SECTION BCS
BODY CONTROL SYSTEM

CONTENTS

PRECAUTIONS

PFP:00001

Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

EKS003A0

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

Wiring Diagrams and Trouble Diagnosis

EKS003A1

When you read wiring diagrams, refer to the following:

- GI-13, "How to Read Wiring Diagrams", and
- PG-2, "POWER SUPPLY ROUTING".

When you perform trouble diagnosis, refer to the following:

- GI-10, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES", and
- GI-26, "How to Perform Efficient Diagnosis for an Electrical Incident".

Check for any Service bulletins before servicing the vehicle.

SMART ENTRANCE CONTROL UNIT

PFP:28596

Description

EKS003A2

OUTLINE

The smart entrance control unit totally controls the following body electrical system operations.

- Warning chime
- Rear window defogger and door mirror defogger
- Power door locks
- Remote keyless entry system
- Vehicle security system
- Interior lamp
- Battery saver control

BATTERY SAVER CONTROL

Interior Lamp/Map Lamp/Vanity Lamps

The lamps turn off automatically when the interior lamp, map lamp or/and vanity lamps are illuminated with the ignition key in the OFF position, if the lamp remains lit by the door switch open signal or if the lamp switch is in the ON position for approximately 10 minutes.
After lamps are turned off by the battery saver system, the lamps illuminate again when:

- Driver's door is locked or unlocked,
- Door is opened or closed,
- Key is inserted into or removed from the ignition key cylinder.

Rear Window Defogger/Door Mirror Defogger

Rear window defogger and door mirror defogger are turned off approximately 15 minutes after the rear window defogger switch is turned on.

INPUT/OUTPUT

System	Input	Output
Power door lock	Door lock and unlock switch LH and RH Key switch (Insert) Door switches Door key cylinder switch	Door lock actuator
Remote keyless entry	Key switch (Insert) Ignition switch (ACC) Door switches Front door unlock sensor LH Keyfob signal	Vehicle security lamp relay Vehicle security horn relay Interior lamp Remote keyless entry relay Door lock actuator Trunk lid opener actuator
Warning chime	Key switch (Insert) Ignition switch (ON) Lighting switch (1st or 2nd) Seat belt buckle switch LH Front door switch LH	Warning chime (located in smart entrance control unit)
Rear window defogger and door mirror defogger	Ignition switch (ON) Rear window defogger switch	Rear window defogger relay
Vehicle security	Ignition switch (ACC, ON) Door switches Hood switch (if equipped) Door lock/unlock switches Door key cylinder switch (lock/unlock) Trunk lid key cylinder switch (unlock) Door unlock sensors	Vehicle security lamp relay Horn relay Security indicator lamp

System	Input	Output
Interior lamp	Door switches Front door unlock sensor LH Ignition switch (ON) Key switch (Insert)	Interior lamp
Battery saver control for interior lamp/map lamp/vanity lamps	Ignition switch (ON) Door switches Lamp switches Main power window and door lock/unlock switch	Interior lamp Map lamp Vanity lamps

CONSULT-II

EKS003A3

DIAGNOSTIC ITEMS APPLICATION

Item (CONSULT-II screen terms)	Diagnosed system	DATA MONITOR	ACTIVE TEST	WORK SUPPORT
DOOR LOCK	Power door lock	X	X	
REAR DEFOGGER	Rear window defogger	X	X	
KEY WARN ALM	Warning chime	X	X	
LIGHT WARN ALM	Warning chime	X	X	
SEAT BELT ALM	Warning chime	X	X	
INT LAMP	Interior lamps	X	X	
BATTERY SAVER	Battery saver control for interior lamp	X	X	
THEFT WAR ALM	Vehicle security system	X	X	X
MULTI REMOTE ENT	Remote keyless entry system	X	X	X

X: Applicable

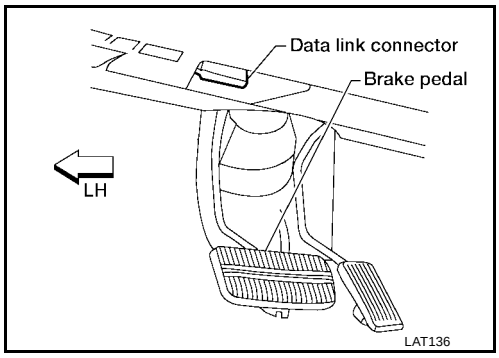
For diagnostic item in each control system, refer to the relevant pages for each system.

