А RF SECTION В ROOF С

	D
ENTS	E
ROOF LATCH FUNCTION : System Description35	F
PARCEL SHELF FUNCTION	G
FLIPPER DOOR FUNCTION	Η
TRUNK LID CONTROL FUNCTION 40 TRUNK LID CONTROL FUNCTION : System Diagram 41 TRUNK LID CONTROL FUNCTION : System Description 41	J
WARNING FUNCTION41 WARNING FUNCTION : System Diagram42 WARNING FUNCTION : System Description42	RF
WARNING FUNCTION : System Diagram42	L
WARNING FUNCTION : System Diagram42 WARNING FUNCTION : System Description42 DIAGNOSIS SYSTEM (RETRACTABLE HARD TOP CONTROL UNIT)45	RF L
WARNING FUNCTION : System Diagram42 WARNING FUNCTION : System Description42 DIAGNOSIS SYSTEM (RETRACTABLE HARD TOP CONTROL UNIT)45 CONSULT Function45	L
WARNING FUNCTION : System Diagram	L
WARNING FUNCTION : System Diagram	L M N
WARNING FUNCTION : System Diagram	L M N

DIAGNOSIS AND REPAIR WORK FLOW71

CONTENTS

PRECAUTION8
PRECAUTIONS8Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER"8Service Procedure Precautions for Models with a Pop-up Roll Bar8Precaution for Battery Service8Precaution for Hydraulic System8Precaution for Pop Up Engine Hood9Service Notice9Precaution for Work9Precautions for Retractable Hard Top Service10
PREPARATION14
PREPARATION14 Commercial Service Tool14
SYSTEM DESCRIPTION15
COMPONENT PARTS15 Component Parts Location
SYSTEM19
RETRACTABLE HARD TOP SYSTEM
HYDRAULIC SYSTEM CONTROL FUNCTION30 HYDRAULIC SYSTEM CONTROL FUNCTION : System Diagram
ROOF LATCH FUNCTION

STEM DESCRIPTION1
MPONENT PARTS 19 omponent Parts Location 19 omponent Description 11
STEM19
Image: Constraint of the system 19 Image: Constraint of the system 19 <td< td=""></td<>
DRAULIC SYSTEM CONTROL FUNCTION30 YDRAULIC SYSTEM CONTROL FUNCTION : ystem Diagram
OF LATCH FUNCTION
ision: 2012 July

Work Flow	. 71
ADDITIONAL SERVICE WHEN REMOVING	
BATTERY NEGATIVE TERMINAL	
Description	
Work Procedure	. 74
ADDITIONAL SERVICE WHEN REPLACING	
CONTROL UNIT Description	
Work Procedure	
INITIALIZATION OF ROOF SYSTEM	76
Description	
Work Procedure	. 76
DTC/CIRCUIT DIAGNOSIS	. 78
U1000 CAN COMM CIRCUIT	70
Description	
DTC Logic	. 78
Diagnosis Procedure	. 78
U1010 CONTROL UNIT (CAN)	
DTC Logic Diagnosis Procedure	
U0140 LOCAL COMMUNICATION-1 Description	
DTC Logic	
Diagnosis Procedure	
U0215 LOCAL COMMUNICATION-2	. 81
Description	
DTC Logic Diagnosis Procedure	
B1701 RETRACTABLE HARD TOP CON- TROL UNIT	83
DTC Logic	
Diagnosis Procedure	
B1702 RETRACTABLE HARD TOP CON-	
TROL UNIT	
DTC Logic Diagnosis Procedure	
-	
B1707 ROOF OPEN STATE Description	
DTC Logic	. 85
Diagnosis Procedure	. 85
B1708 ROOF CLOSE STATE	
Description	
DTC Logic Diagnosis Procedure	
B1709 ROOF OPEN/CLOSE SWITCH	
(OPEN)	. 89
DTC Logic	. 89
Diagnosis Procedure	. 89

Component Inspection90
B170A ROOF OPEN/CLOSE SWITCH (CLOSE) 91 DTC Logic 91 Diagnosis Procedure 91 Component Inspection 92
B170B ROOF OPEN/CLOSE SWITCH
B170C TRUNK LINK SENSOR (LH) 95 DTC Logic
B170D TRUNK LINK SENSOR (RH)
B170F SENSOR POWER SUPPLY 99 DTC Logic
B1710 ROOF LATCH STATUS SENSOR102DTC Logic102Diagnosis Procedure102
B1711 ROOF LATCH LOCK SENSOR104 DTC Logic104 Diagnosis Procedure104
B1712 TRUNK STATUS SENSOR
B1715 ROOF STATUS SENSOR POWER SUPPLY
B1716 PARCEL SHELF STATUS SENSOR (DRAW)
B1718 PARCEL SHELF STATUS SENSOR (ROTATE)
B1719 ROOF STATUS SENSOR
B171A HYDRAULIC PUMP (LH)116 DTC Logic
B171B HYDRAULIC PUMP (RH) 118 DTC Logic

Diagnosis Procedure	118	B1
B171C SWITCHING VALVE 1	120	TR
DTC Logic	120	Ľ
Diagnosis Procedure	120	D4
B171D SWITCHING VALVE 2	122	B1 TR
DTC Logic		
Diagnosis Procedure	122	D
B171E RETRACTABLE HARD TOP CON-		B1
TROL UNIT		D
DTC Logic Diagnosis Procedure		D
-		C
B171F RETRACTABLE HARD TOP CON- TROL UNIT	125	B 1
DTC Logic		
Diagnosis Procedure		C
B1720 RETRACTABLE HARD TOP CON-		B1
TROL UNIT	126	TR
DTC Logic		D
Diagnosis Procedure	126	B1
B1721 RETRACTABLE HARD TOP CON-		
TROL UNIT		D
DTC Logic Diagnosis Procedure	127	B1
	127	D
B1722 RETRACTABLE HARD TOP CON- TROL UNIT	400	D
DTC Logic	-	B1
Diagnosis Procedure		D
B1723 RETRACTABLE HARD TOP CON-		C C
TROL UNIT	129	
DTC Logic		B1
Diagnosis Procedure	129	
B1724 RETRACTABLE HARD TOP CON-		D
TROL UNIT		B1
DTC Logic Diagnosis Procedure	130	D
-		D
B1725 RETRACTABLE HARD TOP CON- TROL UNIT	121	D
DTC Logic		B1
Diagnosis Procedure		C C
B1726 RETRACTABLE HARD TOP CON-		Ľ
TROL UNIT	132	B1
DTC Logic		в1 С
Diagnosis Procedure	132	D
B1728 RETRACTABLE HARD TOP CON-		D
		B1
DTC Logic Diagnosis Procedure		D
		D

B1729 RETRACTABLE HARD TOP CON-	
TROL UNIT 134 DTC Logic	А
Diagnosis Procedure	
B172A RETRACTABLE HARD TOP CON-	В
TROL UNIT 135	
DTC Logic	С
Diagnosis Procedure135	0
B172B ROOF STATUS SIGNAL (AUDIO) 136	
Description	D
Diagnosis Procedure	
B172D ROOF WARNING BUZZER	Е
DTC Logic	
Diagnosis Procedure138	
B172E RETRACTABLE HARD TOP CON-	F
TROL UNIT 140	
DTC Logic140 Diagnosis Procedure140	G
-	
B172F REAR POWER WINDOW (LH)	
DTC Logic141 Diagnosis Procedure141	Η
-	
B1730 REAR POWER WINDOW (RH)	I
Diagnosis Procedure	
B1731 HYDRAULIC STATE 1	
Description	J
DTC Logic145	
Diagnosis Procedure145	RF
B1732 HYDRAULIC STATE 2 147	
Description	L
Diagnosis Procedure	L
B1733 HYDRAULIC STATE 3	
Description	M
DTC Logic149	
Diagnosis Procedure149	Ν
B1734 HYDRAULIC STATE 4 151	IN
Description	
DTC Logic151 Diagnosis Procedure151	0
B1735 HYDRAULIC STATE 5	
Description	Р
DTC Logic153	1
Diagnosis Procedure153	
B1736 HYDRAULIC STATE 6 155	
Description	
DTC Logic155 Diagnosis Procedure155	

B1737 HYDRAULIC STATE 7	
Description DTC Logic	
Diagnosis Procedure	
-	
B1738 HYDRAULIC STATE 8	
Description	
DTC Logic	
Diagnosis Procedure	.157
B1739 HYDRAULIC STATE 9	158
Description	
DTC Logic	
Diagnosis Procedure	.158
B173A HYDRAULIC STATE 10	159
Description	
DTC Logic	
Diagnosis Procedure	.159
B173B HYDRAULIC STATE 11	160
Description	
DTC Logic	
Diagnosis Procedure	
B173C HYDRAULIC STATE 12	
Description DTC Logic	
Diagnosis Procedure	
-	
B173D HYDRAULIC STATE 13	
Description	
DTC Logic	
Diagnosis Procedure	.162
B173E HYDRAULIC STATE 14	
Description	
DTC Logic	
Diagnosis Procedure	.163
B173F HYDRAULIC STATE 15	164
Description	
DTC Logic	
Diagnosis Procedure	.164
B1740 HYDRAULIC STATE 16	165
Description	
DTC Logic	
Diagnosis Procedure	
	400
B1741 HYDRAULIC STATE 17	
Description DTC Logic	
Diagnosis Procedure	
B1742 HYDRAULIC STATE 18	
Description	
DTC Logic Diagnosis Procedure	
-	
B1743 HYDRAULIC STATE 19	
Description	.171

DTC Logic
B1744 HYDRAULIC STATE 20 173 Description 173 DTC Logic 173 Diagnosis Procedure 173
B1745 HYDRAULIC STATE 21 175 Description 175 DTC Logic 175 Diagnosis Procedure 175
B1746 HYDRAULIC STATE 22 177 Description 177 DTC Logic 177 Diagnosis Procedure 177
B1747 PARCEL SHELF (DRAW)-STATE 1179Description179DTC Logic179Diagnosis Procedure179
B1748 PARCEL SHELF (DRAW)-STATE 2 180Description180DTC Logic180Diagnosis Procedure180
B1749 PARCEL SHELF (DRAW)-STATE 3 181Description181DTC Logic181Diagnosis Procedure181
B174A PARCEL SHELF (DRAW)-STATE 4 182 Description
B174B PARCEL SHELF (DRAW)-STATE 5 183Description183DTC Logic183Diagnosis Procedure183
B174C PARCEL SHELF (DRAW)-STATE 6 184Description184DTC Logic184Diagnosis Procedure184
B174D PARCEL SHELF (ROTATE)-STATE 1185 Description
B174E PARCEL SHELF (ROTATE)-STATE 2.186 Description
B174F PARCEL SHELF (ROTATE)-STATE 3.187 Description

	-
B1750 PARCEL SHELF (ROTATE)-STATE	4.188
Description	188
DTC Logic	
Diagnosis Procedure	
	100
B1751 ROOF LATCH STATE 1	100
Description	
DTC Logic	189
Diagnosis Procedure	189
B1752 ROOF LATCH STATE 2	190
Description	
DTC Logic	
Diagnosis Procedure	190
B1753 ROOF LATCH STATE 3	
Description	191
DTC Logic	191
Diagnosis Procedure	
B1754 FLIPPER DOOR STATE 1	192
Description	
DTC Logic	
Diagnosis Procedure	192
B1755 FLIPPER DOOR STATE 2	193
Description	193
DTC Logic	193
Diagnosis Procedure	
	195
B1756 FLIPPER DOOR STATE 3	10/
Description	
DTC Logic	
Diagnosis Procedure	194
B1757 FLIPPER DOOR STATE 4	195
Description	195
DTC Logic	
Diagnosis Procedure	
	195
B1758 THERMO PROTECTION	106
Description	
DTC Logic	196
Diagnosis Procedure	196
-	
B175C POWER SOURCE (ROOF)	197
Description	
DTC Logic	
Diagnosis Procedure	
Diagnosis Flocedule	197
B175D POWER SOURCE (ROOF)	100
Description	
DTC Logic	198
Diagnosis Procedure	198
B175E POWER SOURCE (POWER WIN-	
DOW)	190
Description	
DTC Logic	
Diagnosis Procedure	199

B175F POWER SOURCE (POWER WIN-	
DOW)	А
Description201 DTC Logic201	
Diagnosis Procedure	В
B1760 RETRACTABLE HARD TOP CON-	
TROL UNIT	
DTC Logic203	С
Diagnosis Procedure203	
B1761 RETRACTABLE HARD TOP CON-	D
TROL UNIT	
DTC Logic204 Diagnosis Procedure204	_
B1762 ROOF STATE	E
Description	
DTC Logic205	F
Diagnosis Procedure205	
B1763 HYDRAULIC STATE 208	G
Description	G
DTC Logic208 Diagnosis Procedure208	
B1764 ROOF LATCH STATE 210	Н
Description	
DTC Logic210	I
Diagnosis Procedure210	
B1765 FLIPPER DOOR STATE 211	
Description	J
DTC Logic211 Diagnosis Procedure211	
POWER SUPPLY AND GROUND CIRCUIT 212	RF
Diagnosis Procedure	
ROOF OPEN/CLOSE SWITCH 213	
Component Function Check	
Diagnosis Procedure213	
TONNEAU BOARD SWITCH 215	M
Component Function Check	
Diagnosis Procedure215	Ν
FLIPPER DOOR LIMIT SWITCH	1.4
Diagnosis Procedure217	
BACK-UP LAMP CIRCUIT	0
Description219 Component Function Check	
Diagnosis Procedure	Ρ
FLIPPER DOOR MOTOR	
Diagnosis Procedure	
ROOF LATCH MOTOR	
Diagnosis Procedure	
PARCEL SHELF MOTOR (DRAW) 224	

Diagnosis Procedure	.224
PARCEL SHELF MOTOR (ROTATION) Diagnosis Procedure	
ROOF WARNING BUZZER Diagnosis Procedure	
HYDRAULIC PUMP MOTOR POWER SUP- PLY RELAY Diagnosis Procedure	
SYMPTOM DIAGNOSIS	
RETRACTABLE HARD TOP DOES NOT OP- ERATE USING DOOR REQUEST SWITCH Diagnosis Procedure	
ROOF WARNING BUZZER DOES NOT	
SOUND Diagnosis Procedure	
SQUEAK AND RATTLE TROUBLE DIAG-	
NOSES	231
Work Flow	
Inspection Procedure	
Diagnostic Worksheet	.235
PERIODIC MAINTENANCE	237
WATER LEAKAGE TROUBLE DIAGNOSIS . Repairing Method for Water Leakage Around Re- tractable Hard Top	-
Water Leakage Test	
REMOVAL AND INSTALLATION	243
FRONT LATCH ASSEMBLY	243
Exploded View	
Removal and Installation	.243
HEADLINING	245
Exploded View	
Removal and Installation	.246
ROOF LOCK ASSEMBLY	255
ROOF LOCK ASSEMBLY	
ROOF LOCK ASSEMBLY : Exploded View	
ROOF LOCK ASSEMBLY : Removal and Installa- tion	
ROOF LATCH MOTOR	256
ROOF LATCH MOTOR : Exploded View ROOF LATCH MOTOR : Removal and Installation	
	.257
FRONT ROOF PANEL	
Exploded View	258
Removal and Installation	
Adjustment	
CENTER ROOF PANEL	263

Exploded View Removal and Installation	263
Adjustment	265
REAR ROOF PANEL	
Exploded View	
Removal and Installation	
Adjustment	
ROOF SEALING	
Exploded View	271
Removal and Installation	
ROOF LINK ASSEMBLY	-
Exploded View	
Removal and Installation	274
REAR PARCEL SHELF FINISHER	276
REAR PARCEL SHELF UNIT	
REAR PARCEL SHELF UNIT : Exploded View	276
REAR PARCEL SHELF UNIT : Removal and In-	
stallation	276
PARCEL SHELF MOTOR (ROTATE)	277
PARCEL SHELF MOTOR (ROTATE) : Exploded	
	278
PARCEL SHELF MOTOR (ROTATE) : Removal and Installation	278
RAROEL QUELE MOTOR (DRAM)	
PARCEL SHELF MOTOR (DRAW) PARCEL SHELF MOTOR (DRAW) : Exploded	
View PARCEL SHELF MOTOR (DRAW) : Removal and	279
Installation	279
FLIPPER DOOR	-
Exploded View	
Removal and Installation	
Adjustment	282
ROOF SUPPORT BUMPER	
Exploded View	283
Removal and Installation	283
HYDRAULIC SYSTEM	285
Exploded View	285
Removal and Installation	285
HYDRAULIC CYLINDER	289
Exploded View	289
Removal and Installation	290
RETRACTABLE HARD TOP CONTROL UNIT	
 Removal and Installation	295 295
UNIT REMOVAL AND INSTALLATION	
RETRACTABLE HARD ROOF ASSEMBLY	
	206
Exploded View Removal and Installation	

Manual Operation	
------------------	--

В
С
D
E
F
G
Н

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PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

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. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 "SRS AIR BAG".
- Never 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.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Service Procedure Precautions for Models with a Pop-up Roll Bar

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WARNING:

Always observe the following items for preventing accidental activation.

- Risk of passenger injury or death may increase if the pop-up roll bar does not deploy during a roll over collision. In order to reduce the chance of an incident where the pop-up roll bar is inoperative, all maintenance must be performed by a NISSAN or INFINITI dealer.
- Before removing and installing the pop-up roll bar component parts and harness, always turn the ignition switch OFF, disconnect the battery negative terminal, and wait for 3 minutes or more. (The purpose of this operation is to discharge electricity that is accumulated in the auxiliary power supply circuit in the air bag diagnosis sensor unit.)
- When repairing, removing, and installing a pop-up roll bar, always refer to SRS AIR BAG and SRS AIR BAG CONTROL warnings in the Service Manual.

Precaution for Battery Service

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

Precaution for Hydraulic System

CAUTION:

• Never bend or twist hydraulic hoses sharply, or strongly pull them.

RF-8

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< PRECAUTION >

• Serviceable parts for hydraulic circuit are not various. Before disassembly refer to <u>RF-285</u>, <u>"Exploded View"</u>.

WARNING:

- The retractable hard top may fall suddenly. Avoid working on the vehicle with hydraulic circuit under pressure. Always depressurize the system before starting. To depressurize the system, disconnect both battery cables starting by negative terminal.
- Never allow hydraulic fluid to come in contact with skin, eyes, fabrics, or.
- After touching hydraulic fluid, never touch or rub your eyes until you have thoroughly washed your hands.
- If hydraulic fluid contacts cloths, change them immediately.
- If hydraulic fluid contacts skin, wash skin with soap and water.
- If hydraulic fluid contacts eyes, immediately flush with water for 15 minutes and seek medical atten tion.

Precaution for Pop Up Engine Hood

WARNING:

Always observe the following items for preventing accidental activation.

