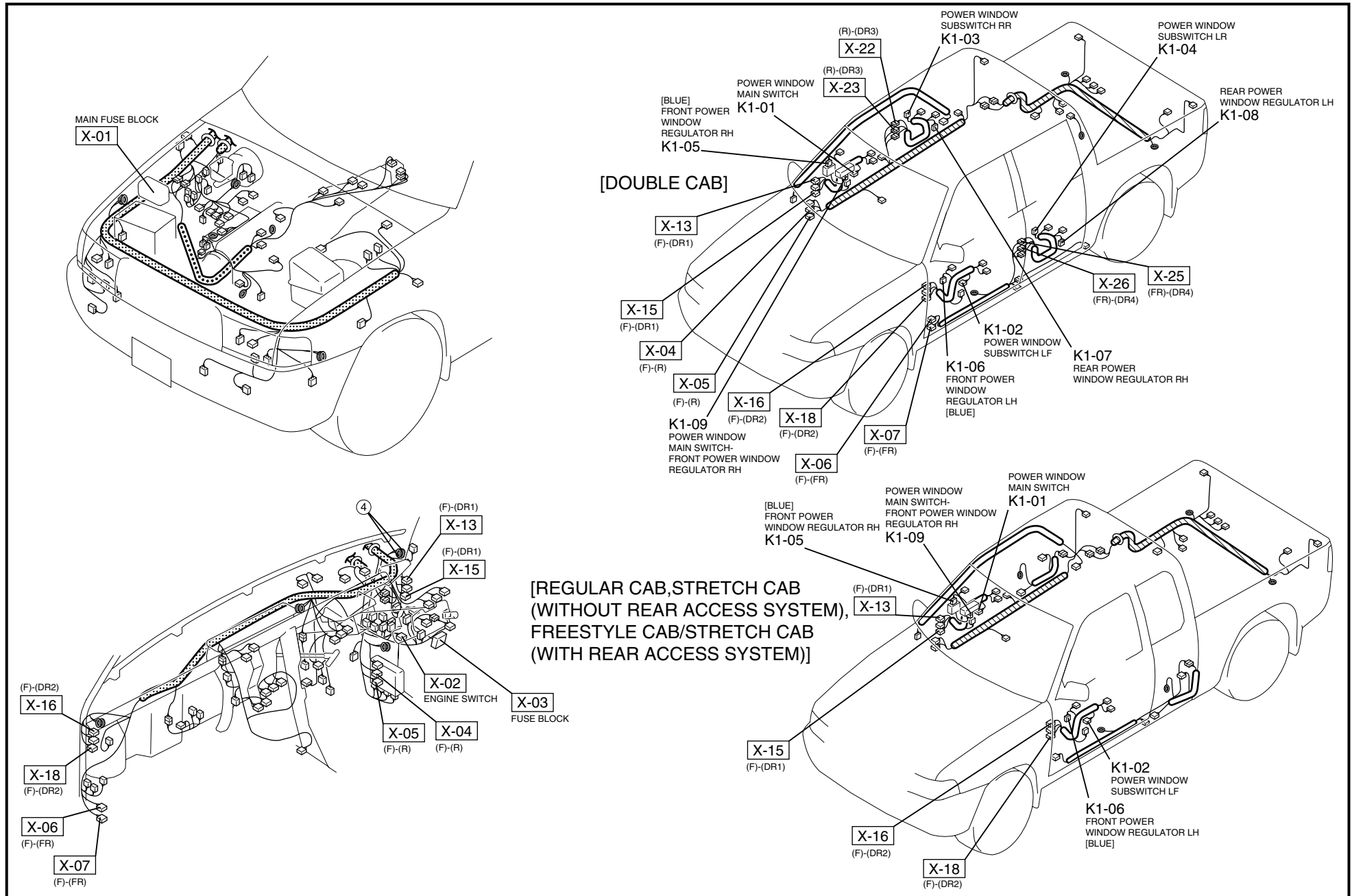


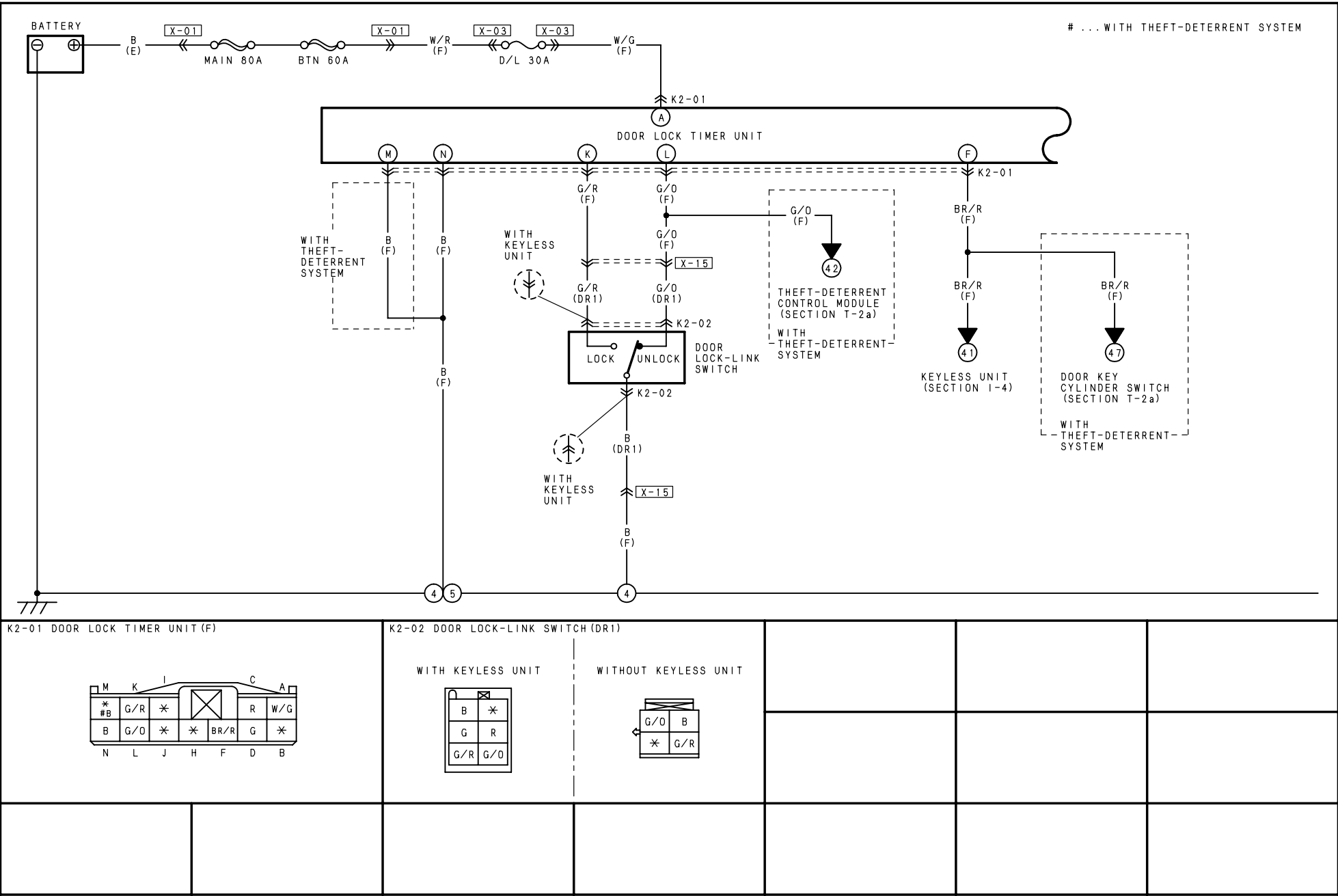
POWER WINDOW SYSTEM

K-1

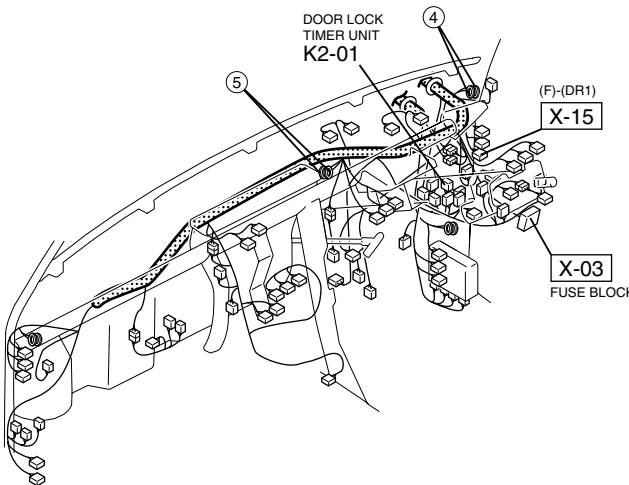
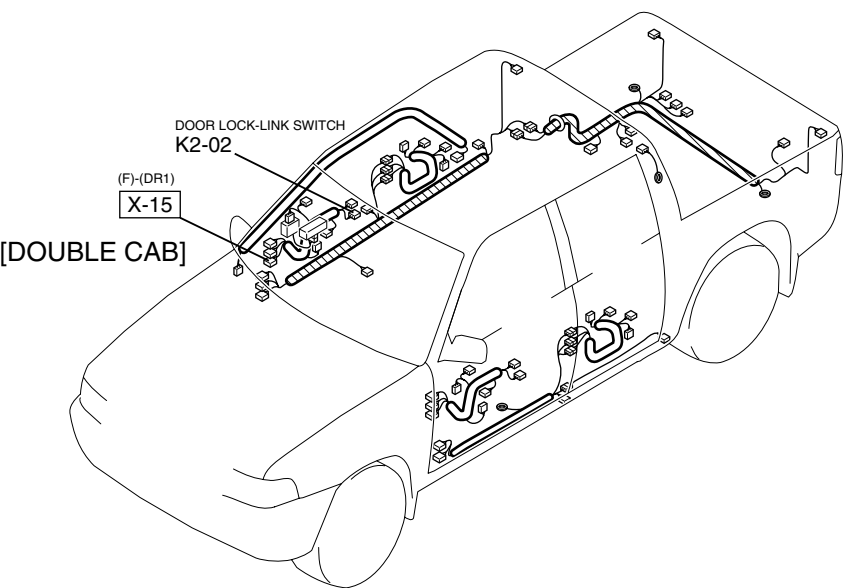
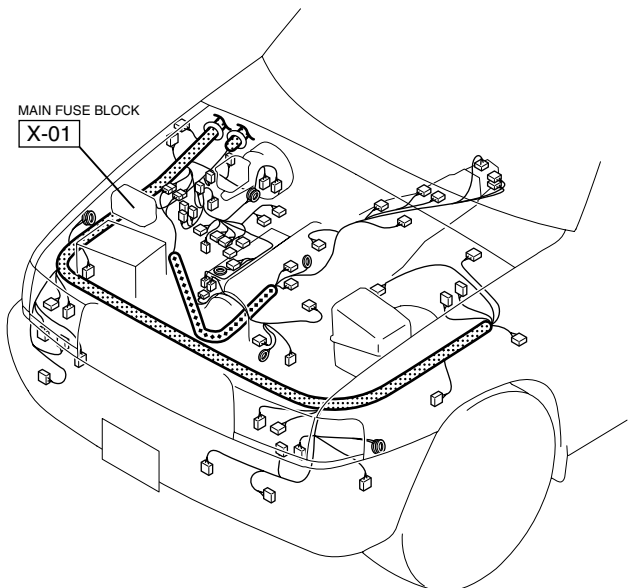