DIAGNOSTIC ITEM DESCRIPTION

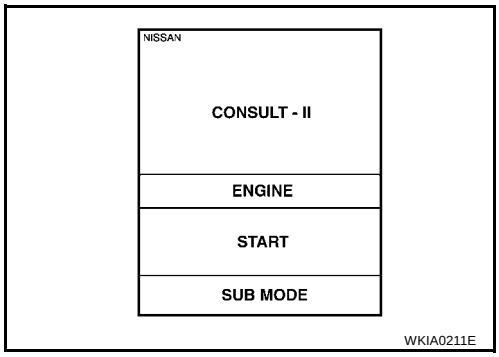
MODE	Description
DATA MONITOR	Input/output data in the smart entrance control unit can be read.
ACTIVE TEST	Diagnostic Test Mode in which CONSULT-II drives some systems apart from the smart entrance control unit.
WORK SUPPORT for THEFT WAR ALM	The recorded trigger signal when vehicle security system was activated can be checked.
WORK SUPPORT for MULTI REMOTE ENT	ID code of keyfob can be registered and erased.

CONSULT-II INSPECTION PROCEDURE

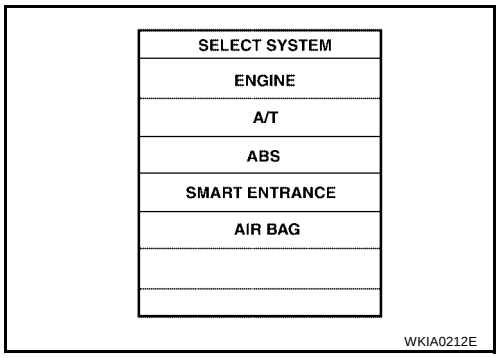
1. Turn the ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



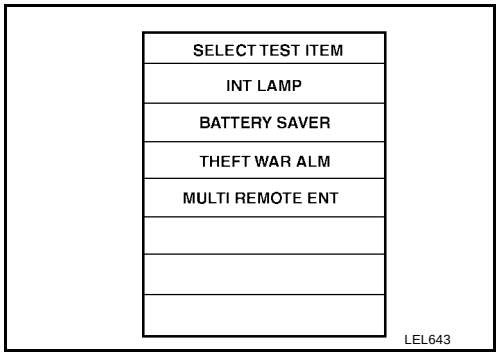
3. Turn ignition switch “ON”.
4. Touch “START”.