- Before removal or installation of the pop-up engine hood and harness, always turn OFF the key switch, disconnect the battery negative terminal, and wait for 3 minutes or more. (To discharge the accumulated electricity in the pop-up engine hood control unit auxiliary power supply circuit)
- Never use pneumatic or electric tools, etc., to remove or install components of the pop-up engine hood.
- Never repair the harness for the pop-up engine hood with a solder. Also, always avoid contact or interference between the harness and other parts.
- Never use an electric tester like a circuit tester, etc., when inspecting the pop-up engine hood circuit H or other individual parts. (To prevent activation due to the low voltage of the tester)
- Never allow foreign materials like a screwdriver, etc., to enter the pop-up engine hood harness connector. (To prevent activation due to static electricity)
- The yellow harness connector is used with the pop-up engine hood for identification purposes compared to other harnesses.

Service Notice

- When removing or installing various parts, place a cloth or padding onto the vehicle body to prevent scratches.
- Handle trim, molding, instruments, grille, etc. carefully during removing or installing. Be careful not to oil or damage them.
- Apply sealing compound where necessary when installing parts.
- When applying sealing compound, be careful that the sealing compound does not protrude from parts.
- When replacing any metal parts (for example body outer panel, members, etc.), be sure to take rust prevention measures.

Precaution for Work

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and keep them.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After re-installation is completed, be sure to check that each part works normally.
- Follow the steps below to clean components.
- Water soluble foul: Dip a soft cloth into lukewarm water, and wring the water out of the cloth to wipe the fouled area.

Then rub with a soft and dry cloth.

- Oily foul: Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%), and wipe the fouled area.

Then dip a cloth into fresh water, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and dry cloth.

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< PRECAUTION >

Do not use organic solvent such as thinner, benzene, alcohol, and gasoline.
For genuine leather seats, use a genuine leather seat cleaner.

Precautions for Retractable Hard Top Service

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CAUTION:

Operate each part using CONSULT after understanding how roof normally operates. Otherwise, each part may interfere and may be damage.

CO	NSULT cor	nmand	NO Special check			Action to take		
Item	Button	Opera- tion	NO	Special check items	Condition	Preparation	CON- SULT	
Roof/ Trunk Trunk Trunk/ CLOSE closes Parcel shelf			1	Check the roof and flap do not interfere.	When trunk is closed while roof is close and flap is expanded forward, flap interferes with roof.	Before closing trunk, al- ways oper- ate and retract flap.	FLIP- PER DOOR → Dowr	
			2	Check that roof and flap do not interfere.	When trunk is closed while flap (1) is retracted, flap interferes with retracted roof (2).	Before opening roof, al- ways oper- ate flap and expand it forward.	FLIP- PER DOOR → UP	
			3	Check that re- tracted roof is locked.	When trunk is closed while roof is not locked, base of flap (1) may interfere with roof (2).	Before closing trunk, al- ways lock roof.	ROOF LATCH → Close	
	Trunk OPEN	Trunk opens (Lock is not re- leased).	4	Check that rear lock is released.	When trunk is operated while rear lock is locked, trunk does open and deforms.	Before opening trunk, al- ways un- lock trunk lock.	TRUNK OPEN- ER → ON	
	Roof OPEN	Roof opens (Roof lock is not re- leased).	5	Check that roof lock is released.	When roof is operated while roof lock is locked, roof does not open and deforms.	Before opening roof, al- ways un- lock roof lock.	ROOF LATCH → Oper	

< PRECAUTION >

Roof/ Trunk/ Parcel shelf	Roof OPEN	Roof opens (Roof lock is not re- leased).	6	Check that trunk is open.	When roof is operated while trunk is not open, roof interferes with trunk.	Open trunk.	Trunk open (Refer to above item.)	A
		leaseu).	7	Check that flap is expanded for- ward. (The vehi- cle is in convertible sta- tus.)	When flap is operated after roof is retracted, flap in- terferes with roof.	Operated flap and ex- pand it for- ward.	FLIP- PER DOOR → Down	С
			8	Check that par- cel board is moved down- ward.	When roof is operated while parcel board is not moved downward, roof interferes with parcel board.	Move par- cel board downward.	PS up down: Down	D
			9	Check that par- cel board is set to the stand straight position.	If parcel board (1) is not set to the stand straight po- sition, roof (2) interferes with parcel board.	Rotate par- cel board and set it to the stand straight po- sition.	PS rota- tion: Ver- tical	F
					2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			G
			10	Check that par- cel board and rear end of roof 2 do not inter- fere.	When roof is operated from closed status, check that the portion shown in the figure does not interfere and that parcel board (1) is not pressed backward.	Set parcel board in the stand straight po- sition at	PS up down: Down → PS rota- tion: Ver-	l J
						bottom dead cen- ter.	tical	RF
			11	Check that front end of roof 1 and upper end of parcel board do not interfere.	When roof is operated from closed status, check that the portion shown in the figure does not interfere and that parcel board (1) is not pressed backward.	Set parcel board in the stand straight po- sition at bottom dead cen-	PS up down: Down → PS rota- tion: Ver- tical	N
					D C C C C C C C C C C C C C C C C C C C	ter.		P

< PRECAUTION >

Roof/	Roof	Roof	12	Check that lower	When roof passes parcel board in No.11 and roof is	Check that	PS up
Trunk/ Parcel shelf	OPEN	opens (Roof lock is not re- leased).		end of roof 3 and parcel unit do not interfere.	continuously operated, lower end of parcel (1) and roof (2) interfere.	roof pass- es in No.11, and then gradually move par- cel board for approxi- mately 100 mm in up- ward direc- tion. Operate rear roof to the retract- ed position.	down: UP
	Roof CLOSE	Roof closes (Roof lock is not re- leased).	13	Check that roof lock is released.	When roof is operated while roof lock is locked, roof does not close and deforms.	Before closing roof, al- ways un- lock roof lock.	$\begin{array}{l} ROOF \\ LARTCH \\ \rightarrow Open \end{array}$
			14	Check that trunk is open.	When roof is operated while trunk is not open, roof interferes with trunk.	Open trunk.	Trunk open (Refer to above item.)
			15	Check that par- cel board is set to the stand straight position.	If parcel board (1) is not set to the stand straight po- sition, roof (2) interferes with parcel board.	Rotate par- cel board and set it to the stand straight po- sition.	PS rota- tion: Ver- tical
			16	Check that par- cel board is moved down- ward. Check that parcel board is not excessively moved down- ward.	If parcel board (1) is not moved downward, front end of roof (2) interferes with parcel board. If parcel board is moved downward excessively, rear end of roof interferes with parcel board.	Move par- cel board downward to approxi- mately 300 mm from upper dead center.	PS up down: Down

< PRECAUTION >

Roof/ Trunk/ Parcel shelf	Roof CLOSE	Roof closes (Roof lock is not re- leased).	17	Check that front end of roof 1 and upper end of parcel board do not interfere.	When rear end of rear roof moves further rearward of parcel unit lower in No.11 and roof is continuous- ly operated, front end of roof interferes with upper end of parcel board (1).	Move par- cel board downward to bottom dead cen- ter.	PS up down: Down	A B C D
	PS up down and ro- tation	Parcel board moves upward, down- ward, or rotates.	18	Check that roof and parcel do not interfere.	Interference between flap (1) and roof panel (2) oc- curs depending on the position of roof.	When oper- ating par- cel, always operate it while checking the position of roof. Op- erate roof in advance when inter- ference may occur.	Roof OPEN or CLOSE	FG
FLIP- PER DOOR	UP, Down	Flap ro- tates.	19	Check that roof and flap do not interfere.	Interference between flap (1) and roof panel (2) oc- curs depending on the position of roof.	When oper- ating flap, always op- erate it while checking the position of roof. Op- erate roof in advance when inter- ference may occur.	Roof OPEN or CLOSE	J RF L

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PREPARATION

Commercial Service Tool

INFOID:000000008158250

	Tool name	Description
Engine ear	SIIA0995E	Locates the noise
Remover tool	ИЛ Л Л Л ЈИКНАЗОБОДД	Removes the clips, pawls and metal clips

< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION COMPONENT PARTS

Component Parts Location

INFOID:00000008158251

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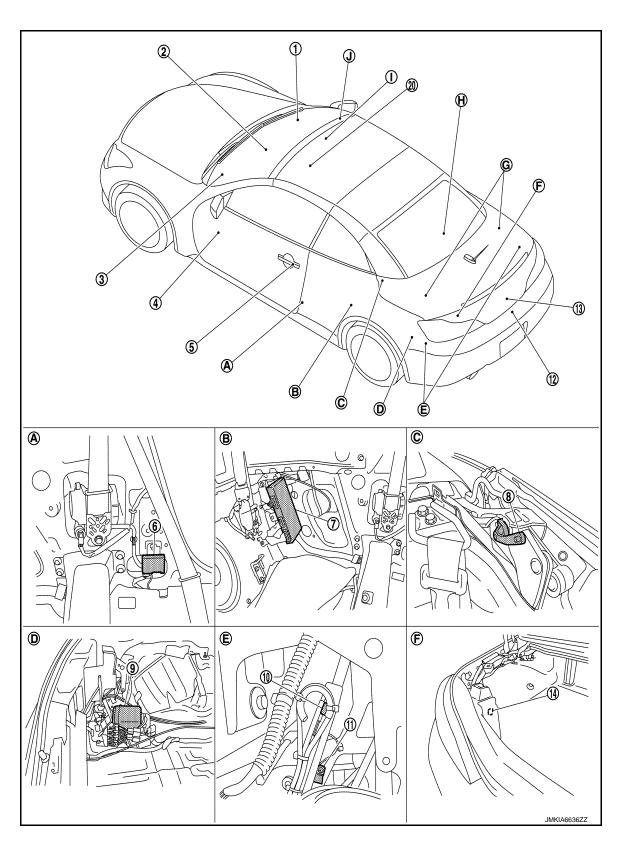
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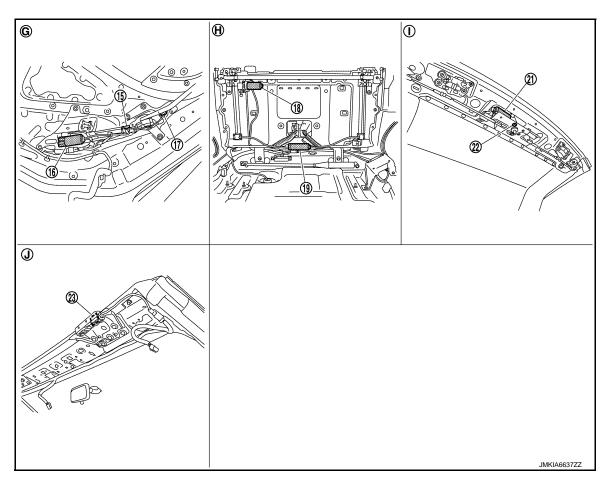
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COMPONENT PARTS

< SYSTEM DESCRIPTION >



- 1. BCM Refer to <u>BCS-6</u>
- 4. Power window main switch Refer to <u>PWC-9</u>.
- 7. Retractable hard top control unit
- 10. Trunk status sensor
- 13. Trunk room lamp switch
- 16. Flipper door motor LHFlipper door motor RH
- Parcel shelf motor (draw) [Parcel shelf status sensor (draw)]
- 22. Roof latch lock sensor
- A. Behind rear side finisher LH
- D. Behind rear wheel finisher LH
- G. Behind trunk lid finisher inner
- J. Behind roof front finisher

- 2. Unified meter and A/C amp. Refer to <u>HAC-44</u>
- 5. Outside handle LH (Request switch) 6.
 Outside handle RH (Request switch)
- 8. Roof status sensor
- 11. Trunk link sensor LHTrunk link sensor RH
- 14. Tonneau board switch
- 17. Flipper door limit switch LH (UP)Flipper door limit switch RH (UP)
- 20. Roof open/close switch
- 23. Roof latch limit switch
- B. Behind rear side finisher LH
- E. Behind rear wheel finisher LH
- H. Behind trunk lower finisher front

- 3. Combination meter Refer to <u>MWI-11</u>
 - Roof warning buzzer
- 9. Hydraulic unit
- 12. Trunk closure control unit Refer to <u>DLK-46</u>
- 15. Flipper door limit switch LH (DOWN)Flipper door limit switch RH (DOWN)
- 18. Parcel shelf motor (rotation) [Parcel shelf status sensor (rotation)]
- 21. Roof latch motor (roof latch status sensor)
- C. Behind rear side finisher LH
- F. Trunk room trim cap LH
- I. Behind front roof garnish

COMPONENT PARTS

< SYSTEM DESCRIPTION >

Component Description

INFOID:000000008158252

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	Component	Reference page		
Control unit	Retractable hard top control unit	Retractable hard top control unit is a main unit that controls re- tractable hard top system. It is installed to rear side finisher back of left side rear seat.		
	Unified meter and A/C amp.	Refer to HAC-44, "Diagnosis Description".		
	Combination meter	Refer to MWI-6, "METER SYSTEM : System Description".		
	Roof open/close switch	Retractable hard top can be opened and closed by roof open/ close switch operation. Retractable hard top operates only while roof open/close switch is being operated.		
	Flipper door limit switch LH/RH (UP/DOWN)	Flipper door (LH/RH) is installed on trunk lid back side. Each flipper door integrates flipper door motor and flipper door limit switch. Up and down operations are performed by flipper door motor. Up and down positions of flipper door are detected by flipper door limit switch.		
	Parcel shelf status sensor (ROTATION/DRAW)	 Parcel shelf is installed in trunk room and integrates parcel shelf motor (rotation) and parcel shelf motor (draw). During se quential operations of retractable hard top system, parcel shelf motor (rotation) rotates parcel shelf board, parcel shelf motor (draw) draws parcel shelf board. 		
	Roof status sensor	Roof status sensor is installed to roof link assembly LH. This sensor is a potentiometer that converts the roof position to a voltage signal and transmits it to retractable hard top control unit. Retractable hard top control unit recognizes the roof position using this signal.		
Input	Trunk status sensor	Trunk status sensor is in trunk drive cylinder LH. This sensor is a hall sensor that generates a magnetic field. This changes sensor output voltage. Retractable hard top control unit de- tects trunk (front side) fully open position by this voltage change.		
	Roof latch limit switch	Roof latch limit switch is installed to roof front finisher RH. it detects engaging state of roof lock assembly hook and front lock striker and transmits ON signal to retractable hard top control unit.		
	Roof latch status sensor	Roof latch status sensor is in roof latch motor and detects roof lock state by movement of linkage from roof latch motor.		
	Roof latch lock sensor	Roof latch lock sensor detects roof lock state by movement of linkage from roof latch motor.		
	Tonneau board switch	Tonneau board switch detects tonneau board condition for the precondition.		
	Trunk link sensor (LH/RH)	Trunk link sensor is installed to trunk arm. This sensor detects the magnet that is installed to the opponent arm and transmits trunk lid (front side) lock state signal to retractable hard top control unit.		
	Trunk room lamp switch	Refer to DLK-81, "Description".		
	Striker switch	Refer to <u>DLK-97, "Description"</u> .		
	Stop switch	Refer to DLK-79, "Description".		

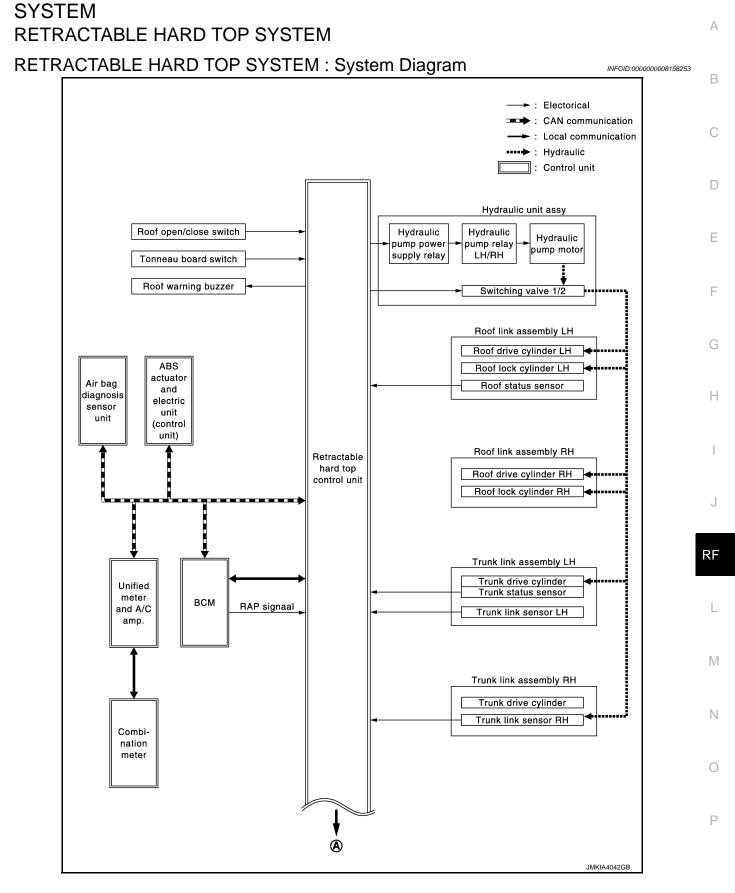
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COMPONENT PARTS

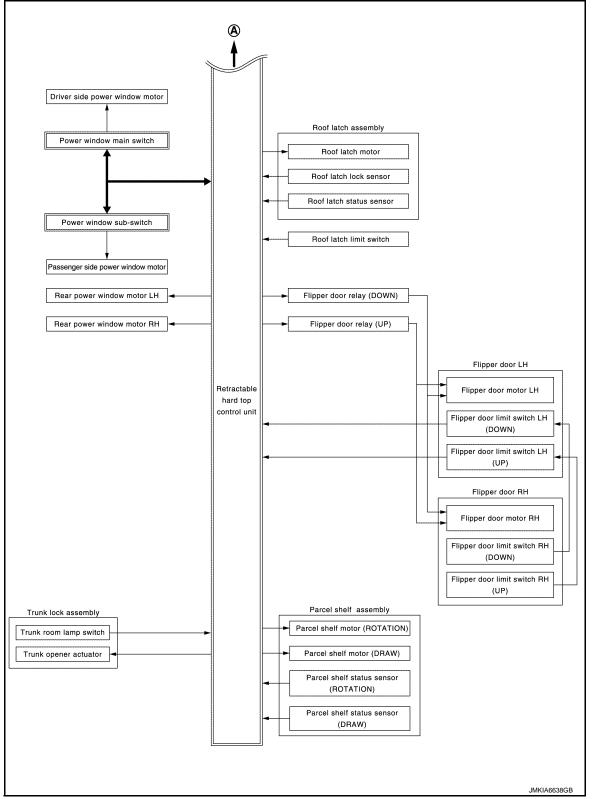
< SYSTEM DESCRIPTION >

		Component	Reference page		
		Flipper door motor (LH/RH)	Flipper door (LH/RH) is installed on trunk lid back side. Each flipper door integrates flipper door motor and flipper door limit switch. Up and down operations are performed by flipper door motor. Up and down positions of flipper door are detected by flipper door limit switch.		
		Parcel shelf motor (ROTATION/DRAW)	Parcel shelf is installed in trunk room and integrates parcel shelf motor (rotation) and parcel shelf motor (draw). During se- quential operations of retractable hard top system, parcel shelf motor (rotation) rotates parcel shelf board, parcel shelf motor (draw) draws parcel shelf board.		
	Electrical	Switching valve (1/2)	Hydraulic pump relay hydraulic pump motor and switching valve are in hydraulic unit. Retractable hard top control unit switches hydraulic pump rotation direction by hydraulic pump relay, hydraulic circuit by switching valve 1/2 ON or OFF, and extends or retracts each cylinder.		
		Hydraulic pump motor	Hydraulic pump motor drives hydraulic pump and controls the rotation direction using hydraulic pump motor relay.		
	Output	Roof warning buzzer	Roof warning buzzer is installed to lower end of left center pil- lar, and indicates retractable hard top is in operation.		
Output		Trunk opener actuator	Refer to DLK-43, "Component Description".		
		Trunk closure motor	Refer to DLK-46, "Component Description".		
		Roof latch motor	Roof latch assembly on the roof front end operates roof latch and roof link lock on the rod end, by roof latch motor operation through roof latch rod. When retractable hard top is fully closed, roof latch is engaged with roof latch striker on the front screen upper side and, when fully open, is engaged with roof support bumper (<u>RF-283, "Exploded View"</u>) in trunk room.		
	Hydraulic	Hydraulic pump	Hydraulic pump relay hydraulic pump motor and switching valve are in hydraulic unit. Retractable hard top control unit switches hydraulic pump rotation direction by hydraulic pump relay, hydraulic circuit by switching valve 1/2 ON or OFF, and extends or retracts each cylinder.		
		Roof drive cylinder (LH/RH)	Refer to <u>RF-31, "HYDRAULIC SYSTEM CONTROL FUNC-</u> <u>TION : System Description"</u> .		
		Roof lock cylinder (LH/RH)	Refer to <u>RF-31, "HYDRAULIC SYSTEM CONTROL FUNC-</u> <u>TION : System Description"</u> .		
		Trunk drive cylinder	Refer to <u>RF-31, "HYDRAULIC SYSTEM CONTROL FUNC-</u> <u>TION : System Description"</u> .		