HARNESS SYMBOL:  (F)  (E)  (R)

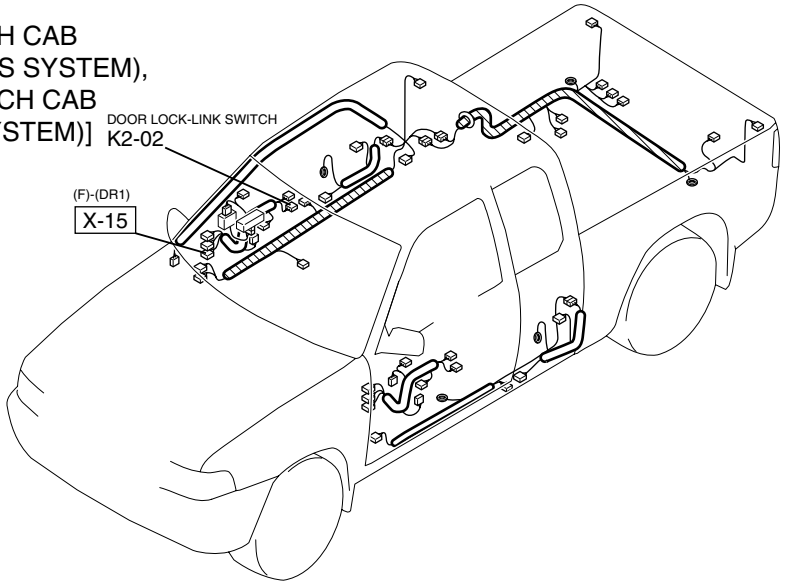


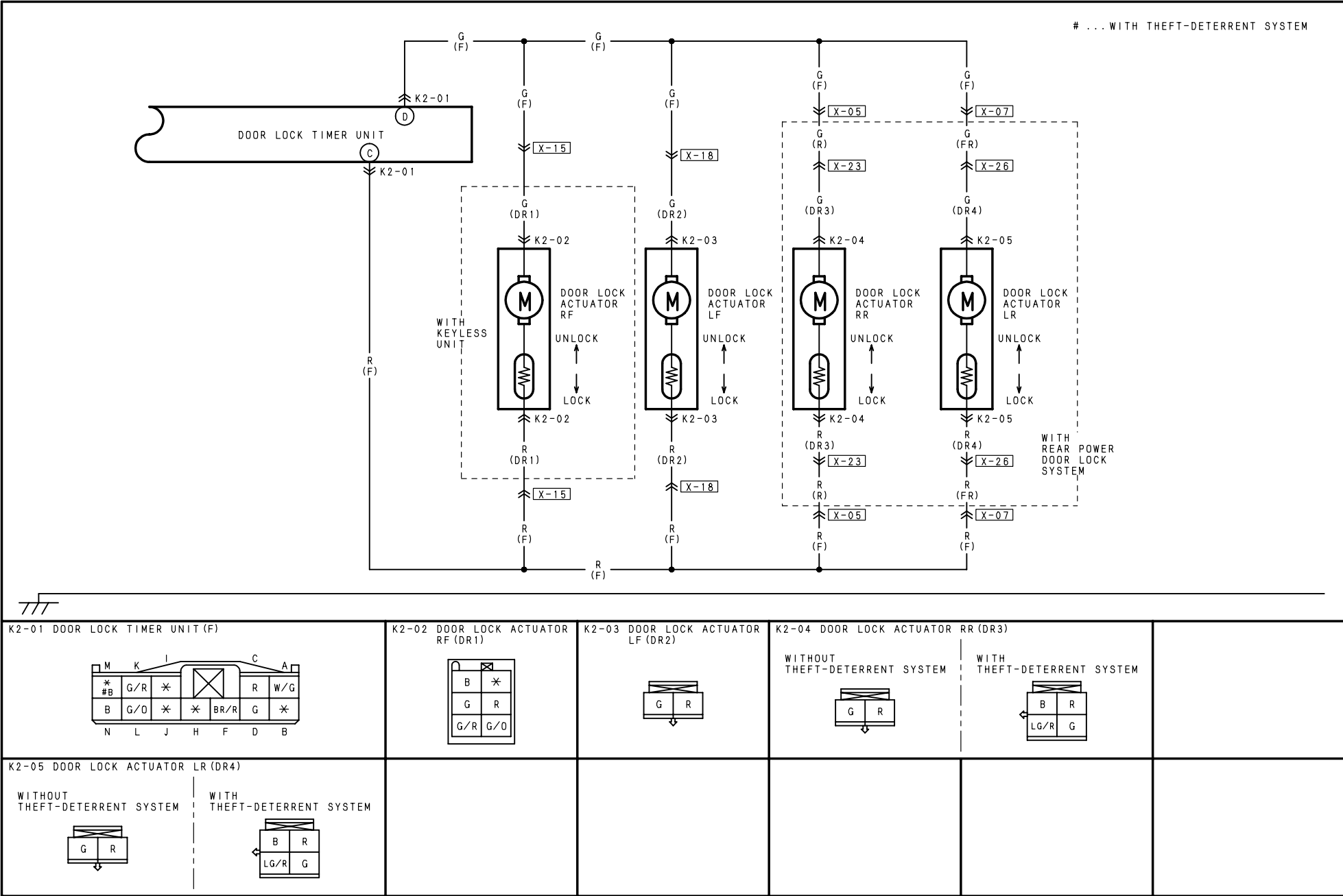


HARNESS SYMBOL:  (F)  (E)  (R)

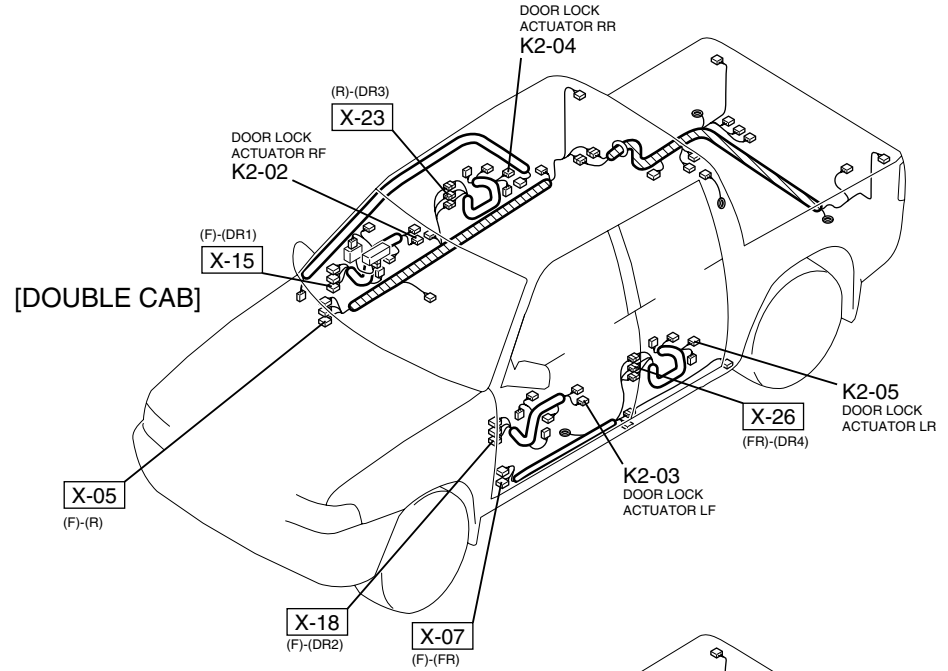
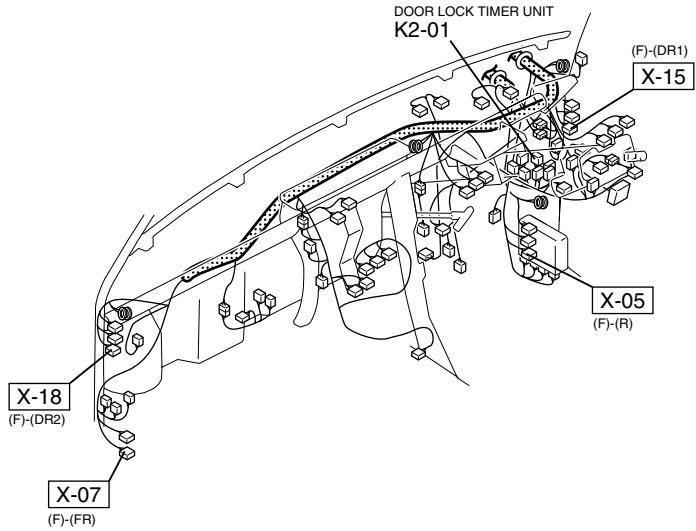


[REGULAR CAB,STRETCH CAB
(WITHOUT REAR ACCESS SYSTEM),
FREESTYLE CAB/STRETCH CAB
(WITH REAR ACCESS SYSTEM)]

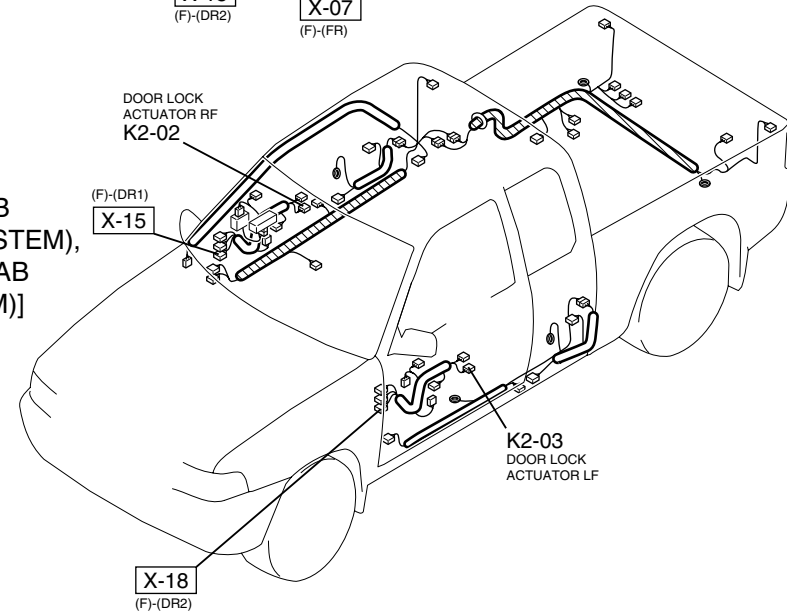




HARNESS SYMBOL:  (F)  (E)  (R)