5. Touch “SMART ENTRANCE”.

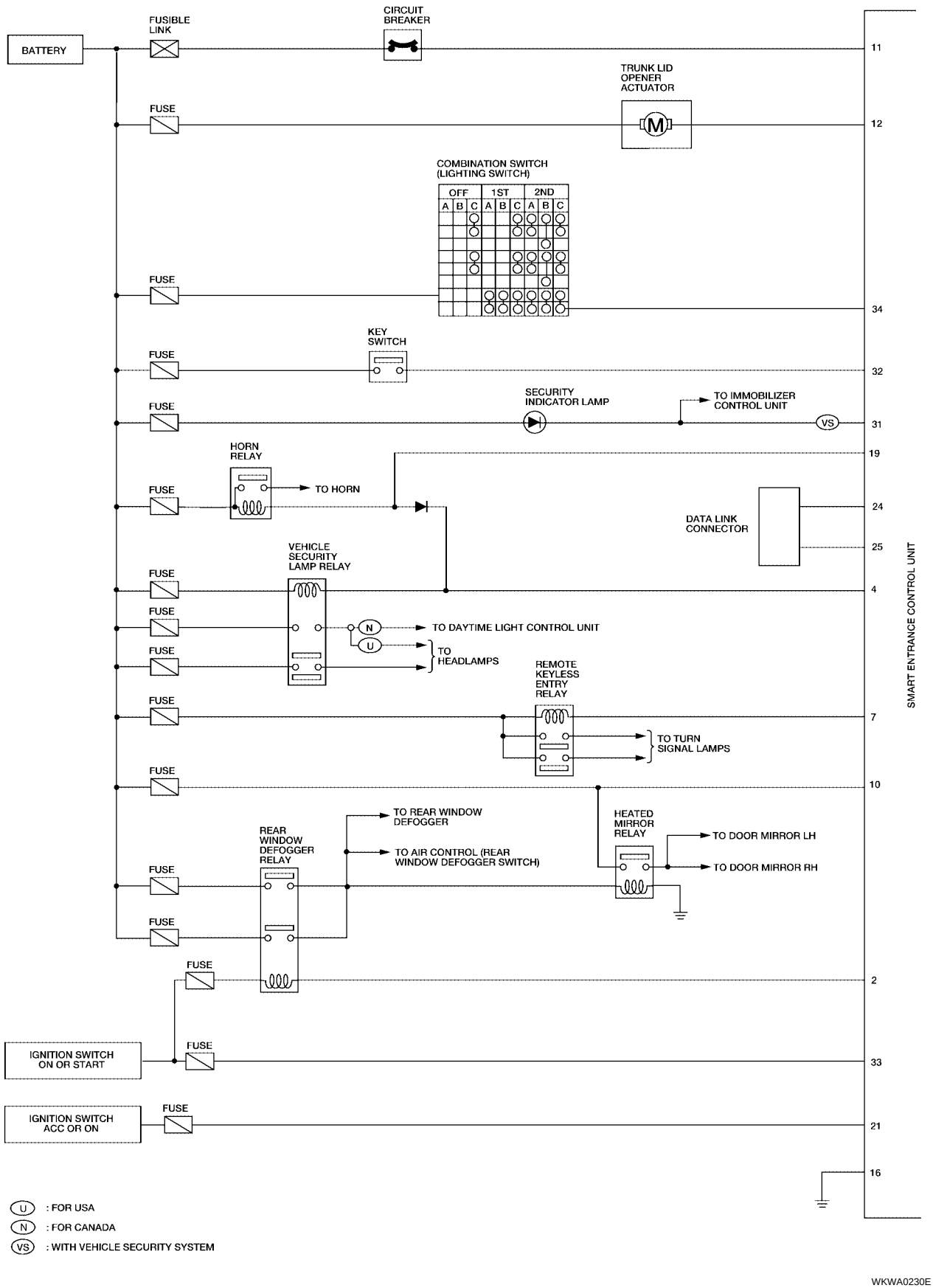


6. Perform each diagnostic item according to “DIAGNOSTIC ITEMS APPLICATION”. Refer to BCS-5, "DIAGNOSTIC ITEMS APPLICATION" .