< SYSTEM DESCRIPTION >



RETRACTABLE HARD TOP SYSTEM : System Description

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DESCRIPTION

Retractable hard top system is a system that opens or closes roof using hydraulic pressure generated by each electric system part and oil pump when operating roof open/close switch. Retractable hard top control unit relates to the following functions.

Revision: 2012 July

< SYSTEM DESCRIPTION >

	Functions	Reference page
	Hydraulic system control function	<u>RF-31</u>
	Roof latch function	<u>RF-35</u>
Detroctable band ton evident control	Parcel shelf function	<u>RF-37</u>
Retractable hard top system control	Flipper door function	<u>RF-39</u>
	Trunk lid control function (roof operation)	<u>RF-41</u>
	Warning function	<u>RF-42</u>
	Trunk lid open function	DLK-42
Trunk lid system control	Trunk lid auto closure system	DLK-44
Power window control		PWC-7
Rear window defogger control		DEF-4
Automatic air conditioning system	HAC-18	
Audio system	<u>AV-255</u>	

PRECONDITIONS FOR RETRACTABLE HARD TOP

Retractable hard top system opens or closes the roof when roof open/close switch is operated to OPEN or CLOSE, or door request switch (LH/RH) is pressed and held, while all of the following conditions are satisfied. (Operation by door request switch allows opening only.)

	Item		Condition		
	Power position		ON (not in START) *	_	
For user	Vehicle speed		5 km/h or less	-	
	Tonneau board		Hooked		
	Shift position		Not in R position.		
	Trunk lid		Closed		
	Self diagnostic result		DTC is not detected.	_	
	Thermo protection	Open operation	Thermo protection (STAGE 1) is not active.		
For system	Thermo protection	Close operation	Thermo protection (STAGE 2) is not active.	R	
	Initialize		Roof latch and parcel shelf state are initialized.	_ r	
	Pop-up roll bar		Air bag diagnosis sensor unit does not detect DTC relating to pop-up roll bar.	_	

*: Except for operating with Intelligent Key (door request switch LH/RH).

OPERATION WITH DOOR REQUEST SWITCH

In addition to roof open/close switch, door request switch (LH/RH) can perform an open operation. When BCM detects that door request switch is operated, BCM requests an open operation of retractable hard top to retractable hard top control unit via local communication. After this, the operation is the same as that of an open operation by roof open/close switch.

POWER WINDOW INTERLOCK OPERATION

If power window is not fully open during when open and close operations of retractable hard top are performed, retractable hard top control unit opens front power window and rear power window. Front power window is operated via local communication between power window main switch/sub-switch. **NOTE:**

For power window system operation by power window main/sub-switch, refer to <u>PWC-7</u>, <u>"System Descrip-</u> tion".

SYSTEM PROTECT FUNCTION

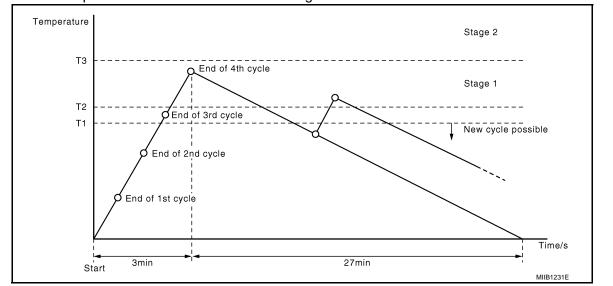
Retractable hard top control unit restricts or inhibits the operation due to safety and system protection reasons, when detecting an operation and activation that are not normal.

< SYSTEM DESCRIPTION >

Functions	Description				
Thermo protect function	When open and close operations of retractable hard top are performed for 3 to 4 times continuously, retractable hard top system restricts the operation judging that hydraulic pump temperature increased.				
Pop-up bar malfunction roof protect	 When pop-up bar system (air bag diagnosis sensor unit: <u>SRC-10</u>, "<u>System Description</u>") detects deployment, retractable hard top control unit inhibits all of the retractable hard top system functions. When pop-up bar system (air bag diagnosis sensor unit: <u>SRC-10</u>, "<u>System Description</u>") detects a malfunction, retractable hard top control unit inhibits the retractable hard top system open operation. 				

Thermo Protect Function

Retractable hard top system calculates hydraulic pump temperature according to system operating time, prevents hydraulic system temperature from increasing excessively, and protects the system. Retractable hard top control unit controls of the following items.



	Stage	Operation		
Stage 1	Between T2 and T3	New retractable hard top cycle is not possible.		
Stage 2	Above T3	All retractable hard top operation is not possible.		
Slage 2	Bellow T1(cooling down from T3)	After cooling down, all operations are possible.		

SEQUENCE OF RETRACTABLE HARD TOP SYSTEM

There are 42 states in retractable hard top, regardless of open and close operations. Retractable hard top system performs open and close operations using a combination of these 42 states. **NOTE:**

For changing order of roof state, refer to ORDER OF ROOF STATE CHANGING.

Parts state (CONSULT display) according to each roof state of retractable hard top system is shown in the following table.

NOTE:

For the operation details of hydraulic system, roof latch, parcel shelf, and flipper door, refer to the following table.

Function	Reference page
Hydraulic system control function	RF-31, "HYDRAULIC SYSTEM CON- TROL FUNCTION : System Description"
Roof latch function	RF-35, "ROOF LATCH FUNCTION : Sys- tem Description"

< SYSTEM DESCRIPTION >

Function	Reference page	٨
Parcel shelf function	RF-37, "PARCEL SHELF FUNCTION : System Description"	A
Flipper door function	RF-39, "FLIPPER DOOR FUNCTION : System Description"	В

Open Operation

When roof open/close switch is operated to OPEN, retractable hard top system checks that operation conditions are satisfied and performs an open operation. Parts state (CONSULT display) is shown in the following table.

					Parts stat		:	: It is not relate	d to the operatio
			Present state)		Targe	t state		
_	Roof latch limit switch	Hydraulic state	Parcel shelf state (draw)	Parcel shelf (rotation)	Flipper door state	Hydraulic state	Parcel shelf state (draw)	Parcel shelf (rotation)	Flipper door state
				CONSULT	data monitor	item			
ROOF STATE	LATCH LIMIT SW	HYDRAU- LIC STATE	PS STATE (DRAW)	PS STATE (ROTA)	FLPD STATE	HYDRAU- LIC STATE	PS STATE (DRAW)	PS STATE (ROTA)	FLPD STATE
				Status	on CONSULT	Г			
1	LOCK	1	2	1	—	6	6	1	1
2	LOCK	1	—	1	—	6	6	1	1
3	LOCK	2		1		6	6	1	1
4	LOCK	3	—	1	_	6	6	1	1
5	LOCK	4	—	1	—	6	6	1	1
6	_	5	—	1		6	6	1	1
7	_	6	6	1	1	8	6	1	1
8	—	6	5	1	1	6	6	1	1
9	—	6	—	—	_	6	6	1	1
10	—	7	6	_	—	8	6	4	4
11	UNLOCK	8	6	4	4	9	6	4	4
12	UNLOCK	8	6	3	—	8	6	4	4
13	UNLOCK	8	—	—	_	8	6	4	4
14	UNLOCK	9	6	4	4	10	6	4	4
15	UNLOCK	9	—	4	4	9	6	4	4
16	UNLOCK	10	6	4	4	11	6	4	4
17	UNLOCK	10	—	4	4	11	6	4	4
18	UNLOCK	11	5	4	4	12	4	4	4
19	UNLOCK	11	—	4	4	12	4	4	4
20	UNLOCK	12	4	4	4	13	4	4	4
21	UNLOCK	12	5	4	4	12	4	4	4
22	UNLOCK	12	—	4	4	12	4	4	4
23	UNLOCK	13	4	4	4	14	1	4	4
24	UNLOCK	13	5	4	4	13	4	4	4
25	UNLOCK	13	6	4	4	13	4	4	4
26	UNLOCK	13	—	4	4	14	1	4	4
27	UNLOCK	14	1	4	4	15	1	4	4
28	UNLOCK	14	2	4	4	15	1	4	4

Revision: 2012 July

< SYSTEM DESCRIPTION >

					Parts stat	te			
			Present state	9		Target state			
_	Roof latch limit switch	Hydraulic state	Parcel shelf state (draw)	Parcel shelf (rotation)	Flipper door state	Hydraulic state	Parcel shelf state (draw)	Parcel shelf (rotation)	Flipper door state
				CONSULT	data monitor	item			
ROOF STATE	LATCH LIMIT SW	HYDRAU- LIC STATE	PS STATE (DRAW)	PS STATE (ROTA)	FLPD STATE	HYDRAU- LIC STATE	PS STATE (DRAW)	PS STATE (ROTA)	FLPD STATE
				Status	on CONSULT	Г			
29	UNLOCK	14	3	4	4	15	1	4	4
30	UNLOCK	14	—	4	4	14	1	4	4
31	UNLOCK	15	1	4	4	17	1	4	4
32	UNLOCK	15	—	4	4	17	1	4	4
33	UNLOCK	16	—	_	4	17	1	4	4
34	UNLOCK	17	1	2	4	22	1	2	4
35	UNLOCK	17	1	4	4	17	1	2	4
36	UNLOCK	17	—	4	4	17	1	4	4
37	UNLOCK	17	1	_	4	17	1	2	4
38	UNLOCK	18	1	2	4	22	1	2	4
39	UNLOCK	19	1	2	4	22	1	2	4
40	UNLOCK	20	1	2	4	22	1	2	4
41	UNLOCK	21	1	2	4	22	1	2	4
42	UNLOCK	22	1	2	4	22	1	2	4

Close Operation

When roof open/close switch is operated to CLOSE, retractable hard top system checks that operation conditions are satisfied and performs a close operation, as shown in the following table. Parts state (CONSULT display) is shown in the following table.

-: It is not related to the operation

					Parts stat	te			
			Present state	9		Target state			
_	Roof latch limit switch	Hydraulic state	Parcel shelf state (draw)	Parcel shelf (rotation)	Flipper door state	Hydraulic state	Parcel shelf state (draw)	Parcel shelf (rotation)	Flipper door state
				CONSULT	data monitor	item			
ROOF STATE	LATCH LIMIT SW	HYDRAU- LIC STATE	PS STATE (DRAW)	PS STATE (ROTA)	FLPD STATE	HYDRAU- LIC STATE	PS STATE (DRAW)	PS STATE (ROTA)	FLPD STATE
				Status	on CONSUL	Г			
42	UNLOCK	22	1	2	4	17	1	2	4
41	UNLOCK	21	1	2	4	17	1	2	4
40	UNLOCK	20	1	2	4	17	1	2	4
39	UNLOCK	19	1	2	4	17	1	2	4
38	UNLOCK	18	1	2	4	17	1	4	4
37	UNLOCK	17	1	_	4	17	1	4	4
36	UNLOCK	17	—	4	4	17	1	4	4
35	UNLOCK	17	1	4	4	15	1	4	4
34	UNLOCK	17	1	2	4	17	1	4	4
33	UNLOCK	16	—	_	4	15	1	4	4

< SYSTEM DESCRIPTION >

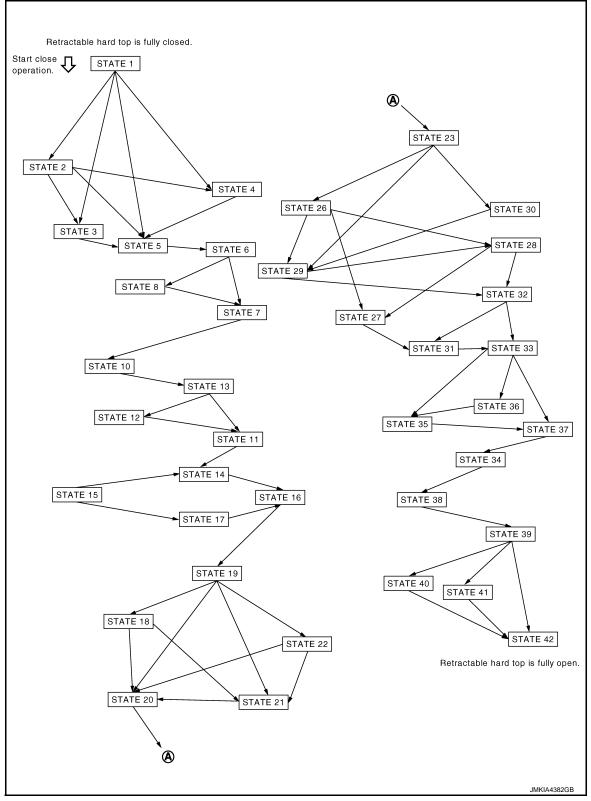
					Parts stat	te			
			Present state	9	Target state				
_	Roof latch limit switch	Hydraulic state	Parcel shelf state (draw)	Parcel shelf (rotation)	Flipper door state	Hydraulic state	Parcel shelf state (draw)	Parcel shelf (rotation)	Flipper door state
				CONSULT	data monitor	item			
ROOF STATE	LATCH LIMIT SW	HYDRAU- LIC STATE	PS STATE (DRAW)	PS STATE (ROTA)	FLPD STATE	HYDRAU- LIC STATE	PS STATE (DRAW)	PS STATE (ROTA)	FLPD STATE
				Status	on CONSUL	Г			
32	UNLOCK	15	_	4	4	14	4	4	4
31	UNLOCK	15	1	4	4	14	4	4	4
30	UNLOCK	14		4	4	13	4	4	4
29	UNLOCK	14	3	4	4	13	4	4	4
28	UNLOCK	14	2	4	4	13	4	4	4
27	UNLOCK	14	1	4	4	13	4	4	4
26	UNLOCK	13		4	4	12	5	4	4
25	UNLOCK	13	6	4	4	12	5	4	4
24	UNLOCK	13	5	4	4	12	5	4	4
23	UNLOCK	13	4	4	4	12	5	4	4
22	UNLOCK	12		4	4	12	5	4	4
21	UNLOCK	12	5	4	4	11	5	4	4
20	UNLOCK	12	4	4	4	12	5	4	4
19	UNLOCK	11	_	4	4	10	6	4	4
18	UNLOCK	11	5	4	4	10	6	4	4
17	UNLOCK	10	_	4	4	9	6	4	4
16	UNLOCK	10	6	4	4	9	6	4	4
15	UNLOCK	9	_	4	4	8	6	4	4
14	UNLOCK	9	6	4	4	8	6	4	4
13	UNLOCK	8		_		6	6	4	4
12	UNLOCK	8	6	3		6	6	4	4
11	UNLOCK	8	6	4	4	6	6	4	4
10	_	7	6	_	_	6	6	1	1
9	_	6	_	_	_	6	6	1	1
8	_	6	5	1	1	1	6	1	1
7	_	6	6	1	1	1	6	1	1
6		5		1		1	2	1	1
5	LOCK	4		1		1	2	1	1
4	LOCK	3		1	_	1	2	1	1
3	LOCK	2	_	1		1	2	1	1
2	LOCK	1		1		1	2	1	1
1	LOCK	1	2	1	_	1	2	1	1

ORDER OF ROOF STATE CHANGING

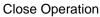
Roof state change in normal operation is performed according to the patterns as shown in the following table.

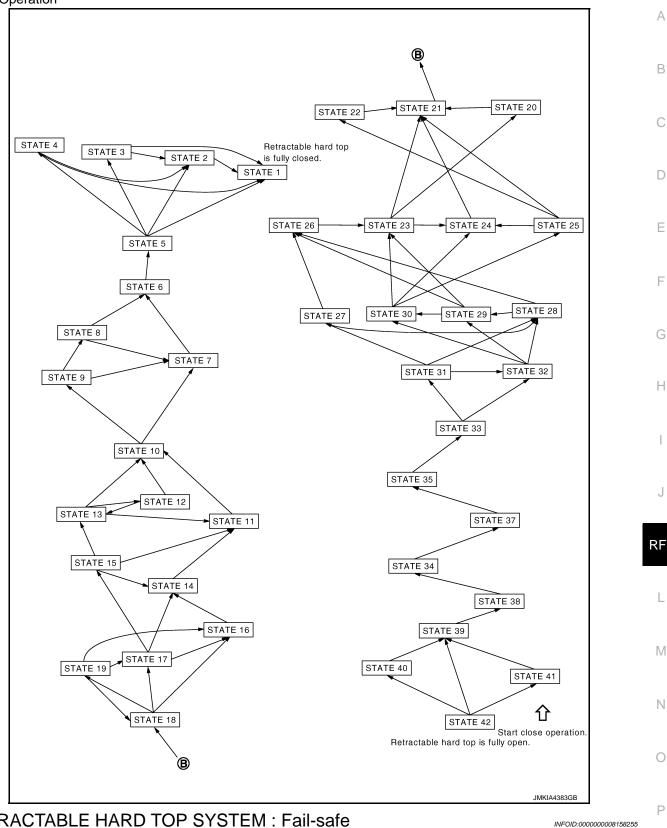
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Open Operation



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RETRACTABLE HARD TOP SYSTEM : Fail-safe

FAIL-SAFE CONTROL BY DTC

Retractable hard top control unit performs fail-safe control when any DTC are detected.