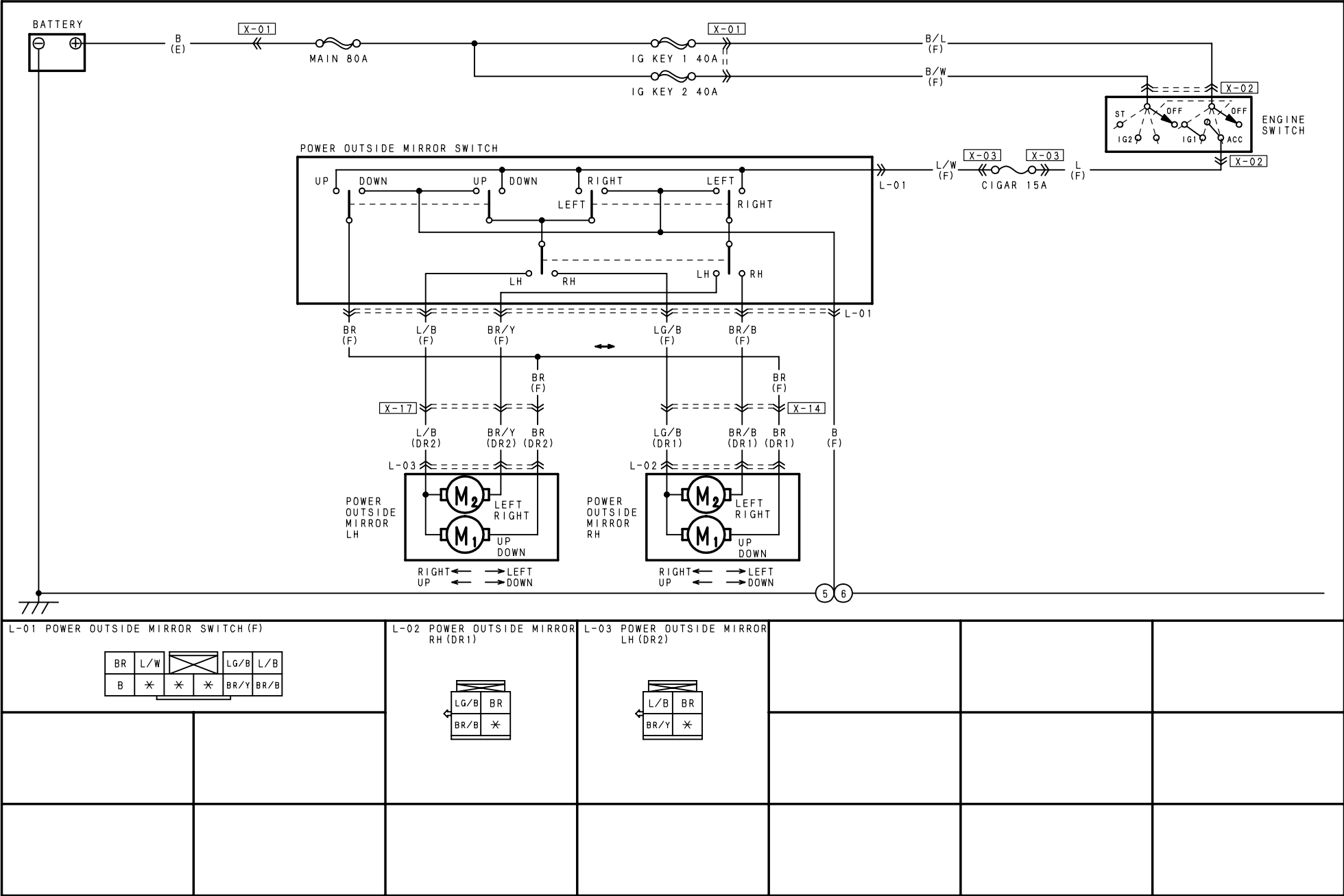


[REGULAR CAB,STRETCH CAB
(WITHOUT REAR ACCESS SYSTEM),
FREESTYLE CAB/STRETCH CAB
(WITH REAR ACCESS SYSTEM)]

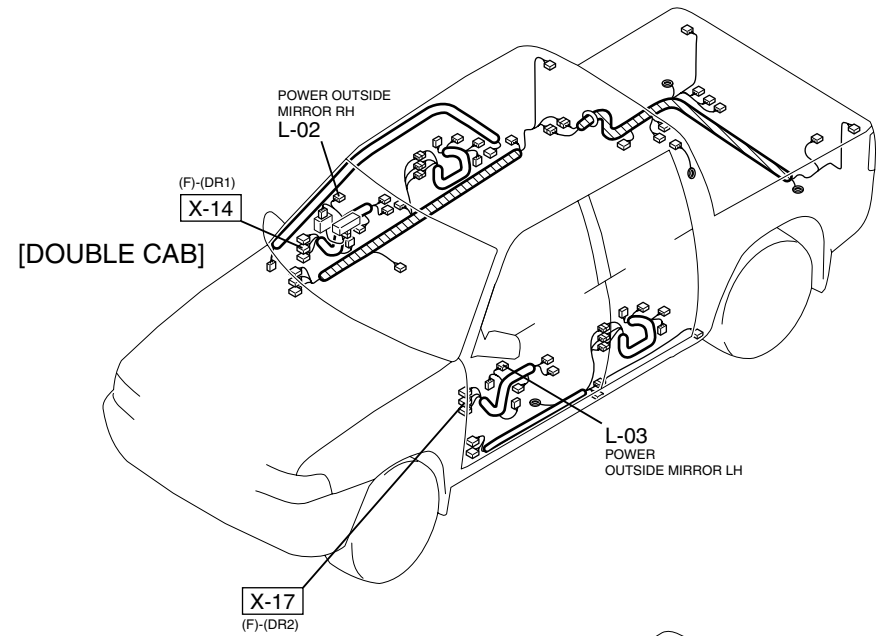
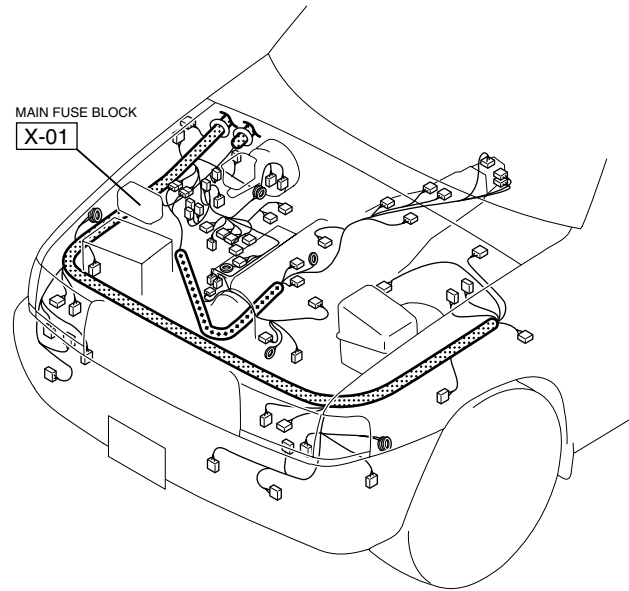


POWER OUTSIDE MIRROR

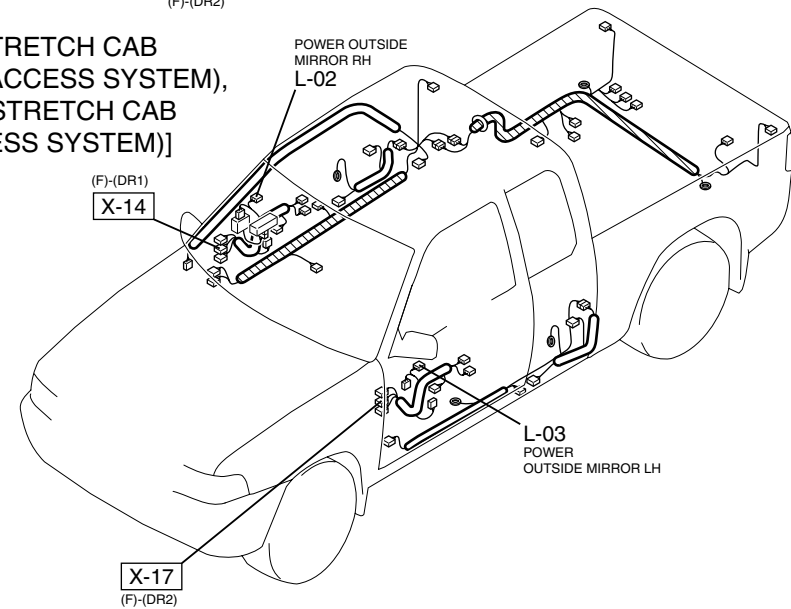
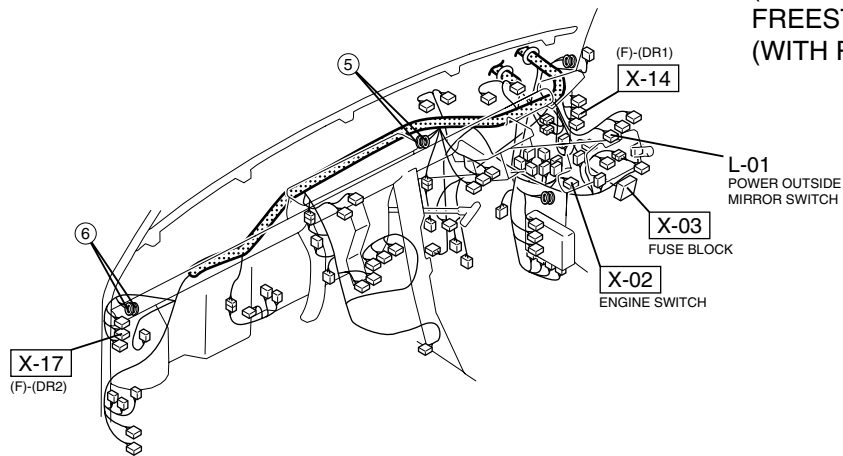
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HARNESS SYMBOL:  (F)  (E)  (R)

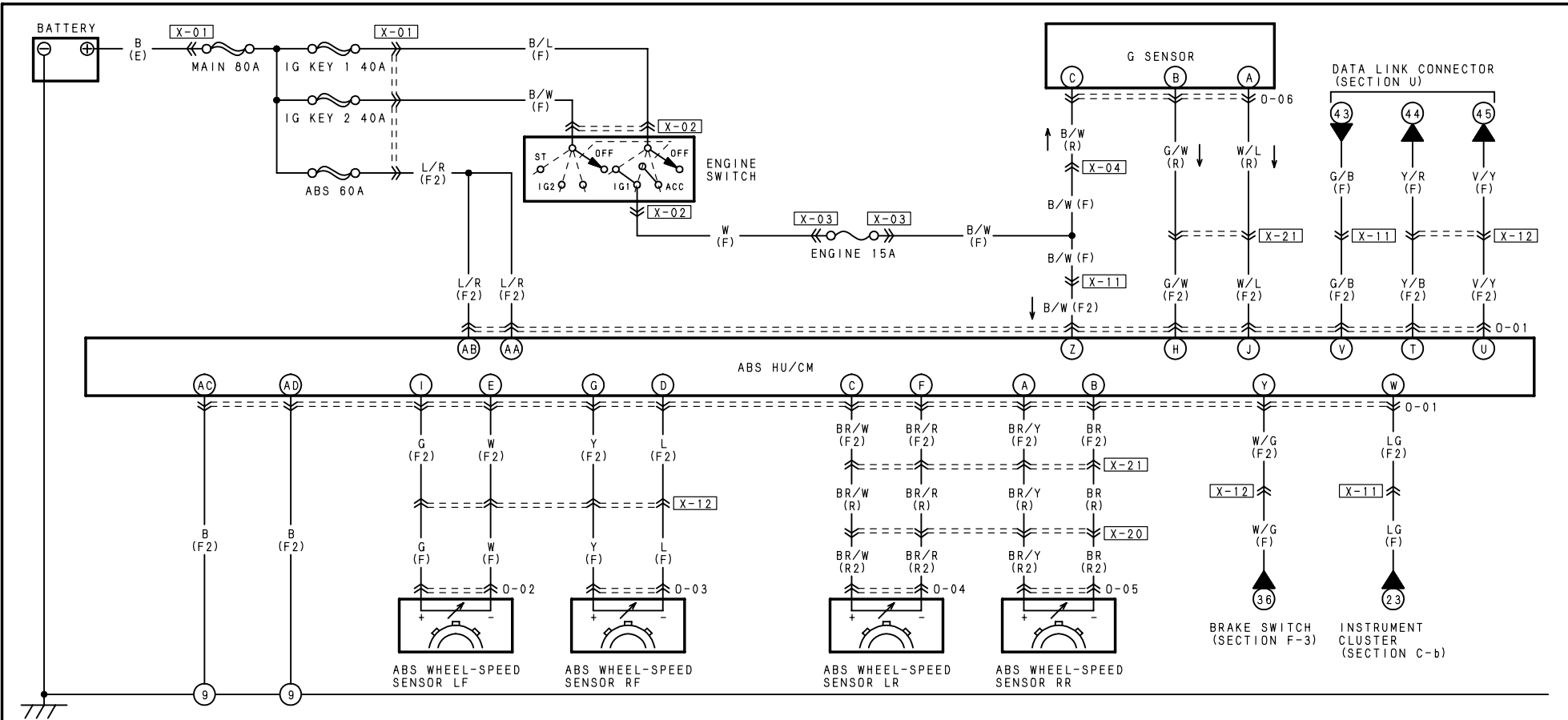


[REGULAR CAB,STRETCH CAB
(WITHOUT REAR ACCESS SYSTEM),
FREESTYLE CAB/STRETCH CAB
(WITH REAR ACCESS SYSTEM)]