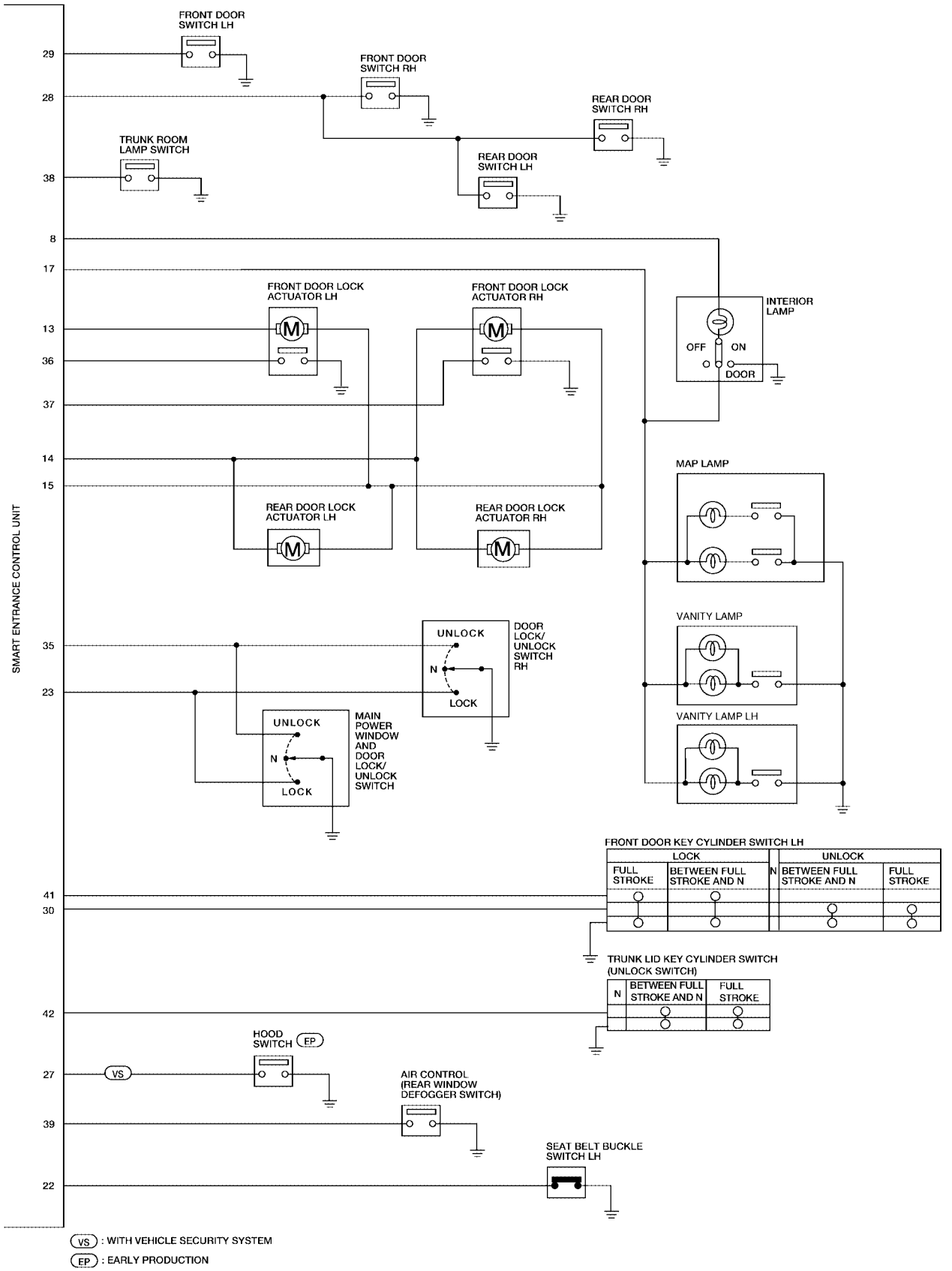


Schematic

EKS003A4



WKWA0230E


SMART ENTRANCE CONTROL UNIT
FRONT DOOR SWITCH LH
FRONT DOOR SWITCH RH
REAR DOOR SWITCH RH
TRUNK ROOM LAMP SWITCH
REAR DOOR SWITCH LH
29
28
38
8
17
13
36
37
14
15
35
23
41
30
42
27
39
22
FRONT DOOR LOCK ACTUATOR LH
FRONT DOOR LOCK ACTUATOR RH
REAR DOOR LOCK ACTUATOR LH
REAR DOOR LOCK ACTUATOR RH
INTERIOR LAMP
OFF
ON
DOOR
MAP LAMP
VANITY LAMP
VANITY LAMP LH
UNLOCK
N
LOCK
DOOR LOCK/ UNLOCK SWITCH RH
MAIN POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH
FRONT DOOR KEY CYLINDER SWITCH LH
LOCK
UNLOCK
FULL STROKE
BETWEEN FULL STROKE AND N
BETWEEN FULL STROKE AND N
FULL STROKE
TRUNK LID KEY CYLINDER SWITCH (UNLOCK SWITCH)
BETWEEN FULL STROKE AND N
FULL STROKE
HOOD SWITCH
EP
VS
AIR CONTROL (REAR WINDOW DEFOGGER SWITCH)
SEAT BELT BUCKLE SWITCH LH
VS : WITH VEHICLE SECURITY SYSTEM
EP : EARLY PRODUCTION