< SYSTEM DESCRIPTION >

	Display contents of CONSULT	Fail-safe	Cancellation
U1000	CAN COMM CIRCUIT	Inhibit retractable hard top operation.	Communication is normal
U1010	CONTROL UNIT (CAN)	Inhibit retractable hard top operation.	Communication is normal
U0140	LOCAL COMM-1	Inhibit retractable hard top operation.	Communication is normal
U0215	LOCAL COMM-1	Inhibit retractable hard top operation.	Communication is normal
B1701	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Replace retractable hard top control unit.
B1702	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Replace retractable hard top control unit.
B1709	ROOF SWITCH(OPEN)	Inhibit retractable hard top operation.	Detects roof open/close switch (OPEN) is OFF
B170A	ROOF SWITCH(CLOSE)	Inhibit retractable hard top operation.	Detects roof open/close switch (CLOSE) is OFF
B170B	ROOF SWITCH	Inhibit retractable hard top operation.	Detects roof open/close switch (OPEN/CLOSE) is OFF
B170C	TRUNK LINK SEN- SOR(LH)	Inhibit retractable hard top operation.	Detects normal value
B170D	TRUNK LINK SEN- SOR(RH)	Inhibit retractable hard top operation.	Detects normal value
B170F	SENSOR POWER SUP- PLY	Inhibit retractable hard top operation.	Detects normal value
B1710	LATCH STATUS SENSOR	Inhibit retractable hard top operation.	Detects normal value
B1711	LATCH LOCK SENSOR	Inhibit retractable hard top operation.	Detects normal value
B1712	TRUNK STATUS SENSOR	Inhibit retractable hard top operation.	Detects normal value
B1715	ROOF STATUS SEN PWR	Inhibit retractable hard top operation.	Detects normal value
B1716	PS STATUS SEN(DRAW)	Inhibit retractable hard top operation.	Detects normal value
B1718	PS STATUS SEN(ROTA)	Inhibit retractable hard top operation.	Detects normal value
B1719	ROOF STATUS SEN	Inhibit retractable hard top operation.	Detects normal value
B171A	HYDRAULIC PMP(LH)	Inhibit retractable hard top operation.	Detects normal value
B171B	HYDRAULIC PMP(RH)	Inhibit retractable hard top operation.	Detects normal value
B171C	SWITCHING VALVE 1	Inhibit retractable hard top operation.	Detects normal value
B171D	SWITCHING VALVE 2	Inhibit retractable hard top operation.	Detects normal value
B171E	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B171F	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1720	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1721	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1722	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1723	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1724	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1725	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1726	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1728	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1729	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B172A	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B172B	ROOF STATE SIG(AUDIO)	Inhibit retractable hard top operation.	Detects normal value
B172D	ROOF WARNING BUZZ- ER	Inhibit retractable hard top operation.	Detects normal value
B172E	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B172F	REAR PWR WINDOW(LH)	Inhibit retractable hard top operation.	Detects normal value

< SYSTEM DESCRIPTION >

	Display contents of CONSULT	Fail-safe	Cancellation
B1730	REAR PWR WIN- DOW(RH)	Inhibit retractable hard top operation.	Detects normal value
B1731	HYDRAULIC STATE 1	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1732	HYDRAULIC STATE 2	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1733	HYDRAULIC STATE 3	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1734	HYDRAULIC STATE 4	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1735	HYDRAULIC STATE 5	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1736	HYDRAULIC STATE 6	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1737	HYDRAULIC STATE 7	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1738	HYDRAULIC STATE 8	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1739	HYDRAULIC STATE 9	Inhibit retractable hard top operation.	Turn ignition switch OFF
B173A	HYDRAULIC STATE 10	Inhibit retractable hard top operation.	Turn ignition switch OFF
B173B	HYDRAULIC STATE 11	Inhibit retractable hard top operation.	Turn ignition switch OFF
B173C	HYDRAULIC STATE 12	Inhibit retractable hard top operation.	Turn ignition switch OFF
B173D	HYDRAULIC STATE 13	Inhibit retractable hard top operation.	Turn ignition switch OFF
B173E	HYDRAULIC STATE 14	Inhibit retractable hard top operation.	Turn ignition switch OFF
B173F	HYDRAULIC STATE 15	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1740	HYDRAULIC STATE 16	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1741	HYDRAULIC STATE 17	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1742	HYDRAULIC STATE 18	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1743	HYDRAULIC STATE 19	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1744	HYDRAULIC STATE 20	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1745	HYDRAULIC STATE 21	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1746	HYDRAULIC STATE 22	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1747	P SHELF (DRAW) STATE	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1748	P SHELF (DRAW) STATE 2	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1749	P SHELF (DRAW) STATE 3	Inhibit retractable hard top operation.	Turn ignition switch OFF
B174A	P SHELF (DRAW) STATE 4	Inhibit retractable hard top operation.	Turn ignition switch OFF
B174B	P SHELF (DRAW) STATE	Inhibit retractable hard top operation.	Turn ignition switch OFF
B174C	P SHELF (DRAW) STATE	Inhibit retractable hard top operation.	Turn ignition switch OFF
B174D	P SHELF (ROT) STATE 1	Inhibit retractable hard top operation.	Turn ignition switch OFF
B174E	P SHELF (ROT) STATE 2	Inhibit retractable hard top operation.	Turn ignition switch OFF
B174F	P SHELF (ROT) STATE 3	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1750	P SHELF (ROT) STATE 4	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1751	ROOF LATCH STATE 1	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1752	ROOF LATCH STATE 2	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1753	ROOF LATCH STATE 3	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1754	FLIPPER DOOR STATE 1	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1755	FLIPPER DOOR STATE 2	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1756	FLIPPER DOOR STATE 3	Inhibit retractable hard top operation.	Turn ignition switch OFF

Revision: 2012 July

< SYSTEM DESCRIPTION >

	Display contents of CONSULT	Fail-safe	Cancellation
B1757	FLIPPER DOOR STATE 4	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1758	THERMO PROTECTION	Inhibit retractable hard top operation.	It is not in thermo protection area (Refer to <u>RF-20,</u> <u>"RETRACTABLE HARD TOP SYSTEM : System De-</u> <u>scription"</u>)
B175C	PWR SOURCE(ROOF)	Inhibit retractable hard top operation.	Power source is 11.4 (V) or more for 0.5 second
B175D	PWR SOURCE(ROOF)	Inhibit retractable hard top operation.	Power source is14.5 (V) or more for 4 seconds
B175E	PWR SOURCE(WINDOW)	Inhibit retractable hard top operation and rear power window operation.	Power source (power window) is 9.5 (V) or less
B175F	PWR SOURCE(WINDOW)	Inhibit retractable hard top operation and rear power window operation.	Power source (power window) is 15.5 (V) or more
B1760	ROOF CONTROL UNIT	Inhibit rear window defogger opera- tion.	Detects normal value
B1761	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1762	ROOF STATE	Inhibit retractable hard top operation.	Detects normal value
B1763	HYDRAULIC STATE	Inhibit retractable hard top operation.	Detects normal value
B1764	ROOF LATCH STATE	Inhibit retractable hard top operation.	Detects normal value
B1765	FLIPPER DOOR STATE	Inhibit retractable hard top operation.	Detects normal value

HYDRAULIC SYSTEM CONTROL FUNCTION

< SYSTEM DESCRIPTION > HYDRAULIC SYSTEM CONTROL FUNCTION : System Diagram INFOID:000000008158256 А : Electrical : Hydraulic В Hydraulic unit : Control unit Hydraulic Hydraulic Hydraulic pump relay LH/RH pump power pump motor supply relay ÷ Switching valve 1/2 D Roof link assembly LH Ε Roof drive cylinder LH Roof lock cylinder LH F Roof status sensor Roof link assembly RH **Betractable** hard top Roof drive cylinder RH control unit Н Roof lock cylinder RH Trunk link assembly LH Trunk drive cylinder Trunk status sensor Trunk link sensor LH RF Trunk link assembly RH Trunk drive cylinder Trunk link sensor RH Μ Ν JMKIA4527GB C

HYDRAULIC SYSTEM CONTROL FUNCTION : System Description

SYSTEM DESCRIPTION

Retractable hard top control unit controls hydraulic system using hydraulic motor and switching valve 1/2, extends or retracts each hydraulic cylinder, and operates retractable hard top. Functions of each hydraulic cylinder are as shown in the following table.

Cylinder	Description	
Roof drive cylinder	Roof open (Cylinder: Extend) operation and close (Cylinder: Retract) operation	

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< SYSTEM DESCRIPTION >

Cylinder	Description
Roof lock cylinder	Roof link lock (Cylinder: Retract) operation and unlock (Cylinder: Extend) operation
Trunk drive cylinder	 Trunk lid (front side) open (Cylinder: Extend) operation and close (Cylinder: Retract) operation Trunk link lock (Cylinder: Retract) operation and unlock (Cylinder: Extend) operation

Electrical Parts In Hydraulic System

Retractable hard top control unit switches hydraulic pump rotation direction, hydraulic circuit by switching valve 1/2 ON or OFF, and extends or retracts each cylinder. Operation according to each parts state is as shown in the following table.

NOTE:

For the details of operation, refer to SEQUENCE OF HYDRAULIC SYSTEM.

In Open Procedure

	Output parts							
—	Hydraulic pump mo- tor (LH)	Hydraulic pump mo- tor (RH)	Switching valve 1	Switching valve 2				
		CONSULT data	monitor item					
Condition	PUMP OUT (LH)	PUMP OUT (RH)	SWITCH VLV1 OUT	SWITCH VLV2 OUT				
	Status on CONSULT							
Trunk lid: OPEN (Roof: CLOSE)	ON	OFF	ON	OFF				
Roof: OPEN (Trunk lid: OPEN)	OFF	ON	ON	OFF				
Trunk lid: CLOSE (Roof: OPEN)	OFF	ON	OFF	OFF				

In Close Procedure

	Output parts							
—	Hydraulic pump mo- tor (LH)	Hydraulic pump mo- tor (RH)	Switching valve 1	Switching valve 2				
		CONSULT data	monitor item					
Condition	PUMP OUT (LH)	PUMP OUT (RH)	SWITCH VLV1 OUT	SWITCH VLV2 OUT				
	Status on CONSULT							
Trunk lid: OPEN (Roof: OPEN)	OFF	ON	ON	OFF				
Roof: CLOSE (Trunk lid: OPEN)	ON	OFF	ON	OFF				
Roof: CLOSE (Roof: CLOSE)	ON	OFF	OFF	OFF				

SEQUENCE OF HYDRAULIC SYSTEM

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. (For interlock with other components, refer to <u>RF-20</u>, <u>"RETRACTABLE HARD TOP SYSTEM : System Description"</u>)

Parts state (CONSULT display) according to sequential hydraulic system operations is as shown in the following table.

Open Operation

< SYSTEM DESCRIPTION >

						Parts	state						-
	Input parts Output parts								-				
_	Roof link sta- tus	Trunk link sen- sor LH	Trunk link sen- sor RH	Trunk room lamp switch	Trunk status sensor	Roof latch status sensor	Hydrau- licpump motor (LH)	Hydrau- licpump motor (RH)	Switch- ing valve 1	Switch- ing valve 2	Trunk opener actua- tor	Roof latch motor	_
					CONSULT	data moni	tor item						-
HY- DRAU- LIC STATE	ROOF LINK STATE	TRUNK LINK SEN(LH)	TRUNK LINK SEN(R H)	TR ROOM LAMP SW	TRUNK STA- TUS SEN	ROOF LATCH STATE	PUMP OUT (LH)	PUMP OUT (RH)	SWITC HVLV1 OUT	SWITC HVLV2 OUT	TRUNK OPEN OUT	ROOF LATCH STATE (Target state)	_
					Status	on CONS	JLT						
1	1	ON	ON	ON	OFF	CLOSE	ON	OFF	ON	OFF	OFF	CLOSE	-
2	1	OFF	ON	ON	OFF	CLOSE	ON	OFF	ON	OFF	OFF	CLOSE	-
3	1	ON	OFF	ON	OFF	CLOSE	ON	OFF	ON	OFF	OFF	CLOSE	-
4	1	OFF	OFF	ON	OFF	CLOSE	ON	OFF	ON	OFF	ON	CLOSE	
5	1	OFF	OFF	OFF	OFF	_	ON	OFF	ON	OFF	ON	CLOSE	-
6	1	OFF	OFF	OFF	ON	CLOSE	OFF	OFF	ON	OFF	OFF	OPEN	-
7	1	OFF	OFF	OFF	ON	MID	OFF	OFF	ON	OFF	OFF	OPEN	-
8	1	OFF	OFF	OFF	ON	OPEN	OFF	ON	ON	OFF	OFF	OPEN	-
9	2	OFF	OFF	OFF	ON	OPEN	OFF	ON	ON	OFF	OFF	OPEN	-
10	3	OFF	OFF	OFF	ON	OPEN	OFF	ON	ON	OFF	OFF	OPEN	-
11	4	OFF	OFF	OFF	ON	OPEN	OFF	ON	ON	OFF	OFF	OPEN	-
12	5	OFF	OFF	OFF	ON	OPEN	OFF	ON	ON	OFF	OFF	OPEN	-
13	6	OFF	OFF	OFF	ON	OPEN	OFF	ON	ON	OFF	OFF	OPEN	-
14	7	OFF	OFF	OFF	ON	OPEN	OFF	ON	ON	OFF	OFF	OPEN	-
15	8	OFF	OFF	OFF	ON	OPEN	OFF	ON	ON	OFF	OFF	CLOSE	-
16	8	OFF	OFF	OFF	ON	MID	OFF	ON	ON	OFF	OFF	CLOSE	
17	8	OFF	OFF	OFF	ON	CLOSE	OFF	ON	OFF	OFF	OFF	CLOSE	- 1
18	8	OFF	OFF	OFF	OFF	CLOSE	OFF	ON	OFF	OFF	OFF	CLOSE	-
19	8	OFF	OFF	ON	OFF	CLOSE	OFF	ON	OFF	OFF	OFF	CLOSE	-
20	8	OFF	ON	ON	OFF	CLOSE	OFF	ON	OFF	OFF	OFF	CLOSE	-
21	8	ON	OFF	ON	OFF	CLOSE	OFF	ON	OFF	OFF	OFF	CLOSE	-
22	8	ON	ON	ON	OFF	CLOSE	OFF	OFF	OFF	OFF	OFF	CLOSE	-

Close Operation

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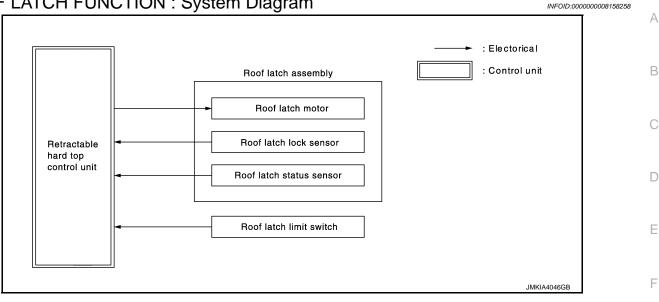
< SYSTEM DESCRIPTION >

						Parts	state					
		Input parts Output parts										
_	Roof link status	Trunk link sen- sor LH	Trunk link sen- sor RH	Trunk room lamp switch	Trunk status sensor	Roof latch status sensor	Hydrau- licpump motor (LH)	Hydrau- licpump motor (RH)	Switch- ing valve 1	Switch- ing valve 2	Trunk open- er ac- tuator	Roof latch motor
	CONSULT data monitor item											
HY- DRAU- LIC STATE	ROOF LINK STAT E	TRUNK LINK SEN(LH)	TRUNK LINK SEN(R H)	TR ROOM LAMP SW	TRUNK STA- TUS SEN	ROOF LATCH STATE	PUMP OUT (LH)	PUMP OUT (RH)	SWITC HVLV1 OUT	SWITC HVLV2 OUT	TRUN K OPEN OUT	ROOF LATCH STATE (Target state)
					Status	s on CONS	SULT					
22	8	ON	ON	ON	OFF	CLOSE	OFF	ON	ON	OFF	OFF	CLOSE
21	8	ON	OFF	ON	OFF	CLOSE	OFF	ON	ON	OFF	OFF	CLOSE
20	8	OFF	ON	ON	OFF	CLOSE	OFF	ON	ON	OFF	OFF	CLOSE
19	8	OFF	OFF	ON	OFF	CLOSE	OFF	ON	ON	OFF	ON	CLOSE
18	8	OFF	OFF	OFF	OFF	CLOSE	OFF	ON	ON	OFF	ON	CLOSE
17	8	OFF	OFF	OFF	ON	CLOSE	OFF	OFF	ON	OFF	OFF	OPEN
16	8	OFF	OFF	OFF	ON	MID	OFF	OFF	ON	OFF	OFF	OPEN
15	8	OFF	OFF	OFF	ON	OPEN	ON	OFF	ON	OFF	OFF	OPEN
14	7	OFF	OFF	OFF	ON	OPEN	ON	OFF	ON	OFF	OFF	OPEN
13	6	OFF	OFF	OFF	ON	OPEN	ON	OFF	ON	OFF	OFF	OPEN
12	5	OFF	OFF	OFF	ON	OPEN	ON	OFF	ON	OFF	OFF	OPEN
11	4	OFF	OFF	OFF	ON	OPEN	ON	OFF	ON	OFF	OFF	OPEN
10	3	OFF	OFF	OFF	ON	OPEN	ON	OFF	ON	OFF	OFF	OPEN
9	2	OFF	OFF	OFF	ON	OPEN	ON	OFF	ON	ON	OFF	OPEN
8	1	OFF	OFF	OFF	ON	OPEN	ON	OFF	ON	ON	OFF	CLOSE
7	1	OFF	OFF	OFF	ON	MID	ON	OFF	ON	ON	OFF	CLOSE
6	1	OFF	OFF	OFF	ON	CLOSE	ON	OFF	OFF	OFF	OFF	CLOSE
5	1	OFF	OFF	OFF	OFF		ON	OFF	OFF	OFF	OFF	CLOSE
4	1	OFF	OFF	ON	OFF	CLOSE	ON	OFF	OFF	OFF	OFF	CLOSE
3	1	ON	OFF	ON	OFF	CLOSE	ON	OFF	OFF	OFF	OFF	CLOSE
2	1	OFF	ON	ON	OFF	CLOSE	ON	OFF	OFF	OFF	OFF	CLOSE
1	1	ON	ON	ON	OFF	CLOSE	OFF	OFF	OFF	OFF	OFF	CLOSE

ROOF LATCH FUNCTION

< SYSTEM DESCRIPTION >

ROOF LATCH FUNCTION : System Diagram



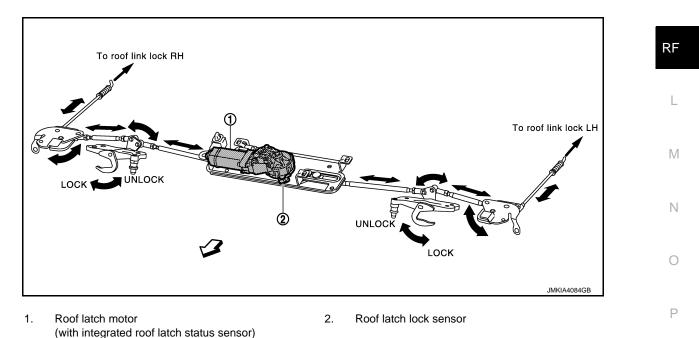
ROOF LATCH FUNCTION : System Description

SYSTEM DESCRIPTION

Roof latch assembly on the roof front end operates roof latch and roof link lock on the rod end, by roof latch Н motor operation through roof latch rod. When retractable hard top is fully closed, roof latch is engaged with roof latch striker on the front screen upper side and roof link assembly, when fully open, is engaged with roof support bumper (RF-283, "Exploded View") and roof link assembly.