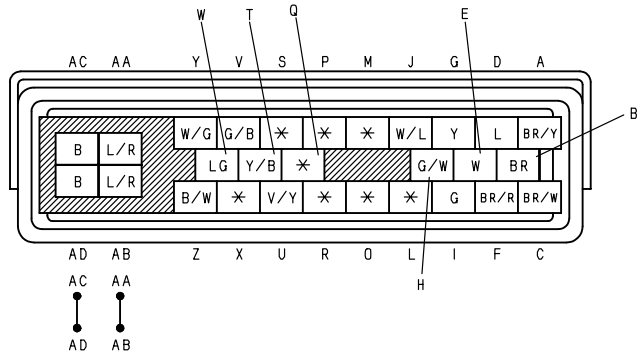


4 WHEEL ANTILOCK BRAKE SYSTEM (4WABS)

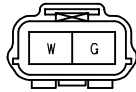
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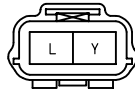
0-01 ABS HU/CM (F2)



0-02 ABS WHEEL-SPEED SENSOR LF (F)



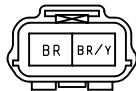
0-03 ABS WHEEL-SPEED SENSOR RF (F)



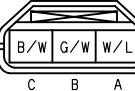
0-04 ABS WHEEL-SPEED SENSOR LR (R2)



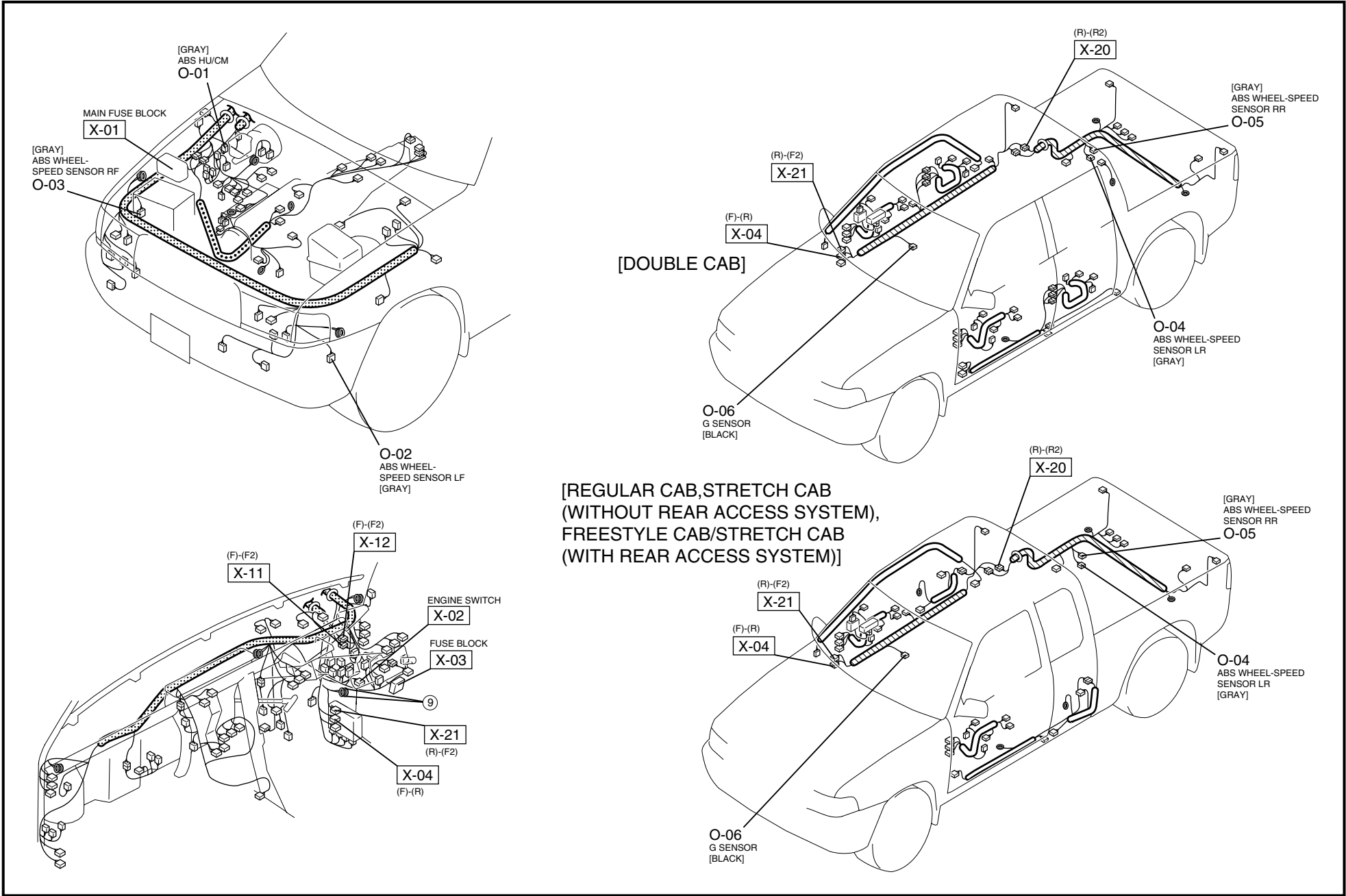
0-05 ABS WHEEL-SPEED SENSOR RR (R2)



0-06 G SENSOR (R)



HARNESS SYMBOL:  (F)  (E)  (R)

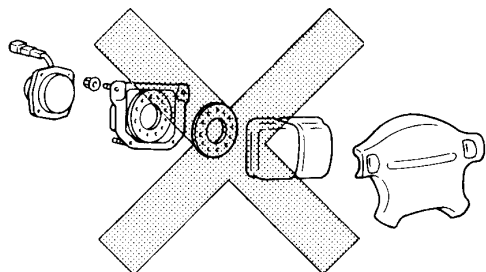


AIR BAG SYSTEM

SERVICE WARNINGS

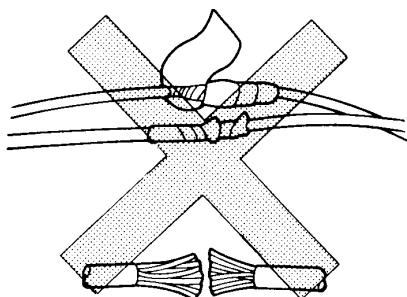
Component Disassembly

- Disassembling and reassembling the components of the air bag system can render the system inoperative, which may result in serious injury or death in the event of an accident. Do not disassemble any air bag system component.



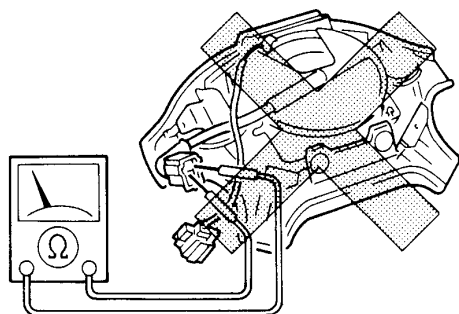
Wiring Harness Repair

- Incorrectly repairing an air bag system wiring harness can accidentally deploy the air bag module, which can cause serious injury. If a problem is found in the system wiring, replace the wiring harness. Do not try to repair it.



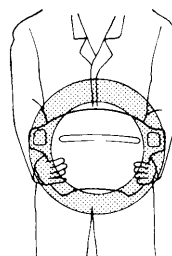
Air Bag Module Inspection

- Inspecting an air bag module using an ohmmeter can deploy the air bag module, which may cause serious injury. Do not use an ohmmeter to inspect an air bag module. Always use the on-board diagnostic function to diagnose the air bag for malfunctions. (Refer to ON-BOARD DIAGNOSTIC FUNCTION, AIR BAG SYSTEM.)

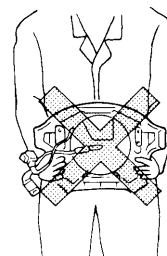


Air Bag Module Handling

- A live (undeployed) air bag module may accidentally deploy when it is handled and cause serious injury. When carrying a live (undeployed) air bag module, point the front surface away from your body to lessen the chance of injury in case it deploys.

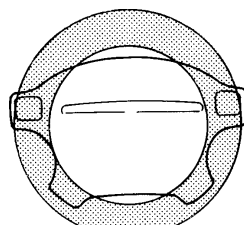


RIGHT

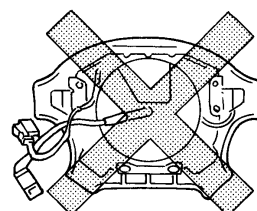


WRONG

- A live (undeployed) air bag module placed face down on a surface is dangerous. If the air bag module deploys, the motion of the module can cause serious injury. Always face the front surface up to reduce the motion of the module in case it accidentally deploys.



RIGHT



WRONG

*The references in this section can be found in B Series Workshop Manual [1644-10-99A (1999-1)] or RANGER Repair Manual [F161-10-99A (1999-1)]

SAS Unit Handling

- Disconnecting the SAS unit connector or removing the SAS unit with the ignition switch at ON position can cause the air bag modules to deploy, which may seriously injure you. Before disconnecting the SAS unit connector or removing the SAS unit, turn the ignition switch to LOCK position, then disconnect the negative battery cable and wait for more than 1 minute to allow the backup power supply of the SAS unit to deplete its stored power.
- Connecting the SAS unit connector without firmly installing the SAS unit to the vehicle is dangerous. The crash sensor inside the unit may send an electrical signal to the air bag modules. This will deploy the air bag modules, which may result in serious injury. Therefore, before connecting the connector, firmly mount the unit to the vehicle.
- For vehicles with a single point sensor, once an air bag is deployed due to an accident or other causes, the SAS unit must be replaced with a new one even if the used one does not have any external signs of damage. The used SAS unit may have been damaged internally which may cause improper operation, resulting in major injuries or even death. The used single point SAS unit cannot be bench-checked or self-checked.

Component Handling

- Oil, grease, water, etc on components may cause the air bag modules to fail to deploy in an accident, which may cause serious injury. Do not allow oil, grease, water, etc on components.
- Inserting a screwdriver, etc into the connector of an air bag module may damage the connector and cause the air bag module to deploy improperly, which may cause serious injury. Do not insert any foreign objects into the connector.