WKWA0500E

Smart Entrance Control Unit Inspection Table

EKS003A5

Terminal No.	Wire color	Connections	Operated condition		Voltage (Approx.)
2	G/R	Rear window defogger relay	OFF → ON (Ignition key is in “ON” position)		0V → 12V
4	SB	Horn relay and vehicle security lamp relay	When panic alarm is operated using Keyfob or when alarm is activated		12V → 0V
7	OR/B	Remote keyless entry relay	When doors are locked using Keyfob		12V → 0V
8	R/Y	Interior lamp	When interior lamp is operated using Keyfob (Lamp switch in “DOOR” position)		0V → 12V
10	PU	Power source (Fuse)	—		12V
11	W/L	Power source (C/B)	—		12V
12	P/B	Trunk lid opener actuator	ON (Open) → OFF (Closed)		0V → 12V
13	L/R	Driver door lock actuator	Door lock & unlock switch	Free	0V
14	W/R	Passenger and rear doors lock actuators		Unlocked	12V
15	R/B	Door lock actuators	Door lock & unlock switch	Free	0V
				Locked	12V
16	B	Ground	—		—
17	R/B	Battery saver (Interior lamp)	Battery saver does not operate → Operate		12V → 0V
19	W/G	Horn relay	When doors are locked using Keyfob with horn chirp mode		12V → 0V
21	P	Ignition switch (ACC, ON)	“ACC” or “ON” position		12V
22	W/B	Seat belt buckle switch LH	Unfasten → Fasten (Ignition key is in “ON” position)		0V → 5V
23	GY	Door lock & unlock switches	Neutral → Locks		5V → 0V
24	G/B	Data link connector	—		—
25	GY/L	Data link connector	—		—
27	P/B	Hood switch (if equipped)	ON (Open) → OFF (Closed)		0V → 5V
28	R/W	Other door switches	OFF (Closed) → ON (Open)		5V → 0V
29	R	Front door switch LH	OFF (Closed) → ON (Open)		5V → 0V
30	W/L	Door key cylinder unlock switch	OFF (Neutral) → ON (Unlocked)		5V → 0V
31	GY/R	Vehicle security indicator	Goes off → Illuminates		12V → 0V
32	L/W	Ignition key switch (Insert)	Key inserted → Key removed from IGN key cylinder		12V → 0V
33	G	Ignition switch (ON,START)	Ignition key is in “ON” or "START" position		12V
34	R/G	Combination switch (Lighting switch)	1ST, 2ND positions: ON → OFF		12V → 0V
35	PU/R	Door lock & unlock switches	Neutral → Unlocks		5V → 0V
36	Y/G	Door unlock sensor LH	Driver door: Locked → Unlocked		5V → 0V
37	Y	Door unlock sensor RH	Passenger door: Locked → Unlocked		5V → 0V
38	R/B	Trunk room lamp switch	ON (Open) → OFF (Closed)		0V → 12V
39	G/B	Air control (Rear window defogger switch)	OFF → ON		5V → 0V
41	LG/R	Door key cylinder lock switch	OFF (Neutral) → ON (Locked)		5V → 0V
42	L/OR	Trunk lid key cylinder switch	OFF (Neutral) → ON (Unlock)		5V → 0V

TIME CONTROL UNIT

PFP:28491

Description (Without Power Door Locks)

EKS003A6

OUTLINE

The time control unit totally controls the following body electrical system operations.