Retractable hard top control unit recognizes roof latch state by roof latch status sensor (in roof latch motor), roof latch lock sensor (in roof latch assembly), and roof latch limit switch (in front latch assembly, refer to RF-243, "Exploded View").

Roof Latch Structure



SEQUENCE OF ROOF LATCH STATE

There are 3 states in roof latch. Open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. (For interlocking with other components, refer to RF-20, "RETRACTABLE HARD TOP SYSTEM : System Description")

Parts state (CONSULT display) according to sequential roof latch operations is as shown in the following table.

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< SYSTEM DESCRIPTION >

Lock Operation

	Parts state									
_		Input parts		Output parts						
	Roof latch status sensor	Roof latch lock sen- sor	Roof latch limit switch	Roof latch motor (UNLOCK)	Roof latch motor (LOCK)					
	CONSULT data monitor item									
LATCH STATE	LATCH VALUE	LATCH LOCK SEN	LATCH LIMIT SW	LATCH OUT(ULK)	LATCH OUT(LCK)					
		Status on	CONSULT							
OPEN	78 or more	OFF	OPEN	OFF	ON					
MID	77-1	OFF	OPEN	OFF	ON					
CLOSE	0	ON	CLOSE*1/OPEN*2	OFF	OFF					

*1: when retractable hard top is fully closed

*2: when retractable hard top is fully open

Unlock Operation

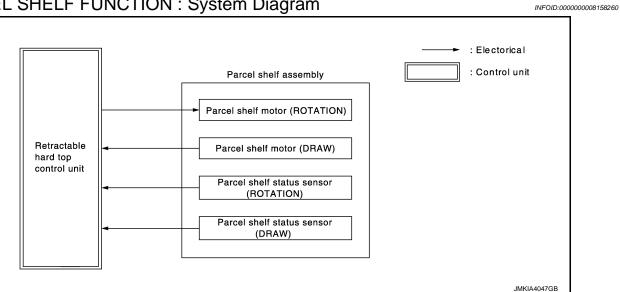
	Parts state									
_		Input parts		Output parts						
	Roof latch status sensor	Roof latch status sensor	Roof latch limit switch	Roof latch motor (UNLOCK)	Roof latch motor (LOCK)					
	CONSULT data monitor item									
LATCH STATE	LATCH VALUE	LATCH STATE SEN	LATCH LIMIT SWITCH	LATCH OUT(ULK)	LATCH OUT(LCK)					
		Status on CON	ISULT							
CLOSE	0	ON	CLOSE*1/OPEN*2	ON	OFF					
MID	77-1	OFF	OPEN	ON	OFF					
OPEN	78 or more	OFF	OPEN	OFF	OFF					

*1: when retractable hard top is fully closed

*2: when retractable hard top is fully open

PARCEL SHELF FUNCTION

PARCEL SHELF FUNCTION : System Diagram



< SYSTEM DESCRIPTION >

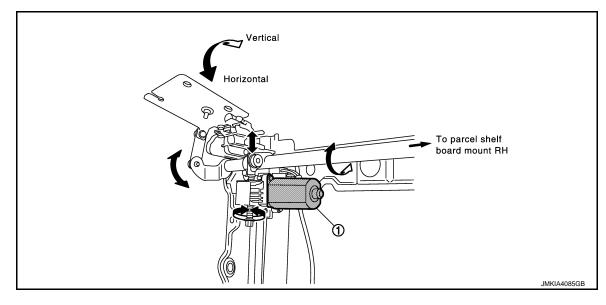
PARCEL SHELF FUNCTION : System Description

SYSTEM DESCRIPTION

Parcel shelf is installed in trunk room and integrates parcel shelf motor (rotation) and parcel shelf motor (draw). During sequential operations of retractable hard top system, parcel shelf motor (rotation) rotates parcel shelf board, parcel shelf motor (draw) draws parcel shelf board, and open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components than parcel self.

Retractable hard top control unit recognizes the rotation position of parcel shelf by parcel shelf status sensor (rotation) in parcel shelf motor (rotation), up and down positions of parcel shelf by parcel shelf status sensor (draw) in parcel shelf motor (draw).

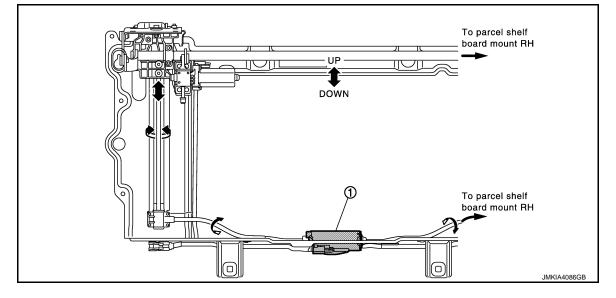
Parcel Shelf Structure/Rotation



View with parcel shelf board and parcel shelf motor (rotation) cover removed.

- 1. Parcel shelf motor (rotation)
 - [with integrated parcel shelf status sensor (rotation)]

Parcel Shelf Structure/Draw



View with parcel shelf board and parcel shelf motor (rotation) cover removed.

1. Parcel shelf motor (draw)

[with integrated parcel shelf status sensor (draw)]

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< SYSTEM DESCRIPTION >

SEQUENCE OF PARCEL SHELF

There are 4 rotation operation states and 6 draw operation states in parcel shelf. Open and close operations of retractable hard tops are performed interlocking with other retractable hard top system components. (For interlocking with other components, refer to <u>RF-20</u>, "<u>RETRACTABLE HARD TOP SYSTEM</u>: <u>System Description</u>".) Parts state (CONSULT display) according to sequential parcel shelf operations is as shown in the following table.

Rotation Operation/Vertical

	Parts	state	
—	Output parts		
	Parcel shelf motor (rotation)		
	CONSULT data monitor item		
PS STATE(ROTA)	PS OUT(HORI)	PS OUT(VERT)	
	Status on CONSULT		
1	OFF ON		
2	OFF	ON	
3	OFF	ON	
4	OFF OFF		

Rotation Operation/Horizontal

	Parts	state	
—	— Output parts		
	Parcel shelf motor (rotation)		
· · · · ·	CONSULT data monitor item		
PS STATE(ROTA)	PS OUT(HORI)	PS OUT(VERT)	
· · · · ·	Status on CONSULT		
4	ON OFF		
3	ON	OFF	
2	ON OFF		
1	OFF	OFF	

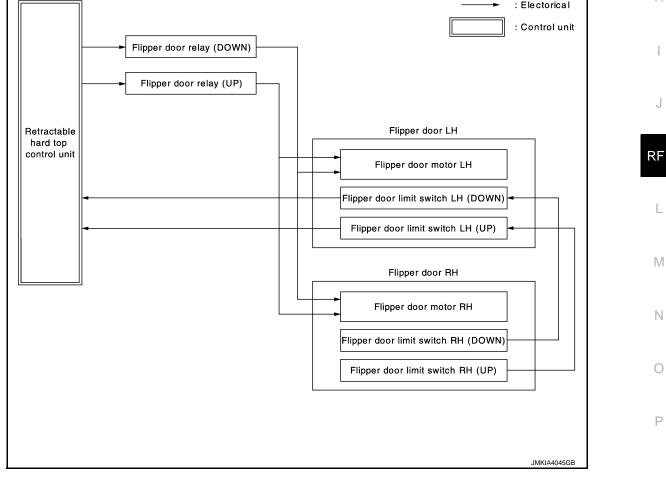
Draw Operation/Down

	Parts	state		
- Output parts		parts		
	Parcel shelf n	notor (draw)		
	CONSULT data monitor item			
PS STATE(DRAW)	PS OUT(UP)	PS OUT(DOWN)		
	Status on CONSULT			
1	OFF	ON		
2	OFF	ON		
3	OFF	ON		
4	OFF	ON		
5	OFF	ON		
6	OFF	OFF		

Draw Operation/Up

< SYSTEM DESCRIPTION >

	Pa	rts state	/	
—	Out	put parts		
	Parcel she	rcel shelf motor (draw)		
	CONSULT data monitor item			
PS STATE(DRAW)	PS OUT(UP)	PS OUT(DOWN)		
	Status on CONSULT			
6	ON	OFF		
5	ON	OFF		
4	ON	OFF		
3	ON	OFF		
2	ON	OFF		
1	OFF	OFF		
FLIPPER DOOR FUNCTION	ON			
FLIPPER DOOR FUNCTIO	N : System Diagram	INFOID:00000008158262		
			(
		: Electorical		
		: Control unit		
	or relay (DOWN)			



FLIPPER DOOR FUNCTION : System Description

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SYSTEM DESCRIPTION

< SYSTEM DESCRIPTION >

Flipper door (LH/RH) is installed on trunk lid back side. Each flipper door integrates flipper door motor and flipper door limit switch. Up and down operations are performed by flipper door motor. Up and down positions of flipper door are detected by flipper door limit switch.

Retractable hard top control unit performs open and close operations of retractable hard top system interlocking with flipper door and other retractable hard top components.

SEQUENCE OF FLIPPER DOOR

There are 3 states in flipper door. Open and close operations of retractable hard top system are performed interlocking with other retractable hard top components. (For interlocking with other components, refer to <u>RF-20, "RETRACTABLE HARD TOP SYSTEM : System Description"</u>.)

Parts state (CONSULT display) according to sequential flipper door operations is as shown in the following table.

Up Operation

		Parts	s state	
_	Input parts Output		ut parts	
	Flipper door limit switch (up)	Flipper door limit switch (down)	Flipper d	loor motor
	CONSULT data monitor item			
FLPD STATE	FLPD LIMIT SW(UP)	FLPD LIMIT SW(DOWN)	FLPD OUT(UP)	FLPD OUT(DOWN)
	Status on CONSULT			
1	OFF	ON	ON	OFF
2	OFF	OFF	ON	OFF
4	ON	OFF	OFF	OFF

NOTE:

FLPD STATE 3 is not available.

Down Operation

		Parts	state	
_	Input	Input parts		ut parts
	Flipper door limit switch (up)	Flipper door limit switch (down)	Flipper d	oor motor
CONSULT data monitor item				
FLPD STATE	FLPD LIMIT SW(UP)	FLPD LIMIT SW(DOWN)	FLPD OUT(UP)	FLPD OUT(DOWN)
Status on CONSULT				
4	ON	OFF	OFF	ON
2	OFF	OFF	OFF	ON
1	OFF	ON	OFF	OFF

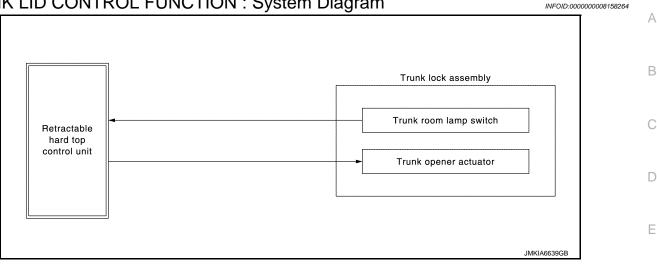
NOTE:

FLPD STATE 3 is not available.

TRUNK LID CONTROL FUNCTION

< SYSTEM DESCRIPTION >

TRUNK LID CONTROL FUNCTION : System Diagram



TRUNK LID CONTROL FUNCTION : System Description

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SYSTEM DESCRIPTION

Retractable hard top control unit performs trunk lid opener operation and trunk lid closure operation, when open and close operations of retractable hard top are performed.

NOTE:

For trunk lid opener operation other than retractable hard top system operation, refer to <u>DLK-42</u>, <u>"System</u> H <u>Description"</u>. For trunk lid auto closure other than retractable hard top system operation, refer to <u>DLK-44</u>, <u>"System Description"</u>.

TRUNK LID OPERATION FOR RETRACTABLE HARD TOP SYSTEM

Trunk opener operation and trunk closure operation during retractable hard top system operation are as shown in the following.

Trunk Lid Opener Operation

Trunk lid opener operation does not need trunk lid opener switch input, when retractable hard top system operation is performed. Retractable hard top control unit performs trunk lid open operation. Other operations are the same as trunk lid open function (<u>DLK-42, "System Description"</u>) of door lock system. WARNING FUNCTION

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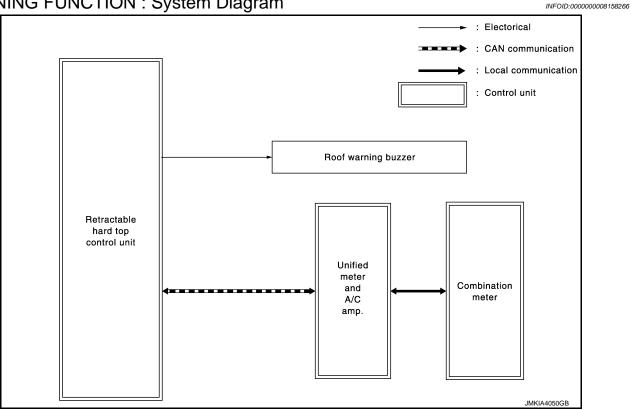
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< SYSTEM DESCRIPTION >

WARNING FUNCTION : System Diagram



WARNING FUNCTION : System Description

INFOID:000000008158267

SYSTEM DESCRIPTION

Retractable hard top control unit indicates retractable hard top system state using roof warning buzzer and LCD.

LCD INDICATION

LCD in combination meter displays the following items.

NOTE:

- LCD does not display the following items if initialization (roof state, roof latch state, or parcel shelf state) is not complete.
- Perform initialization when the following screen is not displayed. Refer to RF-74. "Description".
- LCD does not display the following screen if battery voltage is low when roof open/close switch is operated. When roof open/ close switch is released, "Roof in operation" is displayed. (roof warning buzzer does not sound)

< SYSTEM DESCRIPTION >

ltem	Display on LCD	Item	Display on LCD
Roof close : It is displayed when retract- able hard top system is fully closed	Roof close JMKIA4118ZZ	Roof in operation : It is displayed when retract- able hard top system is in op- eration	Roof in operation JMKIA4119ZZ
Roof open : It is displayed when retract- able hard top system is fully open	Roof open JMKIA4120ZZ	Check trunk : Retractable hard top can not operate when trunk lid is open	Check trunk JMKIA4121ZZ
Check separator : Retractable hard top can not operate when tonneau board is not set	Check separator		

WARNING BUZZER FUNCTION

Roof warning buzzer sounds due to the following conditions.

NOTE:

Warning buzzer operation in initialize procedure, Refer to RF-74, "Description".

Operation/condition	Buzzer sounds	Cause	Action
 Normal Open and close operations by roof open /close switch, or an open operation by door request switch is performed Operation is complete (fully closed or fully open) 	Pi-		
Retractable hard top stops during opera- tion		Foreign materials are trapped in moving parts	Check moving part for trapped foreign materials, deformation, and looseness Check operation and DTC, after erasing self diagnosis result
Release roof open/close switch	-	Roof state is not in end position (not in fully close or fully open posi- tion)	Operate retractable hard top to end position.
		Shift position is R	Shift the shift position to P or N
	Pi, Pi	Trunk lid is not closed	Close trunk lid
		Tonneau board is not set	Set tonneau board
Retractable hard top does not operate		Thermo protection (stage 2) is in operation	Wait for 20 minutes or more without performing operation
		Impossible operation is requested (A close operation while the roof is fully closed or an open operation while the roof is fully open)	_
Engine stops		Retractable hard top is not fully closed or fully open	Fully close or fully open retract- able hard top

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< SYSTEM DESCRIPTION >

Operation/condition	Buzzer sounds	Cause	Action
The vehicle is driven	Pi	Retractable hard top is not fully closed or fully open	Fully close or fully open retract- able hard top
Ignition switch is OFF	Buzzer sounds 2 times in 5 second intervals from 1	Roof state is not in end position (not in fully close or fully open posi- tion)	Operate retractable hard top to end position.
Ignition is OFF after battery is re-con- nected	minute after recon- necting battery for 15 minutes	Initialization is not complete	Perform initialization

DIAGNOSIS SYSTEM (RETRACTABLE HARD TOP CONTROL UNIT) < SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (RETRACTABLE HARD TOP CONTROL UNIT)

CONSULT Function

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APPLICATION ITEM

CONSULT performs the following functions via CAN communication with retractable hard top control unit.

Diagnosis mode Ecu Identification		Function Description
		The retractable hard top control unit part number is displayed.
Self Diagnostic Resu	lt	Displays the diagnosis results judged by retractable hard top control unit.
Freeze Frame Data		The retractable hard top control unit records the vehicle condition at the time a particular DTC is detected, and displays.
Data Monitor		The retractable hard top control unit input/output signals are displayed.
Active Test		The signals used to activate each device are forcibly supplied from re- tractable hard top control unit.
Work Support		Changes the setting for each system function.
CAN Diag Support M	lonitor	Monitors the reception status of CAN communication viewed from re- tractable hard top control unit. Refer to CONSULT operation manual.