Component Reusing

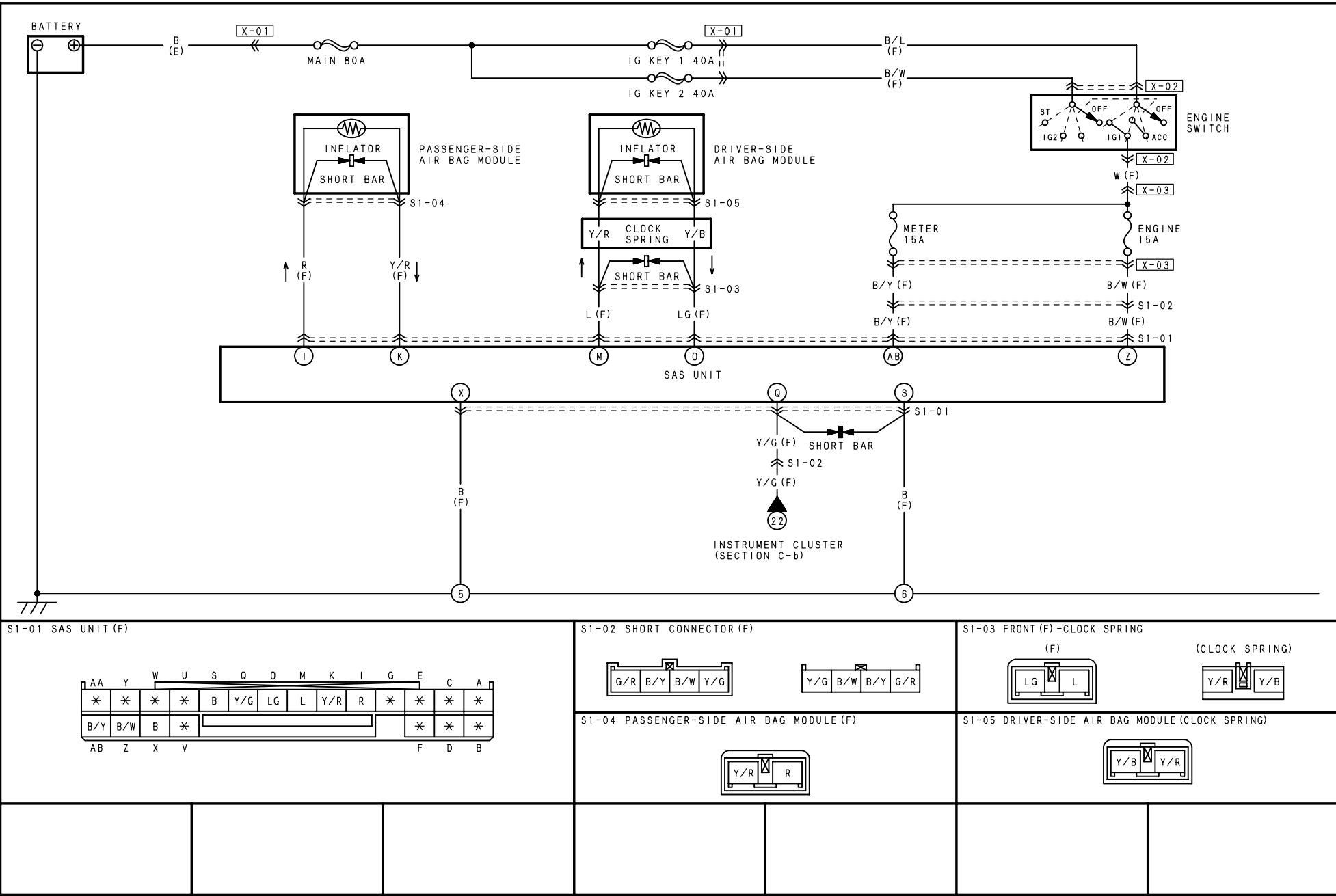
- Even if an air bag module does not deploy in a collision and does not have any external signs of damage, it may have been damaged internally, which may cause improper operation. Improper operation may cause serious injury. Always self-check the undamaged air bag module to determine whether it can be reused. (Refer to ON-BOARD DIAGNOSTIC FUNCTION, AIR BAG SYSTEM.)

*The references in this section can be found in B Series Workshop Manual [1644-10-99A (1999-1)] or RANGER Repair Manual [F161-10-99A (1999-1)]

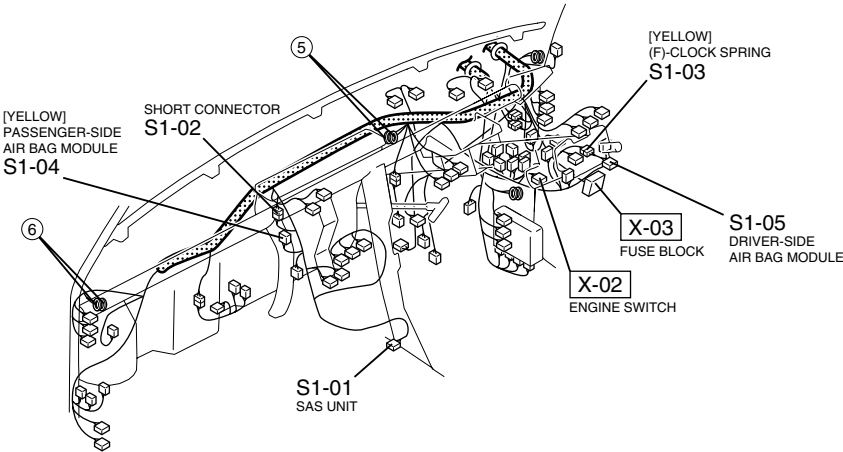
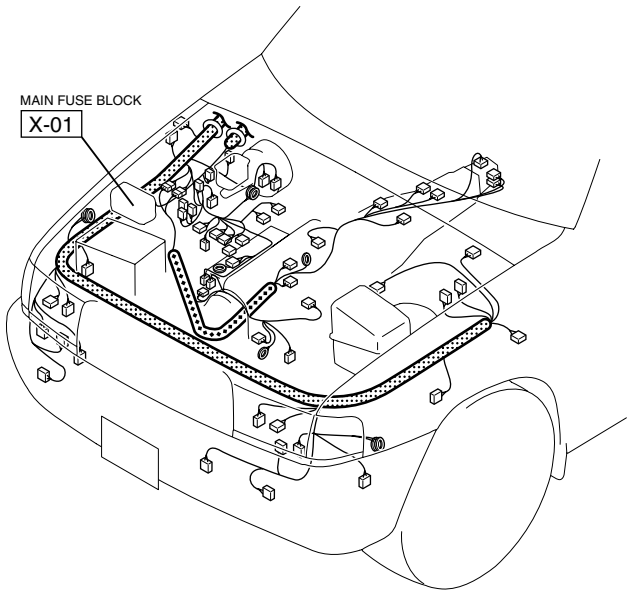
AIR BAG SYSTEM

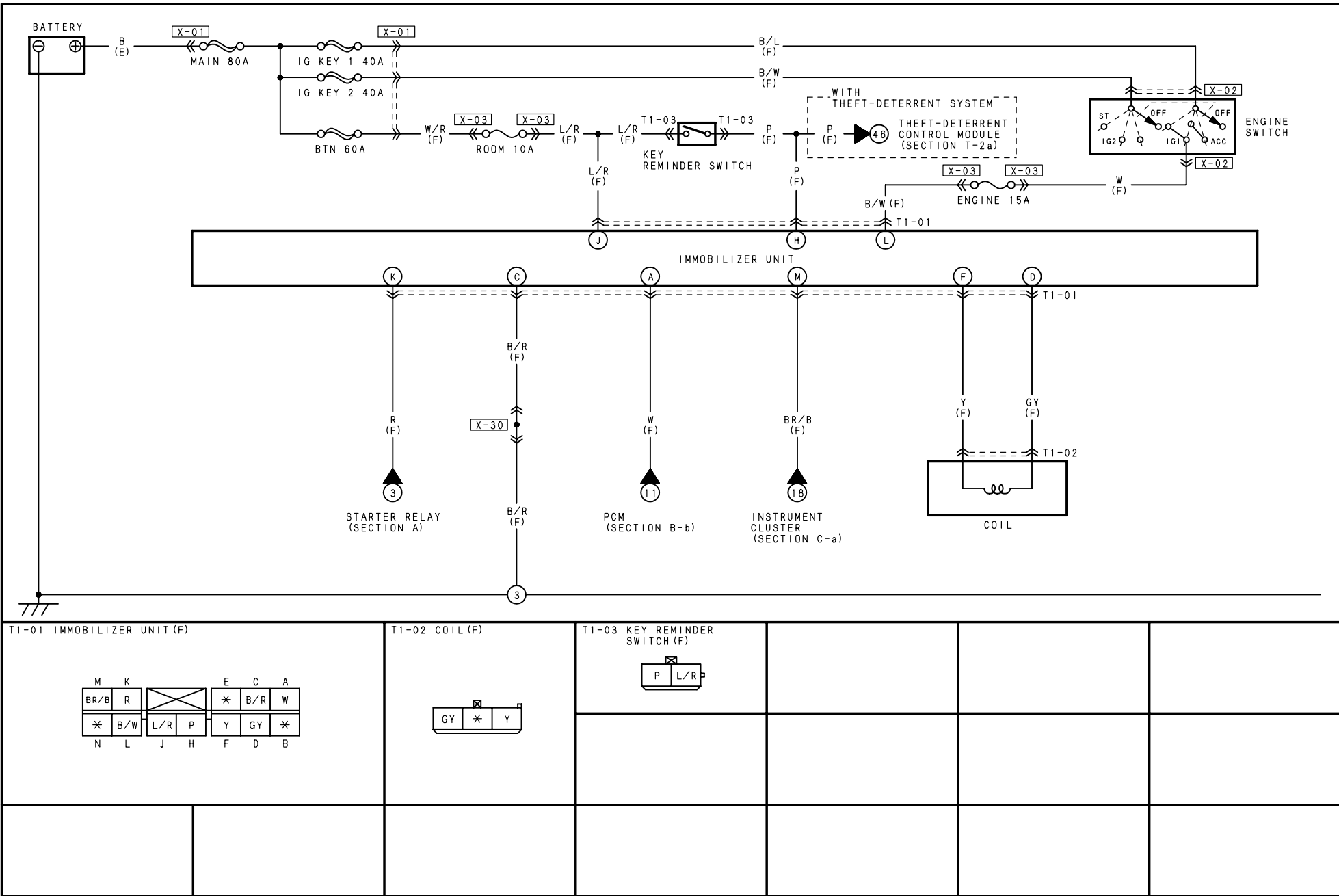
S-1

74

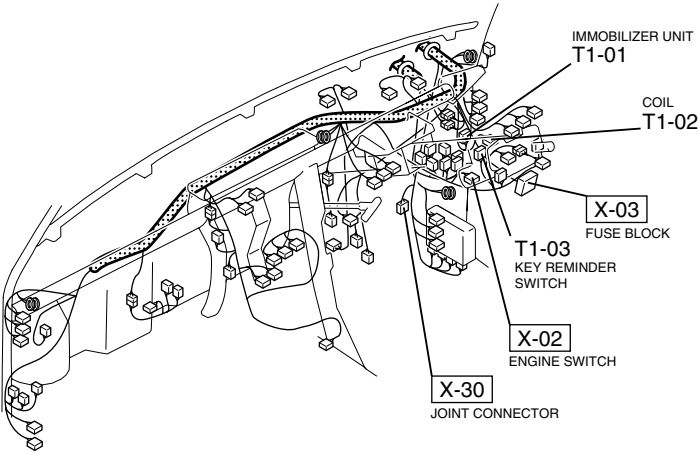
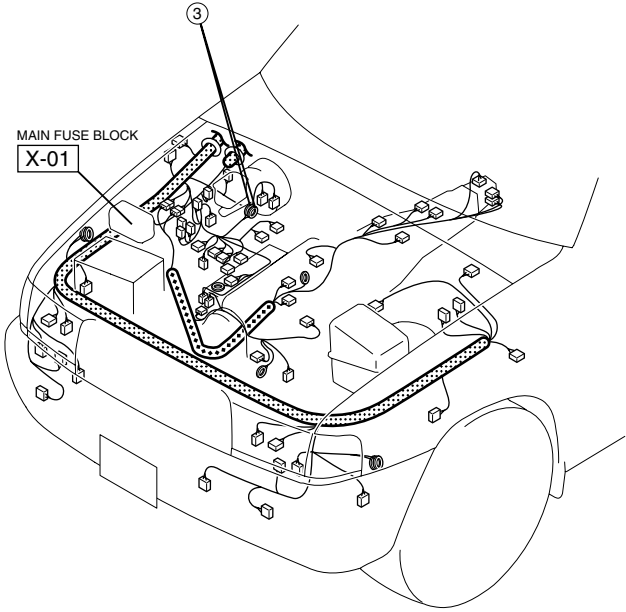