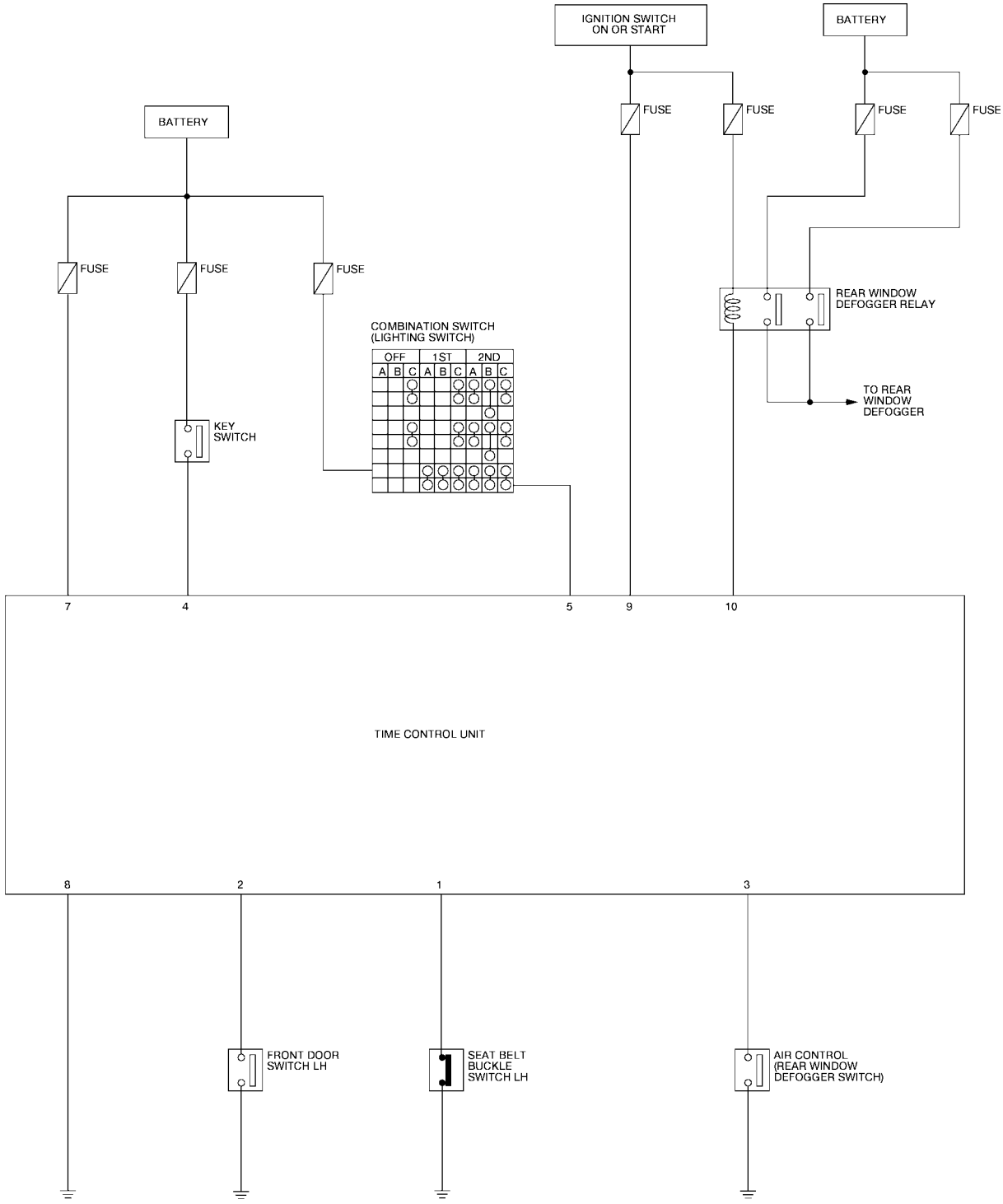
- Warning chime
- Rear window defogger

INPUT/OUTPUT

System	Input	Output
Warning chime	Key switch (Insert) Ignition switch (ON) Lighting switch (1st or 2nd) Seat belt buckle switch LH Front door switch LH	Warning chime (located in time control unit)
Rear window defogger	Ignition switch (ON) Rear window defogger switch	Rear window defogger relay

Schematic (Without Power Door Locks)

EKS003A7



LEL553

Time Control Unit Inspection Table (Without Power Door Locks)

EKS003A8

Terminal No.	Wire color	Connections	Operated condition	Voltage (Approx.)
1	W/B	Seat belt buckle switch LH	Unfasten → Fasten (Ignition key is in “ON” position)	0V → 5V
2	R	Front door switch LH	OFF (Closed) → ON (Open)	5V → 0V
3	G/B	Air control (Rear window defogger switch)	OFF → ON	5V → 0V
4	L/W	Ignition key switch (Insert)	Key inserted → Key removed from IGN key cylinder	12V → 0V
5	R/G	Combination switch (Lighting switch)	1ST, 2ND positions: ON → OFF	12V → 0V
7	PU	Power source (Fuse)	—	12V
8	B	Ground	—	—
9	G	Ignition switch (ON, START)	Ignition key is in “ON” or "START" position	12V
10	G/R	Rear window defogger relay	OFF → ON (Ignition key is in “ON” position)	0V → 12V