WORK SUPPORT

CONSULT display	Description		
Item			Description
TRUNK OPENER			Perform trunk opener actuator OPEN operation
FLIPPER DOOR		UP	Flipper door (LH/RH) performs UP operation
Always perform this operation after completely understanding about retractable hard top operation. Refer to <u>RF-39. "FLIPPER DOOR</u> <u>FUNCTION : System Description"</u> . CAUTION: This operation may interfere with and damage parts. Always check the precautions. Refer to <u>RF-10. "Precautions for Retract- able Hard Top Service"</u> .		DOWN	Flipper door (LH/RH) performs DOWN operation
ROOF LATCH		OPEN	Roof latch performs UNLOCK operation
		CLOSE	Roof latch performs LOCK operation
ROOF STATE LEARNING		START	Roof position is learned
ROOF STATE RESET		START	Roof position memory is erased
ROOF/TRUNK/PARCEL SHELF		UP	Parcel shelf performs UP operation
Always perform this operation after completely un- derstanding about retractable hard top operation. Re-	PS (DRAW)	DOWN	Parcel shelf performs DOWN operation
fer to <u>RF-37, "PARCEL SHELF FUNCTION : System</u>		VERT	Parcel shelf performs VERTICAL operation
Description".	PS (ROTA)	HORI	Parcel shelf performs HORIZONTAL operation
This operation may interfere with and damage		OPEN	Retractable hard top performs OPEN operation
parts. Always check the precautions. Refer to RF-	ROOF	CLOSE	Retractable hard top performs CLOSE operation
<u>10. "Precautions for Retractable Hard Top Ser-</u> vice".		OPEN	Trunk lid performs OPEN operation
 Before opening trunk lid, release trunk opener lock-up. Before operating roof, release roof opener lock-up. 	TRUNK	CLOSE	Trunk lid performs CLOSE operation

SELF-DIAG RESULT Refer to <u>RF-64, "DTC Index"</u>.

Freeze Frame Data

The retractable hard top control unit records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

DIAGNOSIS SYSTEM (RETRACTABLE HARD TOP CONTROL UNIT)

< SYSTEM DESCRIPTION >

CONSULT display		Description
Item	Indication	Description
ROOF SW(OPEN)	ON/OFF	OPEN input state of roof open/close switch is displayed
ROOF SW(CLOSE)	ON/OFF	CLOSE input state of roof open/close switch is displayed
TONNEAU SW	ON/OFF	State of tonneau board switch is displayed
LATCH LIMIT SW	ON/OFF	Input state of roof latch limit switch is displayed
LATCH LOCK SEN	ON/OFF	Input state of roof latch lock sensor is displayed
TRUNK STATUS SEN	ON/OFF	Input state of trunk status sensor is displayed
TR LINK SEN A(LH)	ON/OFF	Input state of trunk link sensor (RH) is displayed
TR LINK SEN A(RH)	ON/OFF	Input state of trunk link sensor (LH) is displayed
FLPD LIMIT SW(DWN)	ON/OFF	Input state of flipper door limit switch (DOWN) is displayed
FLPD LIMIT SW(UP)	ON/OFF	Input state of flipper door limit switch (UP) is displayed
ROOF STATE	OK/NG	Condition of retractable hard top system state is displayed
HYDRAULIC STATE	OK/NG	Condition of hydraulic system state is displayed
LATCH STATE	OK/NG	Condition of roof latch state is displayed
FLPD STATE	OK/NG	Condition of flipper door (LH/RH) state is displayed
PUMP OUT(LH)	ON/OFF	Left rotation output state to hydraulic motor is displayed
PUMP OUT(RH)	ON/OFF	Right rotation output state to hydraulic motor is displayed
SWITCH VALVE 1 OUT	ON/OFF	Output state to switching valve 1 is displayed
SWITCH VALVE 2 OUT	ON/OFF	Output state to switching valve 2 is displayed
TR LINK SEN B(LH)	ON/OFF	Input state of trunk link sensor (RH) is displayed
TR LINK SEN B(RH)	ON/OFF	Input state of trunk link sensor (LH) is displayed
PS STATE(TOP)	ON/OFF	Parcel shelf (DRAW) position (TOP) is displayed
PS STATE(BOTTOM)	ON/OFF	Parcel shelf (DRAW) position (BOTTOM) is displayed
LATCH OUT(ULK)	ON/OFF	OPEN output state to roof latch motor is displayed
LATCH OUT(LCK)	ON/OFF	CLOSE output state to roof latch motor is displayed
R WIN LH OUT(UP)	ON/OFF	CLOSE output state to rear power window motor (LH) is displayed
R WIN LH OUT(DWN)	ON/OFF	OPEN output state to rear power window motor (LH) is displayed
R WIN RH OUT(UP)	ON/OFF	CLOSE output state to rear power window motor (RH) is displayed
R WIN RH OUT(DWN)	ON/OFF	OPEN output state to rear power window motor (RH) is displayed
REAR DEF ON SIG	ON/OFF	Input state of rear window defogger ON signal from BCM is displayed
PS OUT(UP)	ON/OFF	UP output state to parcel shelf motor (DRAW) is displayed
PS OUT(DOWN)	ON/OFF	DOWN output state to parcel shelf motor (DRAW) is displayed
PS OUT(HORI)	ON/OFF	HORIZONTAL output state to parcel shelf motor (ROTATE) is displayed
PS OUT(VERT)	ON/OFF	VERTICAL output state to parcel shelf motor (ROTATE) is displayed
TRUNK OPEN OUT	ON/OFF	OPEN output state to trunk opener actuator is displayed
FLPD OUT(UP)	ON/OFF	UP output state to flipper door motor (LH/RH) is displayed
FLPD OUT(DWN)	ON/OFF	DOWN output state to flipper door motor (LH/RH) is displayed
DTC OCCURRENCE COUNTER	_	The number of times that ignition switch is turned ON after DTC is detected

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

DIAGNOSIS SYSTEM (RETRACTABLE HARD TOP CONTROL UNIT) < SYSTEM DESCRIPTION >

CONSULT di	splay	Description	
Item	Indication/Unit	Description	
LATCH OUT(ULK)	ON/OFF/NG	OPEN output state to roof latch motor is displayed	
LATCH OUT(LCK)	ON/OFF/NG	CLOSE output state to roof latch motor is displayed	
LATCH VALUE	0-255	Pulse number from roof latch status sensor is displayed	_
LATCH LIMIT SW	LOCK/UNLK	Input state of roof latch limit switch is displayed	_
LATCH STATE	NG/CLOSE/ MID/OPEN	State of roof latch is displayed	_
PS VALUE(DRAW)	0-65535	Pulse number from parcel shelf status sensor (DRAW) is displayed	_
PS VALUE(ROTA)	0-65535	Pulse number from parcel shelf status sensor (ROTATE) is displayed	_
PS OUT(UP)	ON/OFF/NG	UP output state to parcel shelf motor (DRAW) is displayed	_
PS OUT(DOWN)	ON/OFF/NG	DOWN output state to parcel shelf motor (DRAW) is displayed	
PS OUT(VERT)	ON/OFF/NG	VERTICAL output state to parcel shelf motor (ROTATE) is displayed	
PS OUT(HORI)	ON/OFF/NG	HORIZONTAL output state to parcel shelf motor (ROTATE) is displayed	
PS STATE(DRAW)	NG/1-6	DRAW state of parcel shelf is displayed	_
PS STATE(ROTA)	NG/1-4	ROTATE state of parcel shelf is displayed	_
ROOF VALUE	0-1023	Pulse number from roof status sensor is displayed	_
PUMP OUT(RH)	ON/OFF/NG	Right rotation output state to hydraulic motor is displayed	_
PUMP OUT(LH)	ON/OFF/NG	Left rotation output state to hydraulic motor is displayed	_
SWITCH VLV 1 OUT	ON/OFF/NG	Output state to switching valve 1 is displayed	_
SWITCH VLV 2 OUT	ON/OFF/NG	Output state to switching valve 2 is displayed	_
ROOF STATE	NG/1-42	State of retractable hard top system is displayed	_
HYDRAULIC STATE	NG/1-22	State of hydraulic system is displayed	_
ROOF SW(OPEN)	ON/OFF	OPEN input state of roof open/close switch is displayed	_
ROOF SW(CLOSE)	ON/OFF	CLOSE input state of roof open/close switch is displayed	_
ROOF LINK STATE	NG/1-8	State of roof link is displayed	
TRUNK LINK SEN(RH)	ON/OFF/NG	Input state of trunk link sensor (RH) is displayed	_
TRUNK LINK SEN(LH)	ON/OFF/NG	Input state of trunk link sensor (LH) is displayed	-
TR ROOM LAMP SW	ON/OFF	Input state from trunk room lamp switch is displayed	
TRUNK STATUS SEN	ON/OFF/NG	Input state of trunk status sensor is displayed	
TRUNK OPEN OUT	ON/OFF/NG	OPEN output state to trunk opener actuator is displayed	-
FLPD LIMIT SW(DWN)	ON/OFF	Input state of flipper door limit switch (DOWN) is displayed	_
FLPD LIMIT SW(UP)	ON/OFF	Input state of flipper door limit switch (UP) is displayed	_
FLPD OUT(UP)	ON/OFF/NG	UP output state to flipper door motor (LH/RH) is displayed	_
FLPD OUT(DWN)	ON/OFF/NG	DOWN output state to flipper door motor (LH/RH) is displayed	_
FLPD STATE	NG/1, 2, 4	State of flipper door (LH/RH) is displayed	_
R WIN LH OUT(UP)	ON/OFF/NG	CLOSE output state to rear power window motor (LH) is displayed	_
R WIN LH OUT(DWN)	ON/OFF/NG	OPEN output state to rear power window motor (LH) is displayed	_
R WIN RH OUT(UP)	ON/OFF/NG	CLOSE output state to rear power window motor (RH) is displayed	_
R WIN RH OUT(DWN)	ON/OFF/NG	OPEN output state to rear power window motor (RH) is displayed	_
REAR DEF ON SIG	ON/OFF	Input state of rear window defogger ON signal from BCM is displayed	_
REAR DEF OUT	ON/OFF/NG	Output state to rear window defogger is displayed	_
R WIN CURENT(LH)	0-25.5	Current value to rear power window motor (LH) is displayed	_
R WIN CURENT(RH)	0-25.5	Current value to rear power window motor (RH) is displayed	-
RR WIN STATE(LH)	UP/MID/DOWN	State of rear power window motor (LH) is displayed	_

DIAGNOSIS SYSTEM (RETRACTABLE HARD TOP CONTROL UNIT)

< SYSTEM DESCRIPTION >

CONSULT dis	play	Description		
Item	Indication/Unit	Description		
RR WIN STATE(RH)	UP/MID/DOWN	State of rear power window motor (RH) is displayed		
RAP SIGNAL	ON/OFF	Input state of RAP signal from BCM is displayed		
TR MODE SIGNAL	ON/OFF	Output state of trunk mode signal to trunk closure control unit is displayed		
ROOF STATE(AUDIO)	ON/OFF/NG	Output state of roof status signal to audio unit is displayed		
ROOF BUZZER OUT	ON/OFF/NG	Out put state to roof warning buzzer is displayed		
LOCAL COMM 1	NG/SLEEP/NG	State of serial link 1 is displayed		
LOCAL COMM 2	NG/SLEEP/NG	State of serial link 2 is displayed		
ROOF MODE	NG/STOP/ CLOSE/OK	Inhibition mode of retractable hard top system is displayed		
POP-UP BAR DPLOY	OK/NG	It is displayed whether or not pop-up bar is deployed		
POP-UP BAR DIAG	OK/NG	It is displayed whether or not pop-up bar is malfunctioning		
SWITCH VLV COND	OK/NG	Diagnosis result of switching valve is displayed		
PWR SOURCE COND	OK/NG	Diagnosis result of battery power supply is displayed		
CPU COND	OK/NG	Diagnosis result of CPU is displayed		
ROOF COND	OK/NG	Diagnosis result of roof position is displayed		
SENSOR COND	OK/NG	Diagnosis result of sensor (hall sensor) is displayed		
IGN ON SIG(BCM)	OK/NG	Receiving state of ignition ON signal from BCM is displayed		
VHCL STOP-METER	OK/NG	Receiving state of vehicle speed (0 km/h) from combination meter is displayed		
CIRCUIT COND	OK/NG	Diagnosis result of circuit is displayed		
ROOF TIMEOUT	OK/NG	Time out state of roof operation is displayed		
CAN COMM	OK/NG	Diagnosis result of CAN communication is displayed		
THERMO PROTECT 1	OK/NG	Non-operation state of thermo protection (stage1) is displayed		
PRMIT ENG ST (BCM)	OK/NG	Input state of engine cranking signal from BCM is displayed		
SHIFT R SIG	OK/NG	Input state of shift position (R position) is displayed		
THERMO PROTECT 2	OK/NG	Non-operation state of thermo protection (stage 2) is displayed		
TONNEAU SW	OK/NG	State of tonneau board switch is displayed		
BRK LAMP SW(BCM)	OK/NG	Receiving state of brake lamp switch signal from BCM is displayed		
THERMO VALUE	0-65535	Count value of thermo protection is displayed		
PWR SOURCE VALUE	0-20	Voltage value of power supply is displayed		
ROOF INITIAL(OPEN)	OK/NG	Learning state of roof position (OPEN) is displayed		
ROOF INITIAL(CLOSE)	OK/NG	Learning state of roof position (CLOSE) is displayed		
PSHELF INITIAL(ROTA)	OK/NG	Learning state of parcel shelf position (ROTATE) is displayed		
PSHELF INITIAL(DRAW)	OK/NG	Learning position of parcel shelf position (DRAW) is displayed		

ACTIVE TEST

CONSULT display		Description	
Item	Indication	Description	
ROOF SYSTEM	OPEN	Retractable hard top system performs open operation	
ROOF STSTEM	CLOSE	Retractable hard top system performs close operation	
ROOF STATE OUTPUT(AUDIO)	ON	Full open position signal of roof is transmitted to audio unit	
FRONT POWER WINDOW (LH/RH)	DOWN	Front power window (LH/RH) performs open operation	
REAR POWER WINDOW(LH)	UP	Rear power window (LH) performs close operation	
REAR FOWER WINDOW(LH)	DOWN	Rear power window (LH) performs open operation	

DIAGNOSIS SYSTEM (RETRACTABLE HARD TOP CONTROL UNIT)

< SYSTEM DESCRIPTION >

CONSULT display		Description	0
Item	Indication	Description	A
REAR POWER WINDOW(RH)	UP	Rear power window (RH) performs close operation	
	DOWN	Rear power window (RH) performs open operation	В

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< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION RETRACTABLE HARD TOP CONTROL UNIT

Reference Value

INFOID:000000008158269

VALUES ON THE DIAGNOSIS TOOL

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

CONSULT MONITOR ITEM

Monitor Item		Condition	Status/Value
		Lock	ON
LATCH LOCK SEN	State of roof latch	Other than above	OFF
		Roof latch lock sensor circuit is short	NG
		Operate	$ON \Leftrightarrow OFF$
LATCH STATE SEN	State of roof latch motor	Stop	ON or OFF
		Roof latch lock sensor circuit is short	NG
		Unlock is in operation	ON
LATCH OUT(ULK)	Operation of roof latch mo- tor	Other than above	OFF
		Roof latch motor (UNLOCK) circuit is short	NG
		Lock is in operation	ON
LATCH OUT(LCK)	Operation of roof latch mo- tor	Other than above	OFF
		Roof latch motor (LOCK) circuit is short	NG
		Lock	0
LATCH VALUE	State of roof latch	Halfway position	1-77
		Unlock	78 or more
LATCH LIMIT SW State of roof latch		Roof is fully close and roof latch is in LOCK	CLOSE
LATCH LIMIT SW	State of roof latch	Other than above	OPEN
		Initialization is not complete	NG
	Otata af na af latah	LOCK	CLOSE
LATCH STATE	State of roof latch	Halfway position	MID
		UNLOCK	OPEN
PS VALUE(DRAW)	State of parcel shelf	Тор	Retractable hard top ful- ly open state: 2246 Retractable hard top ful- ly closed state: 2220
		Bottom	1000
		Vertical	3190
PS VALUE(ROTA)	State of parcel shelf	Horizontal	Retractable hard top ful- ly open state: 1340 Retractable hard top ful- ly closed state: 1000
		Up operation is in operation	ON
PS OUT(UP)	Operation of parcel shelf	Other than above	OFF
		Parcel shelf (UP) circuit is short	NG
		DOWN operation is in operation	ON
PS OUT(DOWN)	Operation of parcel shelf	Other than above	OFF
		Parcel shelf (DOWN) circuit is short	NG

Monitor Item		Condition	Status/Value
		Vertical operation is in operation	ON
PS OUT(VERT)	Operation of parcel shelf	Other than above	OFF
		Parcel shelf (VERTICAL) circuit is short	NG
		Horizontal operation is in operation	ON
PS OUT(HORI)	Operation of parcel shelf	Other than above	OFF
		Parcel shelf (HORIZONTAL) circuit is short	NG
PS STATE(DRAW)		For the details, refer to <u>RF-37, "PARCEL</u> <u>SHELF FUNCTION : System Description"</u>	1-6
	State of parcel shelf	State of parcel shelf status sensor (DRAW) is not recognized	NG
'S STATE(ROTA)	State of parcel shalf	For the details, refer to <u>RF-37, "PARCEL</u> <u>SHELF FUNCTION : System Description"</u>	1-4
PS STATE(ROTA)	State of parcel shelf	State of parcel shelf status sensor (RO- TATE) is not recognized	NG
ROOF VALUE	Roof status sensor signal	•	0-1023
		Turning clockwise	ON
PUMP OUT(RH)	Operation of hydraulic pump motor	Other than above	OFF
		Hydraulic pump motor (RH) circuit is short	NG
		Turning counterclockwise	ON
PUMP OUT(LH)	Operation of hydraulic pump motor	Other than above	OFF
		Hydraulic pump motor (LH) circuit is short	NG
		Operate	ON
SWITCH VLV 1 OUT	Operation of switching	Stop	OFF
	valve 1	Switching valve 1 circuit is short	NG
		Operate	ON
SWITCH VLV 2 OUT	Operation of switching	Stop	OFF
	valve 2	Switching valve 2 circuit is short	NG
ROOF STATE	State of roof	For the details, refer to <u>RF-20, "RETRACT-</u> <u>ABLE HARD TOP SYSTEM : System De-</u> <u>scription"</u>	1-42
		State of roof is not recognized	NG
HYDRAULIC STATE	State of hydraulic system	For the details, refer to <u>RF-31, "HYDRAU-</u> <u>LIC SYSTEM CONTROL FUNCTION : Sys-</u> tem Description"	1-22
		State of hydraulic system is not recognized	NG
	State of roof open/close	OPEN operation is in operation	ON
ROOF SW(OPEN)	switch	Other than above	OFF
	State of roof open/close	CLOSE operation is in operation	ON
ROOF SW(CLOSE)	switch	Other than above	OFF
ROOF LINK STATE	State of roof link	For the details, refer to <u>RF-31, "HYDRAU-</u> <u>LIC SYSTEM CONTROL FUNCTION : Sys-</u> tem Description"	1-8
		State of roof is not recognized	NG
		LOCK	ON
TRUNK LINK SEN(RH)	State of trunk link lock (RH)	Other than above	OFF
		Trunk link lock (RH) circuit is short or open	NG

< ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Status/Value
		LOCK	ON
TRUNK LINK SEN(LH)	State of trunk link lock (LH)	Other than above	OFF
		Trunk link lock (LH) circuit is short or open	NG
	State of trunk lid	Open	ON
TR ROOM LAMP SW	(trunk room lamp switch)	Other than above	OFF
		Fully OPEN	ON
TRUNK STATUS SEN	State of trunk lid	Other than above	OFF
		Trunk status sensor circuit is short or open	NG
		OPEN operation is in operation	ON
TRUNK OPEN OUT	Operation of trunk lid open- er actuator	Other than above	OFF
		Trunk lid opener actuator circuit is short	NG
FLPD LIMIT SW(DWN)	State of flipper door	Both of flipper door (LH/RH) are in DOWN position	ON
		Other than above	OFF
FLPD LIMIT SW(UP)	State of flipper door	Both of flipper door (LH/RH) are in UP position	ON
		Other than above	OFF
		UP operation is in operation	ON
FLPD OUT(UP)	Operation of flipper door	Other than above	OFF
		Flipper door motor (UP) circuit is short	NG
		DOWN operation is in operation	ON
FLPD OUT(DWN)	Operation of flipper door	Other than above	OFF
		Flipper door motor (DOWN) circuit is short	NG
FLPD STATE	State of flipper door	For the details, refer to RF-39, "FLIPPER DOOR FUNCTION : System Description"	
-		State of flipper door is not recognized	NG
		UP operation is in operation	ON
R WIN LH OUT(UP)	Operation of rear power window (LH)	Other than above	OFF
		Rear power window LH (UP) circuit is short	NG
		DOWN operation is in operation	ON
R WIN LH OUT(DWN)	Operation of rear power	Other than above	OFF
	window (LH)	Rear power window LH (DOWN) circuit is short	NG
		UP operation is in operation	ON
R WIN RH OUT(UP)	Operation of rear power window (RH)	Other than above	OFF
		Rear power window RH (UP) circuit is short	NG
		DOWN operation is in operation	ON
R WIN RH OUT(DWN)	Operation of rear power	Other than above	OFF
	window (RH)	Rear power window RH (DOWN) circuit is short	NG
	State of rear window defog-	While operating	ON
REAR DEF ON SIG	ger switch	Stop	OFF
		Operate	ON
REAR DEF OUT	State of rear window defog-	Stop	OFF
	ger system	Rear window defogger circuit is short	NG
R WIN CURENT(LH)	Current value to rear power		0-25.5 (A)

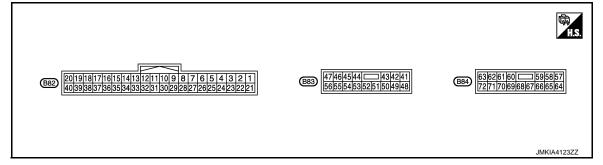
Revision: 2012 July

Monitor Item		Condition	Status/Value	
R WIN CURENT(RH)	Current value to rear power	window motor (RH)	0-25.5 (A)	
		Upper	UP	
RR WIN STATE(LH)	State of rear power window (LH)	Halfway	MID	
		Lower end	DOWN	
		Upper	UP	
RR WIN STATE(RH)	State of rear power window	Halfway	MID	
	(RH)	Lower end	DOWN	
		Operate	ON	
RAP SIGNAL	State of RAP	Stop	OFF	
		Output	ON	
TR MODE SIGNAL	State of trunk mode signal	Stop	OFF	
		State of fully open	ON	
ROOF STATE(AUDIO)	State of roof	Other than above	OFF	
		Roof state signal (audio) circuit is short	NG	
		Operate	ON	
ROOF BUZZER OUT	State of roof warning buzzer	Stop	OFF	
	State of 1001 warning buzzer	Roof warning buzzer circuit is short	NG	
		Normal	OK	
LOCAL COMM 1	State of local communica-		SLEEP	
	tion 1	It is in sleep mode		
		Communication error	NG	
	State of local communica- tion 2	Normal	OK	_
LOCAL COMM 2		It is in sleep mode	SLEEP	_
		Communication error	NG	
		Normal	OK	
ROOF MODE	Roof operation mode	Only close operation is possible	CLOSE	_ 1
		Operation is stop	STOP	
		Operation is inhibited	NG	
POP-UP BAR DPLOY	State of pop-up bar	Normal	OK	
		State of deployment	NG	
POP-UP BAR DIAG	Self-diagnosis result of pop-	Normal	OK	
PUP-UP DAR DIAG	up bar	Malfunctioning is detected	NG	
SWITCH VLV COND	Diagnosis result of retract-	Diagnosis result of retractable hard top con- trol unit	ОК	
	able hard top control unit	Switching valve (1/2) system is malfunction- ing	NG	
	Power supply voltage state	Normal	OK	_
PWR SOURCE COND	of retractable hard top con- trol unit	Malfunction	NG	_
CPU COND	Diagnosis result of retract-	CPU is normal	OK	
	able hard top control unit	CPU is not normal	NG	
ROOF COND	Diagnosis result of retract-	Roof position is normal	OK	_
	able hard top control unit	Roof position is not normal	NG	
	Diagnosis result of retract-	Hole sensor system is normal	OK	
SENSOR COND	able hard top control unit	Hole sensor system is not normal	NG	_
	Power position signal (via	ON	ОК	
IGN ON SIG(BCM)	CAN from BCM)	Other than above	NG	

< ECU DIAGNOSIS INFORMATION >

Monitor Item		Condition	Status/Value
	Vehicle speed signal (via	0km/h	ОК
VHCL STOP-METER	CAN from meter and A/C amp.)	Other than above	NG
CIRCUIT COND	Diagnosis result of retract-	Circuit system is normal	OK
CIRCON COND	able hard top control unit	Circuit system is not normal	NG
	State of roof operation	Normal	OK
ROOF TIMEOUT	State of roof operation	Malfunction	NG
CAN COMM	CAN communication status	Normal	ОК
	CAN communication status	Malfunction	NG
THERMO PROTECT 1	Thermo protection (Stage 1)	In non-operation	ОК
THERMOPROTECT	Thermo protection (Stage1)	In operation	NG
SHIFT R SIG Shift position		Other than R position	ОК
SHIFT K SIG	Shiit position	R position	NG
		Signal is not received	OK
PRMIT ENG ST(BCM)	Permit engine start signal	Signal is in receiving	NG
	Thermo protection (Stage 2)	In non-operation	OK
THERMO PROTECT-2	Thermo protection (Stage2)	In operation	NG
TONNEAU SW	Tennesylboard	Set	OK
	Tonneau board	Other than above	NG
	Brake lamp switch signal	Brake is depressed	OK
BRK LAMP SW(BCM)	(via CAN from BCM)	Brake is released	NG
THERMO VALUE	Conversion value of thermo	protection	0-65535
PWR SOURCE VALUE	Power supply voltage value	of retractable hard top control unit	0-20 (V)
		Registration of full open position is complete	OK
ROOF INITIAL(OPEN)	State of performing roof po- sition initialization	Registration of full open position is not com- plete	NG
	State of performing roof po-	Registration of full closed position is com- plete	ОК
ROOF INITIAL(CLOSE)	sition initialization	Registration of full closed position is not complete	NG
	Obele of a of	Registration of rotation position is complete	OK
PSHELF INITIAL(ROTA)	State of performing parcel shelf position initialization	Registration of rotation position is not com- plete	NG
	State of performing parcel	Registration of draw position is complete	OK
PSHELF INITIAL(DRAW)	shelf position initialization	Registration of draw position is not complete	NG

TERMINAL LAYOUT



PHYSICAL VALUES

	nal No. color)	Description			Condition		Value
+	-	Signal name	Input/ Output		Condition		(Approx.)
1	Cround	Roof open/close	loout	Ignition	Roof open/close	Pressed	0 V
(G)	Ground	switch (OPEN)	Input	switch ON	switch (OPEN)	Released	Battery voltage
2	Ground	Roof open/close	Input	Ignition switch	Roof open/close	Pressed	0 V
(BR)	Gibuna	switch (CLOSE)	mput	ON	switch (CLOSE)	Released	Battery voltage
3 (B)	Ground	Flipper door limit switch ground	_	lgnition switch ON	_		0 V
4	Ground	Tonneau board	Input	Ignition switch	Tonneau board	Hooked	Battery voltage
(L)	Giouna	switch	input	ON	Tonneau board	Released	0 V
5 (SB)	Ground	Trunk room lamp switch	Input	lgnition switch ON	Trunk lid	Locked	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10
						Other than above	0 V
6	Ground	Roof latch limit switch	Input		Close	0 V	
(L)	Cibuna	Noon later in the switch	mput	ON	switch Roof	Other than above	Battery voltage
7		Flipper door limit		Ignition	Flipper door LH and	Тор	0 V
(W)	Ground	switch (UP)	Input	switch ON	RH	Other than above	Battery voltage
8	Oneveral	Flipper door limit	la a st	Ignition	Flipper door LH and	Bottom	0 V
(G)	Ground	switch (DOWN)	Input	switch ON	RH	Other than above	Battery voltage
11	0		las: 1	Ignition		Active	Battery voltage
(W)	Ground	RAP signal	Input	switch ON	RAP function	Inactive	0 V
12				Ignition	0.16	R position	Battery voltage
(Y)	Ground	Back up lamp signal	Input	switch ON	Shift position	Other than above	0 V
13 (BG)	Ground	Sensor power supply	Output	lgnition switch OFF	_		5 V
14		Trunk link sensor		Ignition		LOCK	0.3 V
(P)	Ground	(LH)	Input	switch ON	Trunk link lock (LH)	Other than above	1.5 V
15		Trunk link sensor		Ignition		LOCK	0.3 V
(SB)	Ground	(RH)	Input	switch ON	Trunk link lock (RH)	Other than above	1.5 V

	nal No. color)	Description			Condition		Value
+	_	Signal name	Input/ Output		Condition		(Approx.)
16 (GR)	Ground	Roof latch status sensor	Input	Ignition switch ON	Roof latch	Operate	(V) 6 4 2 0 • • • • 10ms JMKIA4021GB
						Stop	0.5 or 4.5 V
17		Roof latch lock sen-		Ignition		LOCK	1.0 V
(G)	Ground	SOL	Input	switch ON	Roof latch	Other than above	3.8 V
18				Ignition		Fully open	1.0 V
(LG)	Ground	Trunk status sensor	Input	switch ON	Trunk lid (front)	Other than above	3.8 V
22 (V)	Ground	Roof status sensor power supply	Output	lgnition switch ON	_		5 V
23 (B)	Ground	Roof status sensor ground	_	lgnition switch ON	_		0 V
24 (GR)	Ground	Parcel shelf status sensor (DRAW)	Input	Ignition switch ON	Parcel shelf motor (DRAW)	Active	(V) 6 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
25 (R)	Ground	Parcel shelf status sensor (ROTATION)	Input	Ignition switch ON	Parcel shelf motor (ROTATE)	Active	(V) 6 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
26	Ground	Roof status sensor	Input	Ignition switch	Roof	Fully close→Ful-	0.5 V→5 V
(P)		signal		ON		ly open	
27 (Y)	Ground	Trunk lid open re- quest signal (BCM)	Output	—	Trunk opener	Operate Other than above	0 V →Battery voltage →0 V 0 V
28 (BG)	Ground	Flipper door motor ground		Ignition switch ON		1	0 V

	nal No. color)	Description			Condition		Value	ļ
+	-	Signal name	Input/ Output				(Approx.)	
29 (V)	Ground	Local communication (BCM)	Input/ Output	lgnition switch ON	_		(V) 15 0 0 0 0 0 0 0 0 0 0 0 0 0	E (
30 (GR)	Ground	Local communication (POWER WINDOW)	Input/ Output	lgnition switch ON	_		(V) 15 10 5 0 •••••10ms JMKIA4024GB	Ē
31 (L)	Ground	CAN-H	Input/ Output					(
32 (P)	Ground	CAN-L	Input/ Output	_			—	
33 (V)	Ground	Roof status siganal (AUDIO)	Output	lgnition switch ON	Retractable hard top	Fully open Other than above	Battery voltage 0 V	ŀ
35 (B)	Ground	Roof warning buzzer	Output	Ignition switch	Roof warning buzz-	Sounds Not sounds	0 V Battery voltage	
36 (Y)	Ground	Hydraulic pump relay (RH)	_	ON Ignition switch ON	Hydraulic pump mo- tor (RH)	Active Inactive	0 V Battery voltage	,
37 (W)	Ground	Hydraulic pump relay (LH)		lgnition switch ON	Hydraulic pump mo- tor (LH)	Active Inactive	0 V Battery voltage	R
38 (BR)	Ground	Hydraulic pump relay ground	_	Ignition switch ON			0 V	
41	Ground	Parcel shelf motor	Output	Ignition switch	Parcel shelf motor	Active	Battery voltage	[
(SB)		(UP)		ON	(DRAW-UP)	Inactive Active	0 V Battery voltage	
42 (W)	Ground	Parcel shelf motor (DOWN)	Output	switch ON	Parcel shelf motor (DRAW-DOWN)	Inactive	0 V	
43 (BR)	Ground	Hydraulic pump pow- er supply relay	Output	Ignition switch	Retractable hard top system	Active	Battery voltage	
				ON Ignition	Parcel shelf motor	Inactive Active	Battery voltage	
44 (R)	Ground	Parcel shelf motor (HORIZONTAL)	Output	switch ON	(ROTATION-HORI- ZONTAL)	Inactive	0 V	
45 (BR)	Ground	Parcel shelf motor (VERTICAL)	Output	lgnition switch ON	Parcel shelf motor (ROTATION-VER- TICAL)	Active Inactive	Battery voltage	
46		Flipper door motor		Ignition	Flipper door motor	Active	Battery voltage	
40 (G)	Ground	(UP)	Output	switch ON	(UP)	Inactive	0 V	

Terminal No. (Wire color)		Description		- Condition			Value
+	-	Signal name	Input/ Output		Condition		(Approx.)
47 (L)	Ground	Flipper door motor (DOWN)	Output	Ignition switch ON	Flipper door motor (DOWN) Active		Battery voltage
		Roof latch motor		Ignition	Doof latab matar	Active	Battery voltage
48 (R)	Ground	(OPEN)	Output	switch ON	Roof latch motor (OPEN)	Inactive	0 V
49		Roof latch motor	0.1.1	Ignition	Roof latch motor	Active	Battery voltage
(Y)	Ground	(CLOSE)	Output	switch ON	(CLOSE)	Inactive	0 V
51	Ground	Trunk lid opener ac-	Output	_	Trunk lid opener	Operate	0 V \rightarrow Battery voltage \rightarrow 0 V
(SB)		tuator				Stop	0 V
52 (V)	Ground	Trunk lid opener ac- tuator ground	—	lgnition switch ON	—		0 V
53	Ground	Rear power window	0	Ignition	Rear power window	Active	Battery voltage
(BG)	Ground	motor LH (UP)	Output	switch ON	motor LH (UP)	Inactive	0 V
54	Ground	Rear power window	Quitout	Ignition switch	Rear power window motor LH	Active	Battery voltage
(LG)	Ground	motor LH (DOWN)	Output	ON	(DOWN)	Inactive	0 V
55	Ground	Rear power window	Output	Ignition switch	Rear power window motor RH	Active	Battery voltage
(GR)	Ground	motor RH (UP)	Output	ON	(UP)	Inactive	0 V
56 (P)	Ground	Rear power window motor RH (DOWN)	Output	lgnition switch ON	Rear power windowActivemotor RHInactive(DOWN)Inactive		Battery voltage
57 (Y)	Ground	Power source (ROOF)	Input	_			Battery voltage
58 (Y)	Ground	Power source (ROOF)	Input	_	_		Battery voltage
59 (Y)	Ground	Power source (ROOF)	Input		_		Battery voltage
60 (B)	Ground	Ground (ROOF)	—	Ignition switch ON	_		0 V
61 (B)	Ground	Ground (ROOF)	_	lgnition switch ON	_		0 V
62 (GR)	Ground	Power source (POWER WINDOW)	Input	_	_		Battery voltage
63 (Y)	Ground	Power source (POWER WINDOW)	Input	_	_		Battery voltage
64 (B)	Ground	Ground (POWER WINDOW)	_	Ignition switch ON	_		0 V
65 (B)	Ground	Ground (POWER WINDOW)	_	Ignition switch ON	_		0 V
66 (P)	Ground	Switching valve 1	Output	Ignition switch ON	Switching valve 1	Active Inactive	Battery voltage 0 V

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		- Condition		Value	ļ	
+	-	Signal name	Input/ Output	(Approx.)		(Approx.)		
67	Ground	Switching valve 2	Output	Ignition switch	Switching valve 2	Active	Battery voltage	E
(SB)	e.ea.ia		e uip ui	ON		Inactive	0 V	
68 (L)	Ground	Switching valve ground	_	lgnition switch ON	_		0 V	(
69 (G)	Ground	Power source (REAR WINDOW DEFOGGER)	Input	_	_		Battery voltage	I
70 (P)	Ground	Power source (REAR WINDOW DEFOGGER)	Input	_	_		Battery voltage	
71 (BR)	Ground	Rear window defog- ger power supply	Output	lgnition switch ON	Rear defogger switch ON and roof is fully closed		Battery voltage	
72 (W)	Ground	Rear window defog- ger power supply	Output	lgnition switch ON	Rear defogger switch ON and roof is fully closed		Battery voltage	(

Fail-safe

INFOID:000000008158270

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FAIL-SAFE CONTROL BY DTC

Retractable hard top control unit performs fail-safe control when any DTC are detected.