HARNESS SYMBOL:  (F)  (E)  (R)



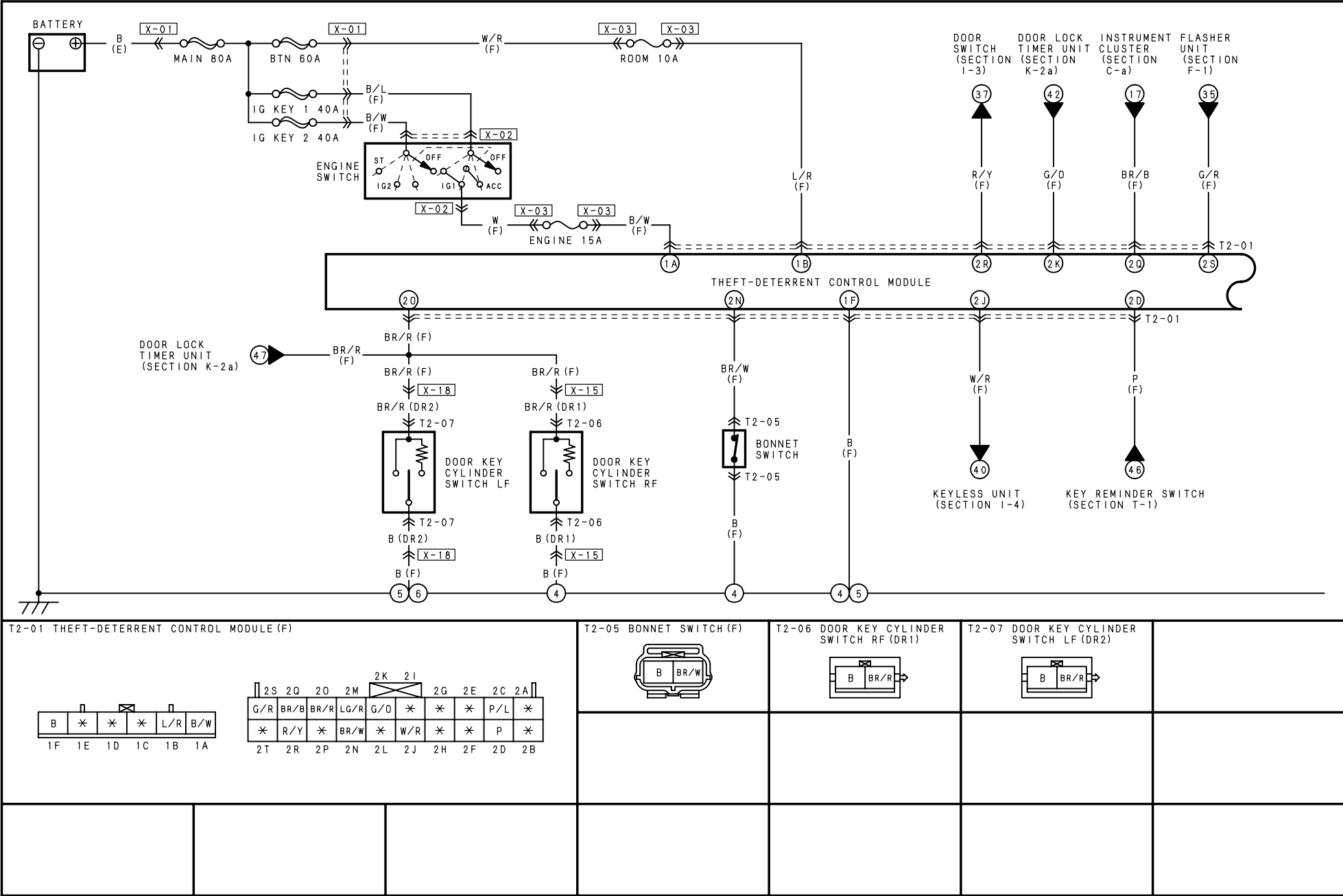


HARNESS SYMBOL:  (F)  (E)  (R)

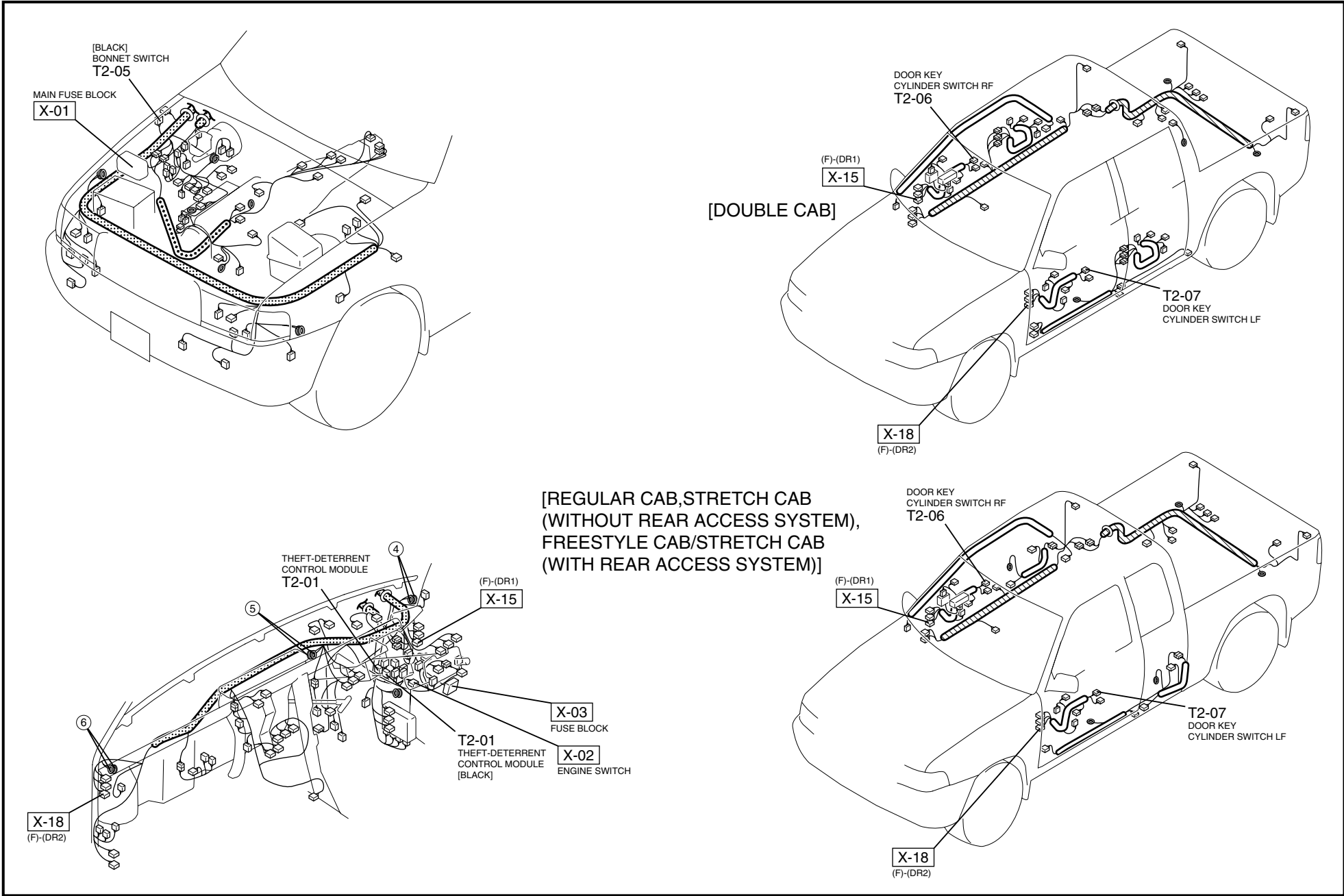


THEFT-DETERRENT SYSTEM

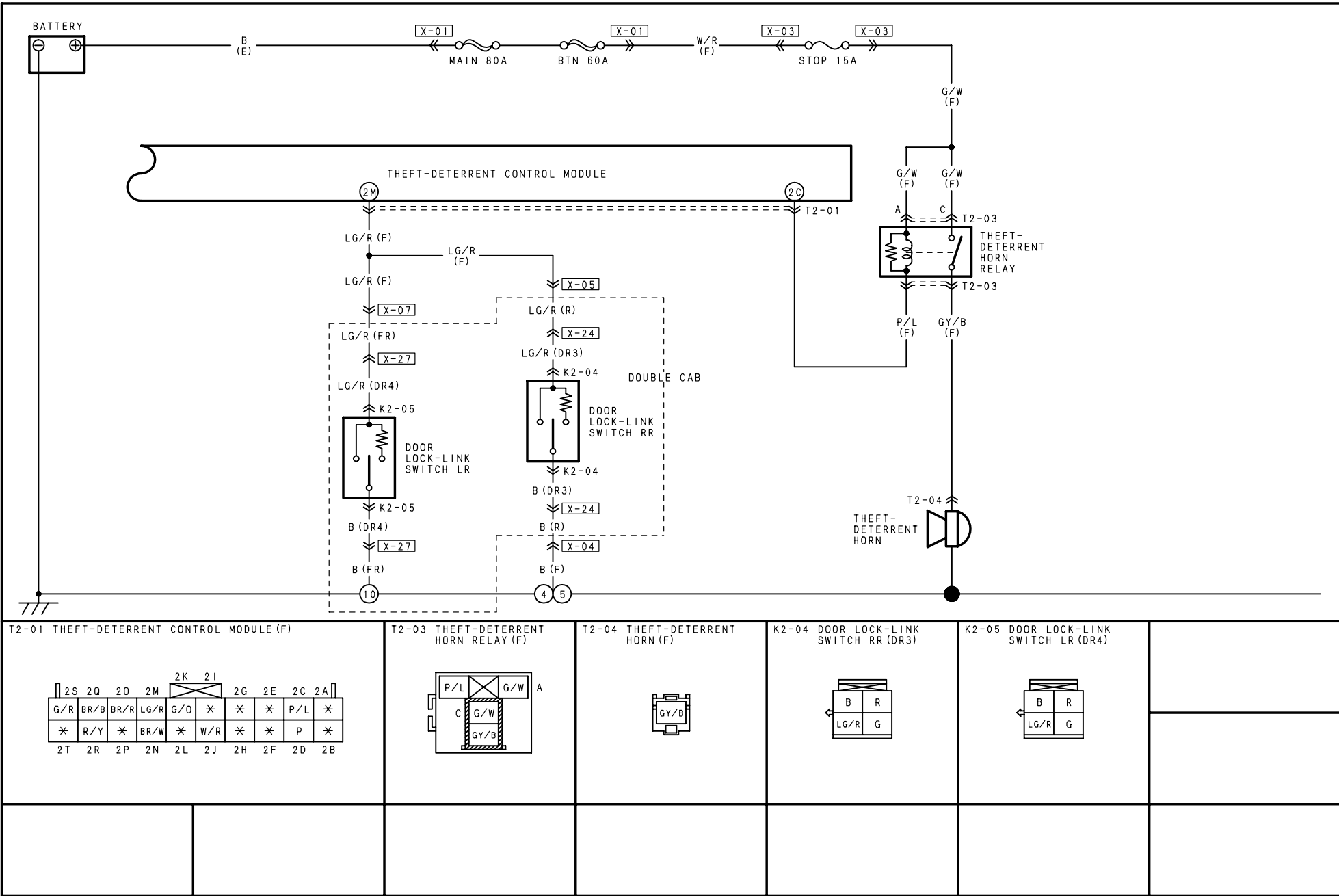
T-2a



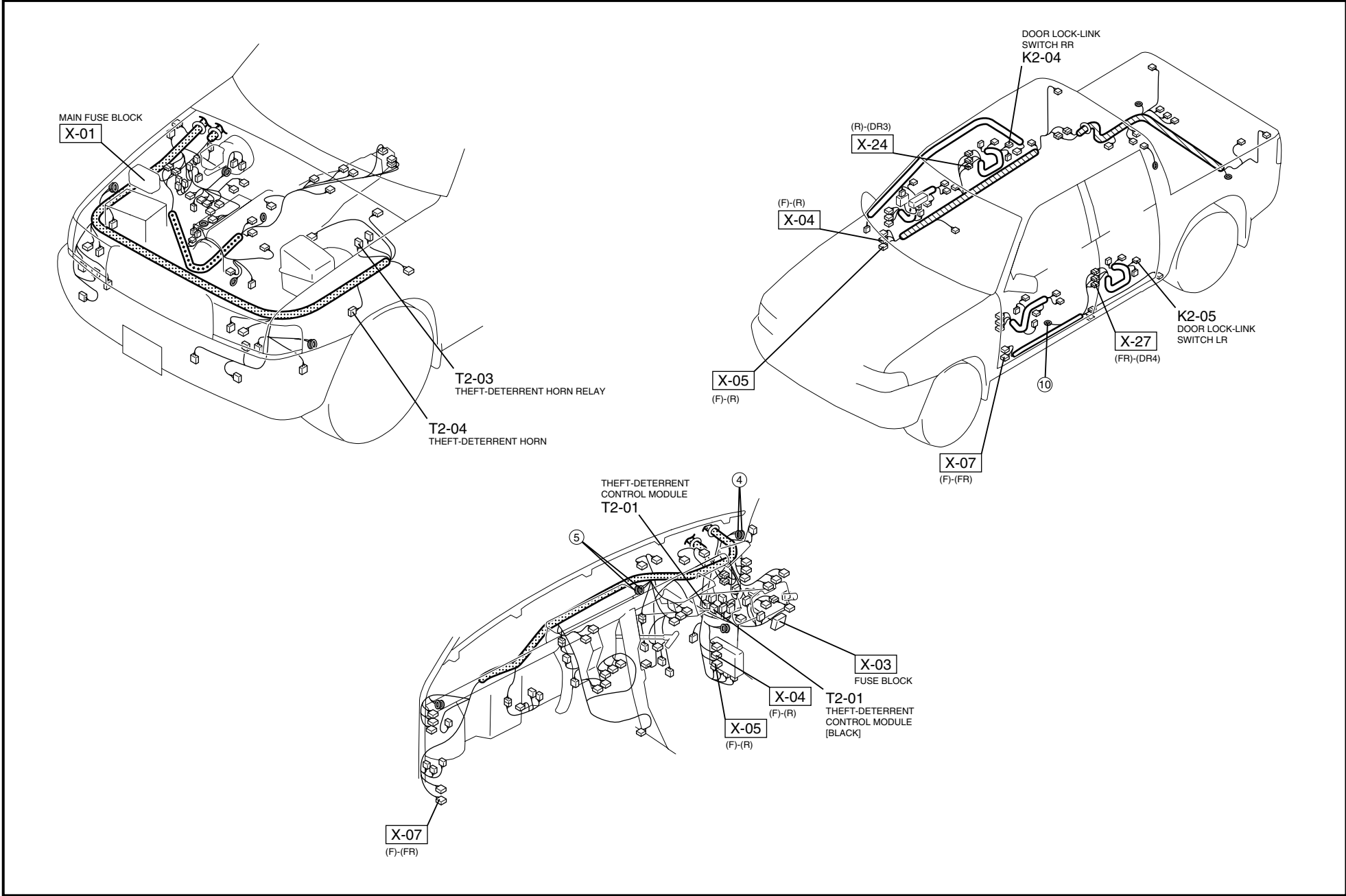
HARNESS SYMBOL:  (F)  (E)  (R)



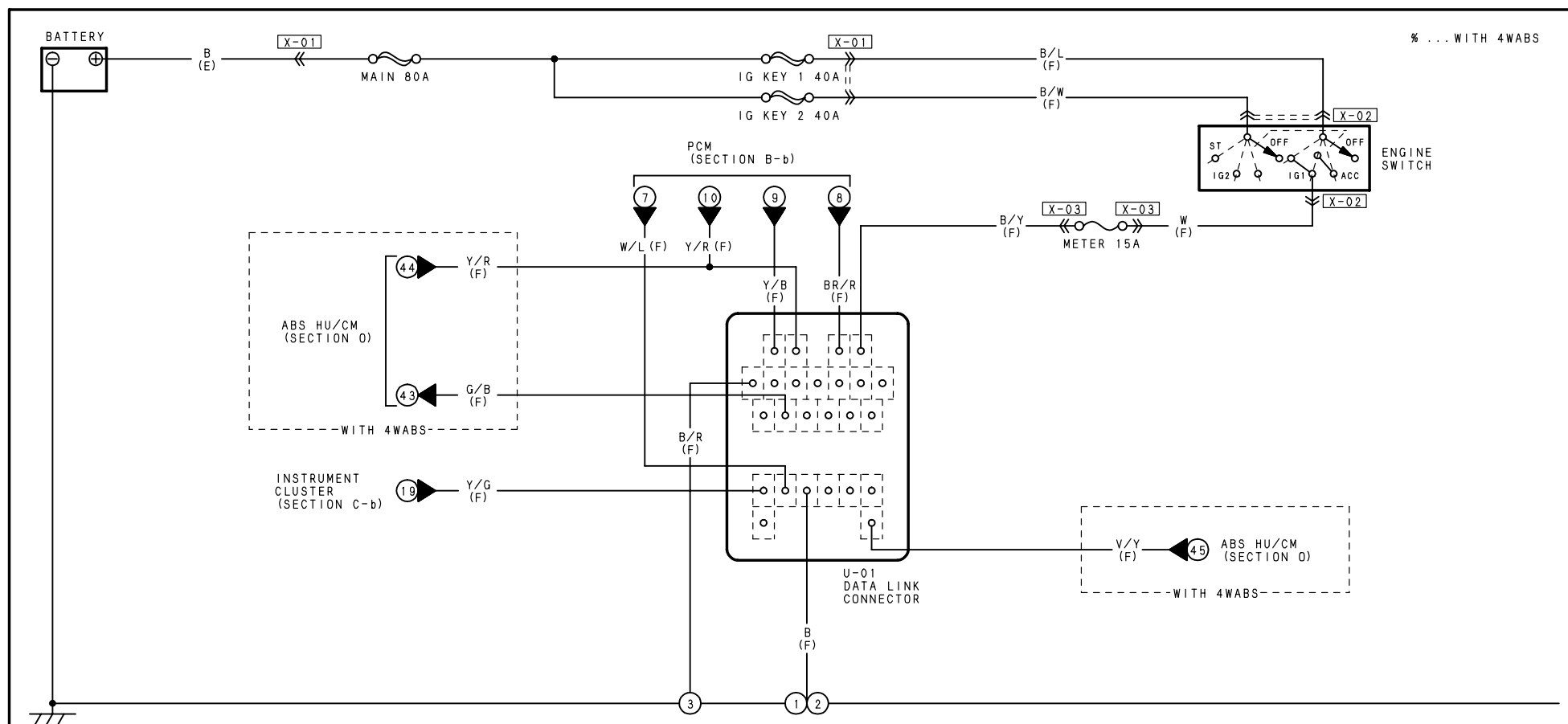
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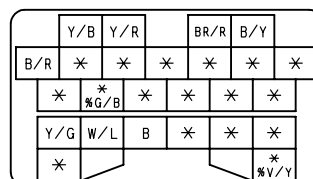
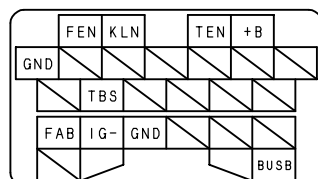
HARNESS SYMBOL:  (F)  (E)  (R)



DATA LINK CONNECTOR

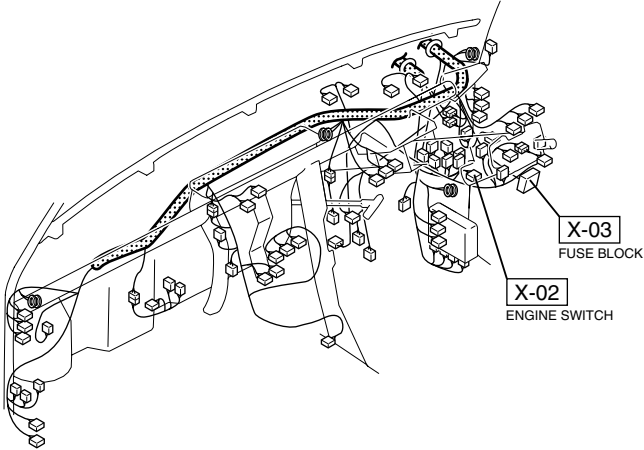
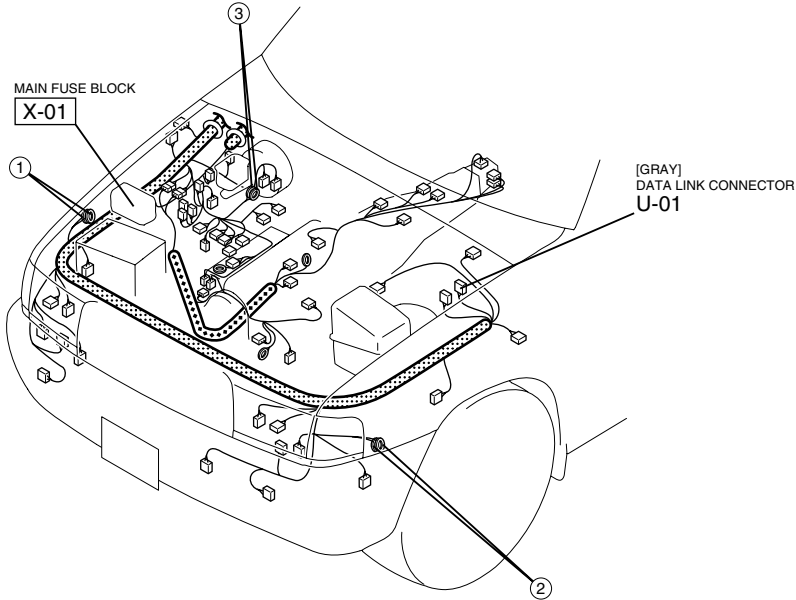


U-01 DATA LINK CONNECTOR (F)



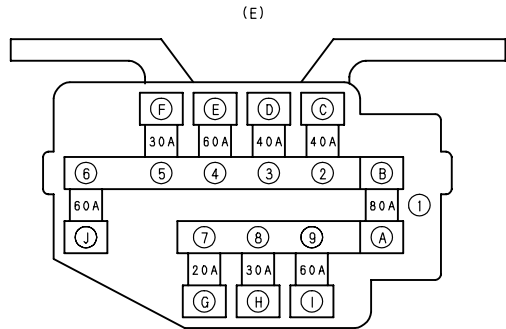
NOTE: THIS IS THE CONNECTOR AS SEEN FROM THE TERMINAL SIDE.

HARNESS SYMBOL:  (F)  (E)  (R)



COMMON CONNECTOR LIST

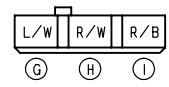
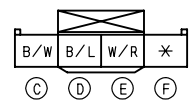
X-01 MAIN FUSE BLOCK



(E)



(F)



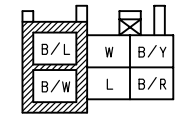
(F2)



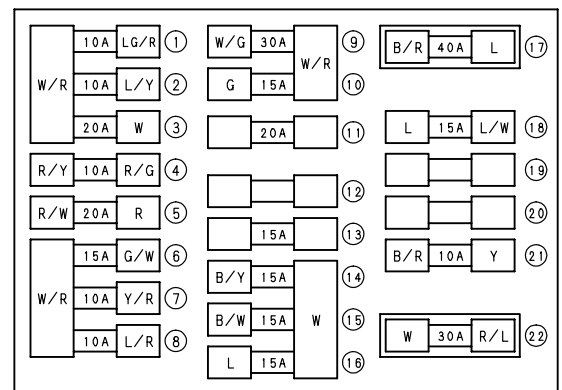
NOTE:THIS IS THE CONNECTOR AS SEEN FROM THE TERMINAL SIDE.

- | | | | |
|------------|---------|-------------|---|
| ① MAIN | ④ BTN | ⑦ (FIP/INJ) | |
| ② IG KEY 2 | ⑤ (PTC) | ⑧ HEAD | () EQUIPPED ONLY WITH THE RELATED SYSTEM |
| ③ IG KEY 1 | ⑥ (ABS) | ⑨ (GLOW) | |

X-02 ENGINE SWITCH (F)



X-03 FUSE BLOCK (F)



- | | |
|--------------|-------------|
| ① (A/C) | ⑫ — |
| ② HAZARD | ⑬ (S. WARM) |
| ③ (R. DEFOG) | ⑭ METER |
| ④ (R. FOG) | ⑮ ENGINE |
| ⑤ HEAD | ⑯ WIPER |
| ⑥ STOP | ⑰ (HEATER) |
| ⑦ TAIL | ⑱ CIGAR |
| ⑧ ROOM | ⑲ — |
| ⑨ (D/L) | ⑳ — |
| ⑩ (P/W) | ㉑ (A/C2) |
| ⑪ (ABS) | ㉒ (P. WIND) |

NOTE:THIS IS THE CONNECTOR AS SEEN FROM THE TERMINAL SIDE.

() EQUIPPED ONLY WITH THE RELATED SYSTEM

COMMON CONNECTOR LIST

X-04 FRONT (F) -REAR (R) (F) (R) @ ... WITH REAR DOOR SPEAKER % ... WITH REAR POWER WINDOW SYSTEM & ... NOT USED	
X-05 FRONT (F) -REAR (R) (F) (R) # ... WITH THEFT-DETERRENT SYSTEM % ... WITH REAR POWER WINDOW SYSTEM & ... WITH REAR POWER DOOR LOCK SYSTEM	X-06 FRONT (F) -FLOOR (FR) (F) (FR) @ ... WITH REAR POWER WINDOW SYSTEM < > ... NOT USED # ... WITH REAR DOOR SPEAKER % ... FREESTYLE CAB/STRETCH CAB (WITH REAR ACCESS SYSTEM)
X-07 FRONT (F) -FLOOR (FR) (F) (FR) # ... WITH THEFT-DETERRENT SYSTEM @ ... WITH REAR POWER WINDOW SYSTEM % ... WITH REAR POWER DOOR LOCK SYSTEM	X-08 FRONT (F) -ENGINE (E) (F) (E)
X-09 FRONT (F) -ENGINE (E) (F) (E) # ... WITH RFW CONTROL SYSTEM	X-10 FRONT (F) -INTERIOR LIGHT (IN) (F) (IN)

COMMON CONNECTOR LIST

X-3

X-11 FRONT (F) -FRONT No. 2 (F2) # ... NOT USED (F) LG B/W #B G/B (F2) B/W LG G/B *	X-12 FRONT (F) -FRONT No. 2 (F2) (F) Y L G W Y/R * (F2) * Y/B V/Y W/G W G Y L	X-13 FRONT (F) -DOOR No. 1 (DR1) # ... WITH POWER WINDOW SYSTEM (F) R/L L/R L/Y G (DR1) L/R * #R/L L/Y
X-14 FRONT (F) -DOOR No. 1 (DR1) (F) LG/B BR/B BR (DR1) BR BR/B LG/B	X-15 FRONT (F) -DOOR No. 1 (DR1) # ... WITH THEFT-DETERRENT SYSTEM @ ... WITH REAR POWER WINDOW SYSTEM % ... WITH KEYLESS SYSTEM & ... WITH POWER WINDOW SYSTEM (F) G * #BR/R G/Y R R/Y W/R B R/W G/D G/R W (DR1) * @L/W * G/R * G/O * @W * &G/W * R/W * B * @G/Y * #BR/R * %G * @W/R * &R/Y * %R	
X-16 FRONT (F) -DOOR No. 2 (DR2) # ... WITH POWER WINDOW SYSTEM (F) R/L L L/W * (DR2) L * #R/L L/W	X-17 FRONT (F) -DOOR No. 2 (DR2) (F) L/B BR/Y BR (DR2) BR BR/Y L/B	X-18 FRONT (F) -DOOR No. 2 (DR2) # ... WITH THEFT-DETERRENT SYSTEM @ ... WITH POWER WINDOW SYSTEM (F) * #BR/R R/W G/W R G (DR2) * #B G R * @G/W * #BR/R * @R/W
X-19 REAR (R) -REAR No. 2 (R2) @ ... NOT USED (R) * @G/R G/B Y G/W R/W R/B W/G B/R * (R2) * R/L B/R W/G R/B R/W G/W Y	X-20 REAR (R) -REAR No. 2 (R2) (R) * BR/Y BR BR/W BR/R * (R2) * BR/R BR/W BR BR/Y *	X-21 REAR (R) -FRONT No. 2 (F2) (R) BR/Y BR BR/W BR/R W/L G/W (F2) G/W W/L BR/R BR/W BR/Y BR

COMMON CONNECTOR LIST

X-22 REAR (R) -DOOR No. 3 (DR3) # ... WITH REAR DOOR SPEAKER (R) <table><tr><td>GY/R</td><td>GY</td><td>R/L</td></tr></table> (DR3) <table><tr><td>R/L</td><td>* #GY</td><td>* #GY/R</td></tr></table>		GY/R	GY	R/L	R/L	* #GY	* #GY/R	X-23 REAR (R) -DOOR No. 3 (DR3) # ... WITH REAR POWER WINDOW SYSTEM (R) <table><tr><td>R</td><td>L/W</td></tr><tr><td>G</td><td>W</td></tr></table> (DR3) <table><tr><td>* #L/W</td><td>R</td></tr><tr><td>* #W</td><td>G</td></tr></table>		R	L/W	G	W	* #L/W	R	* #W	G						
GY/R	GY	R/L																					
R/L	* #GY	* #GY/R																					
R	L/W																						
G	W																						
* #L/W	R																						
* #W	G																						
X-24 REAR (R) -DOOR No. 3 (DR3) (R) <table><tr><td>B</td><td>LG/R</td></tr></table> (DR3) <table><tr><td>LG/R</td><td>B</td></tr></table>		B	LG/R	LG/R	B	X-25 FLOOR (FR) -DOOR No. 4 (DR4) # ... WITH REAR DOOR SPEAKER (FR) <table><tr><td>P/L</td><td>GY/L</td><td>R/L</td></tr></table> (DR4) <table><tr><td>R/L</td><td>* #GY</td><td>* #GY/R</td></tr></table>		P/L	GY/L	R/L	R/L	* #GY	* #GY/R										
B	LG/R																						
LG/R	B																						
P/L	GY/L	R/L																					
R/L	* #GY	* #GY/R																					
X-26 FLOOR (FR) -DOOR No. 4 (DR4) # ... WITH REAR POWER WINDOW SYSTEM (FR) <table><tr><td>R</td><td>GY</td></tr><tr><td>G</td><td>W/R</td></tr></table> (DR4) <table><tr><td>* #L/W</td><td>R</td></tr><tr><td>* #W</td><td>G</td></tr></table>		R	GY	G	W/R	* #L/W	R	* #W	G	X-27 FLOOR (FR) -DOOR No. 4 (DR4) (FR) <table><tr><td>B</td><td>LG/R</td></tr></table> (DR4) <table><tr><td>LG/R</td><td>B</td></tr></table>		B	LG/R	LG/R	B								
R	GY																						
G	W/R																						
* #L/W	R																						
* #W	G																						
B	LG/R																						
LG/R	B																						
X-28 REAR (R) -DOOR No. 3 (DR3) (R) <table><tr><td>R/Y</td><td>GY</td></tr><tr><td>GY/R</td><td>B</td></tr></table> (DR3) <table><tr><td>GY</td><td>R/Y</td></tr><tr><td>B</td><td>GY/R</td></tr></table>		R/Y	GY	GY/R	B	GY	R/Y	B	GY/R	X-29 FLOOR (FR) -DOOR No. 4 (DR4) (FR) <table><tr><td>R/Y</td><td>GY/L</td></tr><tr><td>P/L</td><td>B</td></tr></table> (DR4) <table><tr><td>GY</td><td>R/Y</td></tr><tr><td>B</td><td>GY/R</td></tr></table>		R/Y	GY/L	P/L	B	GY	R/Y	B	GY/R				
R/Y	GY																						
GY/R	B																						
GY	R/Y																						
B	GY/R																						
R/Y	GY/L																						
P/L	B																						
GY	R/Y																						
B	GY/R																						
X-30 JOINT CONNECTOR (F) <table><tr><td>I</td><td></td><td></td><td></td><td>A</td></tr><tr><td>B/R</td><td></td><td></td><td></td><td>B/R</td></tr><tr><td>B/R</td><td>B/R</td><td>B/R</td><td>B/R</td><td>B/R</td></tr><tr><td>J</td><td>H</td><td>F</td><td>D</td><td>B</td></tr></table> I J H F D B A				I				A	B/R				B/R	B/R	B/R	B/R	B/R	B/R	J	H	F	D	B
I				A																			
B/R				B/R																			
B/R	B/R	B/R	B/R	B/R																			
J	H	F	D	B																			

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