U1000CAN COMM CIRCUITInhibit retractable hard top operation.Communication is normalU1010CONTROL UNIT (CAN)Inhibit retractable hard top operation.Communication is normalU0140LOCAL COMM-1Inhibit retractable hard top operation.Communication is normalU0215LOCAL COMM-1Inhibit retractable hard top operation.Communication is normalB1701ROOF CONTROL UNITInhibit retractable hard top operation.Communication is normalB1702ROOF CONTROL UNITInhibit retractable hard top operation.Replace retractable hard top control unit.B1709ROOF SWITCH(OPEN)Inhibit retractable hard top operation.Detects roof open/close switch (OPEN) is OFF	
U0140LOCAL COMM-1Inhibit retractable hard top operation.Communication is normalU0215LOCAL COMM-1Inhibit retractable hard top operation.Communication is normalB1701ROOF CONTROL UNITInhibit retractable hard top operation.Replace retractable hard top control unit.B1702ROOF CONTROL UNITInhibit retractable hard top operation.Replace retractable hard top control unit.	J
U0215LOCAL COMM-1Inhibit retractable hard top operation.Communication is normalB1701ROOF CONTROL UNITInhibit retractable hard top operation.Replace retractable hard top control unit.B1702ROOF CONTROL UNITInhibit retractable hard top operation.Replace retractable hard top control unit.	
B1701 ROOF CONTROL UNIT Inhibit retractable hard top operation. Replace retractable hard top control unit. B1702 ROOF CONTROL UNIT Inhibit retractable hard top operation. Replace retractable hard top control unit.	DE
B1702 ROOF CONTROL UNIT Inhibit retractable hard top operation. Replace retractable hard top control unit.	RF
B1709 ROOF SWITCH(OPEN) Inhibit retractable hard top operation. Detects roof open/close switch (OPEN) is OFF	L
B170A ROOF SWITCH(CLOSE) Inhibit retractable hard top operation. Detects roof open/close switch (CLOSE) is OFF	
B170B ROOF SWITCH Inhibit retractable hard top operation. Detects roof open/close switch (OPEN/CLOSE) is OFF	Μ
B170C TRUNK LINK SEN- SOR(LH) Inhibit retractable hard top operation. Detects normal value	Ν
B170D TRUNK LINK SEN- SOR(RH) Inhibit retractable hard top operation. Detects normal value	
B170F SENSOR POWER SUP- PLY Inhibit retractable hard top operation. Detects normal value	0
B1710 LATCH STATUS SENSOR Inhibit retractable hard top operation. Detects normal value	
B1711 LATCH LOCK SENSOR Inhibit retractable hard top operation. Detects normal value	Ρ
B1712 TRUNK STATUS SENSOR Inhibit retractable hard top operation. Detects normal value	
B1715 ROOF STATUS SEN PWR Inhibit retractable hard top operation. Detects normal value	
B1716 PS STATUS SEN(DRAW) Inhibit retractable hard top operation. Detects normal value	
B1718 PS STATUS SEN(ROTA) Inhibit retractable hard top operation. Detects normal value	
B1719 ROOF STATUS SEN Inhibit retractable hard top operation. Detects normal value	

	Display contents of CONSULT	Fail-safe	Cancellation
B171A	HYDRAULIC PMP(LH)	Inhibit retractable hard top operation.	Detects normal value
B171B	HYDRAULIC PMP(RH)	Inhibit retractable hard top operation.	Detects normal value
B171C	SWITCHING VALVE 1	Inhibit retractable hard top operation.	Detects normal value
B171D	SWITCHING VALVE 2	Inhibit retractable hard top operation.	Detects normal value
B171E	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B171F	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1720	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1721	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1722	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1723	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1724	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1725	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1726	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1728	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1729	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B172A	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B172B	ROOF STATE SIG(AUDIO)	Inhibit retractable hard top operation.	Detects normal value
B172D	ROOF WARNING BUZZ- ER	Inhibit retractable hard top operation.	Detects normal value
B172E	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B172F	REAR PWR WINDOW(LH)	Inhibit retractable hard top operation.	Detects normal value
B1730	REAR PWR WIN- DOW(RH)	Inhibit retractable hard top operation.	Detects normal value
B1731	HYDRAULIC STATE 1	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1732	HYDRAULIC STATE 2	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1733	HYDRAULIC STATE 3	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1734	HYDRAULIC STATE 4	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1735	HYDRAULIC STATE 5	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1736	HYDRAULIC STATE 6	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1737	HYDRAULIC STATE 7	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1738	HYDRAULIC STATE 8	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1739	HYDRAULIC STATE 9	Inhibit retractable hard top operation.	Turn ignition switch OFF
B173A	HYDRAULIC STATE 10	Inhibit retractable hard top operation.	Turn ignition switch OFF
B173B	HYDRAULIC STATE 11	Inhibit retractable hard top operation.	Turn ignition switch OFF
B173C	HYDRAULIC STATE 12	Inhibit retractable hard top operation.	Turn ignition switch OFF
B173D	HYDRAULIC STATE 13	Inhibit retractable hard top operation.	Turn ignition switch OFF
B173E	HYDRAULIC STATE 14	Inhibit retractable hard top operation.	Turn ignition switch OFF
B173F	HYDRAULIC STATE 15	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1740	HYDRAULIC STATE 16	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1741	HYDRAULIC STATE 17	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1742	HYDRAULIC STATE 18	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1743	HYDRAULIC STATE 19	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1744	HYDRAULIC STATE 20	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1745	HYDRAULIC STATE 21	Inhibit retractable hard top operation.	Turn ignition switch OFF

< ECU DIAGNOSIS INFORMATION >

	Display contents of CONSULT	Fail-safe	Cancellation
B1746	HYDRAULIC STATE 22	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1747	P SHELF (DRAW) STATE 1	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1748	P SHELF (DRAW) STATE 2	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1749	P SHELF (DRAW) STATE 3	Inhibit retractable hard top operation.	Turn ignition switch OFF
B174A	P SHELF (DRAW) STATE 4	Inhibit retractable hard top operation.	Turn ignition switch OFF
B174B	P SHELF (DRAW) STATE 5	Inhibit retractable hard top operation.	Turn ignition switch OFF
B174C	P SHELF (DRAW) STATE 6	Inhibit retractable hard top operation.	Turn ignition switch OFF
B174D	P SHELF (ROT) STATE 1	Inhibit retractable hard top operation.	Turn ignition switch OFF
B174E	P SHELF (ROT) STATE 2	Inhibit retractable hard top operation.	Turn ignition switch OFF
B174F	P SHELF (ROT) STATE 3	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1750	P SHELF (ROT) STATE 4	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1751	ROOF LATCH STATE 1	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1752	ROOF LATCH STATE 2	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1753	ROOF LATCH STATE 3	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1754	FLIPPER DOOR STATE 1	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1755	FLIPPER DOOR STATE 2	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1756	FLIPPER DOOR STATE 3	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1757	FLIPPER DOOR STATE 4	Inhibit retractable hard top operation.	Turn ignition switch OFF
B1758	THERMO PROTECTION	Inhibit retractable hard top operation.	It is not in thermo protection area (Refer to <u>RF-20,</u> <u>"RETRACTABLE HARD TOP SYSTEM : System De-</u> <u>scription"</u>)
B175C	PWR SOURCE(ROOF)	Inhibit retractable hard top operation.	Power source is 11.4 (V) or more for 0.5 second
B175D	PWR SOURCE(ROOF)	Inhibit retractable hard top operation.	Power source is14.5 (V) or more for 4 seconds
B175E	PWR SOURCE(WINDOW)	Inhibit retractable hard top operation and rear power window operation.	Power source (power window) is 9.5 (V) or less
B175F	PWR SOURCE(WINDOW)	Inhibit retractable hard top operation and rear power window operation.	Power source (power window) is 15.5 (V) or more
B1760	ROOF CONTROL UNIT	Inhibit rear window defogger opera- tion.	Detects normal value
B1761	ROOF CONTROL UNIT	Inhibit retractable hard top operation.	Detects normal value
B1762	ROOF STATE	Inhibit retractable hard top operation.	Detects normal value
B1763	HYDRAULIC STATE	Inhibit retractable hard top operation.	Detects normal value
B1764	ROOF LATCH STATE	Inhibit retractable hard top operation.	Detects normal value
B1765	FLIPPER DOOR STATE	Inhibit retractable hard top operation.	Detects normal value

DTC Inspection Priority Chart

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	Display contents of CONSULT				
1	U1000	CAN COMM CIRCUIT			
I	U1010	CONTROL UNIT (CAN)			

Revision: 2012 July

INFOID:000000008158271

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< ECU DIAGNOSIS INFORMATION >

Priority		Display contents of CONSULT
	B175C	PWR SOURCE(ROOF)
_	B175D	PWR SOURCE(ROOF)
2	B175E	PWR SOURCE(WINDOW)
	B175F	PWR SOURCE(WINDOW)
	B1701	ROOF CONTROL UNIT
	B1702	ROOF CONTROL UNIT
	B171E	ROOF CONTROL UNIT
	B171F	ROOF CONTROL UNIT
	B1720	ROOF CONTROL UNIT
	B1721	ROOF CONTROL UNIT
	B1722	ROOF CONTROL UNIT
	B1723	ROOF CONTROL UNIT
3	B1724	ROOF CONTROL UNIT
	B1725	ROOF CONTROL UNIT
	B1726	ROOF CONTROL UNIT
	B1728	ROOF CONTROL UNIT
	B1729	ROOF CONTROL UNIT
	B172A	ROOF CONTROL UNIT
	B172E	ROOF CONTROL UNIT
	B1760	ROOF CONTROL UNIT
	B1761	ROOF CONTROL UNIT
4	B170F	SENSOR POWER SUPPLY
	U0140	LOCAL COMM-1
	U0215	LOCAL COMM-1
	B1709	ROOF SWITCH(OPEN)
	B170A	ROOF SWITCH(CLOSE)
	B170B	ROOF SWITCH
	B1758	THERMO PROTECTION
	B171A	HYDRAULIC PMP(LH)
	B171B	HYDRAULIC PMP(RH)
	B171C	SWITCHING VALVE 1
	B171D	SWITCHING VALVE 2
5	B172F	REAR PWR WINDOW(LH)
	B1730	REAR PWR WINDOW(RH)
	B1715	ROOF STATE SEN PWR
	B170C	TRUNK LINK SENSOR(LH)
	B170D	TRUNK LINK SENSOR(RH)
	B1710	LATCH STATUS SENSOR
	B1711	LATCH LOCK SENSOR
	B1712	TRUNK STATUS SENSOR
	B1716	PS STATUS SEN(ROTA)
	B1718	PS STATUS SEN(DRAW)
	B1719	ROOF STATUS SEN
6	B172D	ROOF WARNING BUZZER

Revision: 2012 July

Priorit

Priority		Display contents of CONSULT
	B1731	HYDRAULIC STATE 1
	B1732	HYDRAULIC STATE 2
	B1733	HYDRAULIC STATE 3
	B1734	HYDRAULIC STATE 4
	B1735	HYDRAULIC STATE 5
	B1736	HYDRAULIC STATE 6
	B1737	HYDRAULIC STATE 7
	B1738	HYDRAULIC STATE 8
	B1739	HYDRAULIC STATE 9
	B173A	HYDRAULIC STATE 10
	B173B	HYDRAULIC STATE 11
	B173C	HYDRAULIC STATE 12
	B173D	HYDRAULIC STATE 13
	B173E	HYDRAULIC STATE 14
	B173F	HYDRAULIC STATE 15
	B1740	HYDRAULIC STATE 16
_	B1741	HYDRAULIC STATE 17
	B1742	HYDRAULIC STATE 18
	B1743	HYDRAULIC STATE 19
7	B1744	HYDRAULIC STATE 20
	B1745	HYDRAULIC STATE 21
	B1746	HYDRAULIC STATE 22
	B1747	P SHELF (DRAW) STATE 1
_	B1748	P SHELF (DRAW) STATE 2
	B1749	P SHELF (DRAW) STATE 3
	B174A	P SHELF (DRAW) STATE 4
	B174B	P SHELF (DRAW) STATE 5
	B174C	P SHELF (DRAW) STATE 6
_	B174D	P SHELF (ROT) STATE 1
	B174E	P SHELF (ROT) STATE 2
	B174E	P SHELF (ROT) STATE 3
	B1750	P SHELF (ROT) STATE 4
	B1750	ROOF LATCH STATE 1
	B1752	ROOF LATCH STATE 2
	B1752 B1753	ROOF LATCH STATE 2
-	B1753	FLIPPER DOOR STATE 1
-		FLIPPER DOOR STATE 2
-	B1755	
	B1756	FLIPPER DOOR STATE 4
	B1757	FLIPPER DOOR STATE 4
8	B1707	
	B1708	ROOF CLOSE STATE
9	B1764	
	B1765	FLIPPER DOOR STATE
10	B1762	ROOF STATE

< ECU DIAGNOSIS INFORMATION >

Priority		Display contents of CONSULT
11	B1763	HYDRAULIC STATE
12	B172B	ROOF STATE SIG(AUDIO)

DTC Index

INFOID:000000008158272

NOTE:

For details of Freeze Frame Data, refer to <u>RF-45, "CONSULT Function"</u>.

	Display contents of CONSULT	Fail-safe	Freeze Frame Data	Reference page
No DTC is	detected. Further testing may be required.	_	_	—
U1000	CAN COMM CIRCUIT	×	×	<u>RF-78</u>
U1010	CONTROL UNIT (CAN)	×	×	<u>RF-79</u>
U0140	LOCAL COMM-1	×	×	<u>RF-80</u>
U0215	LOCAL COMM-2	×	×	<u>RF-81</u>
B1701	ROOF CONTROL UNIT	×	×	<u>RF-83</u>
B1702	ROOF CONTROL UNIT	×	×	<u>RF-84</u>
B1707	ROOF OPEN STATE	_	×	<u>RF-85</u>
B1708	ROOF CLOSE STATE	_	×	<u>RF-87</u>
B1709	ROOF SWITCH(OPEN)	×	×	<u>RF-89</u>
B170A	ROOF SWITCH(CLOSE)	×	×	<u>RF-91</u>
B170B	ROOF SWITCH	×	×	<u>RF-93</u>
B170C	TRUNK LINK SENSOR(LH)	×	×	<u>RF-95</u>
B170D	TRUNK LINK SENSOR(RH)	×	×	<u>RF-97</u>
B170F	SENSOR POWER SUPPLY	×	×	<u>RF-99</u>
B1710	LATCH STATUS SENSOR	×	×	<u>RF-102</u>
B1711	LATCH LOCK SENSOR	×	×	<u>RF-104</u>
B1712	TRUNK STATUS SENSOR	×	×	<u>RF-106</u>
B1715	ROOF STATUS SEN PWR	×	×	<u>RF-108</u>
B1716	PS STATUS SEN(DRAW)	×	×	<u>RF-110</u>
B1718	PS STATUS SEN(ROTA)	×	×	<u>RF-112</u>
B1719	ROOF STATUS SEN	×	×	<u>RF-114</u>
B171A	HYDRAULIC PMP(LH)	×	×	<u>RF-116</u>
B171B	HYDRAULIC PMP(RH)	×	×	<u>RF-118</u>
B171C	SWITCHING VALVE 1	×	×	<u>RF-120</u>
B171D	SWITCHING VALVE 2	×	×	<u>RF-122</u>
B171E	ROOF CONTROL UNIT	×	×	<u>RF-124</u>
B171F	ROOF CONTROL UNIT	×	×	<u>RF-125</u>
B1720	ROOF CONTROL UNIT	×	×	<u>RF-126</u>
B1721	ROOF CONTROL UNIT	×	×	<u>RF-127</u>
B1722	ROOF CONTROL UNIT	×	×	<u>RF-128</u>
B1723	ROOF CONTROL UNIT	×	×	<u>RF-129</u>
B1724	ROOF CONTROL UNIT	×	×	<u>RF-130</u>
B1725	ROOF CONTROL UNIT	×	×	<u>RF-131</u>
B1726	ROOF CONTROL UNIT	×	×	<u>RF-132</u>
B1728	ROOF CONTROL UNIT	×	×	<u>RF-133</u>

•		Display contents of CONSULT	Fail-safe	Freeze Frame Data	Reference page	A
-	B1729	ROOF CONTROL UNIT	×	×	<u>RF-134</u>	
-	B172A	ROOF CONTROL UNIT	×	×	<u>RF-135</u>	В
-	B172B	ROOF STATE SIG(AUDIO)	×	×	<u>RF-136</u>	D
-	B172D	ROOF WARNING BUZZER	×	×	<u>RF-138</u>	
-	B172E	ROOF CONTROL UNIT	×	×	<u>RF-140</u>	С
-	B172F	REAR PWR WINDOW(LH)	×	×	<u>RF-141</u>	
-	B1730	REAR PWR WINDOW(RH)	×	×	<u>RF-143</u>	_
-	B1731	HYDRAULIC STATE 1	×	×	<u>RF-145</u>	D
-	B1732	HYDRAULIC STATE 2	×	×	<u>RF-147</u>	
-	B1733	HYDRAULIC STATE 3	×	×	<u>RF-149</u>	Е
-	B1734	HYDRAULIC STATE 4	×	×	<u>RF-151</u>	
-	B1735	HYDRAULIC STATE 5	×	×	<u>RF-153</u>	
-	B1736	HYDRAULIC STATE 6	×	×	<u>RF-155</u>	F
-	B1737	HYDRAULIC STATE 7	×	×	<u>RF-156</u>	
-	B1738	HYDRAULIC STATE 8	×	×	<u>RF-157</u>	G
-	B1739	HYDRAULIC STATE 9	×	×	<u>RF-158</u>	0
-	B173A	HYDRAULIC STATE 10	×	×	<u>RF-159</u>	
-	B173B	HYDRAULIC STATE 11	×	×	<u>RF-160</u>	Н
-	B173C	HYDRAULIC STATE 12	×	×	<u>RF-161</u>	
-	B173D	HYDRAULIC STATE 13	×	×	<u>RF-162</u>	
-	B173E	HYDRAULIC STATE 14	×	×	<u>RF-163</u>	1
-	B173F	HYDRAULIC STATE 15	×	×	<u>RF-164</u>	
-	B1740	HYDRAULIC STATE 16	×	×	<u>RF-165</u>	J
-	B1741	HYDRAULIC STATE 17	×	×	<u>RF-168</u>	
-	B1742	HYDRAULIC STATE 18	×	×	<u>RF-169</u>	RF
-	B1743	HYDRAULIC STATE 19	×	×	<u>RF-171</u>	ΚΓ
-	B1744	HYDRAULIC STATE 20	×	×	<u>RF-173</u>	
-	B1745	HYDRAULIC STATE 21	×	×	<u>RF-175</u>	L
-	B1746	HYDRAULIC STATE 22	×	×	<u>RF-177</u>	
-	B1747	P SHELF (DRAW) STATE 1	×	×	<u>RF-179</u>	
-	B1748	P SHELF (DRAW) STATE 2	×	×	<u>RF-180</u>	M
-	B1749	P SHELF (DRAW) STATE 3	×	×	<u>RF-181</u>	
-	B174A	P SHELF (DRAW) STATE 4	×	×	<u>RF-182</u>	Ν
	B174B	P SHELF (DRAW) STATE 5	×	×	<u>RF-183</u>	
	B174C	P SHELF (DRAW) STATE 6	×	×	<u>RF-184</u>	
_	B174D	P SHELF (ROT) STATE 1	×	×	<u>RF-185</u>	0
_	B174E	P SHELF (ROT) STATE 2	×	×	<u>RF-186</u>	
	B174F	P SHELF (ROT) STATE 3	×	×	<u>RF-187</u>	Р
-	B1750	P SHELF (ROT) STATE 4	×	×	<u>RF-188</u>	
-	B1751	ROOF LATCH STATE 1	×	×	<u>RF-189</u>	
-	B1752	ROOF LATCH STATE 2	×	×	<u>RF-190</u>	
_	B1753	ROOF LATCH STATE 3	×	×	<u>RF-191</u>	
-	B1754	FLIPPER DOOR STATE 1	×	×	<u>RF-192</u>	
	B1755	FLIPPER DOOR STATE 2	×	×	<u>RF-193</u>	

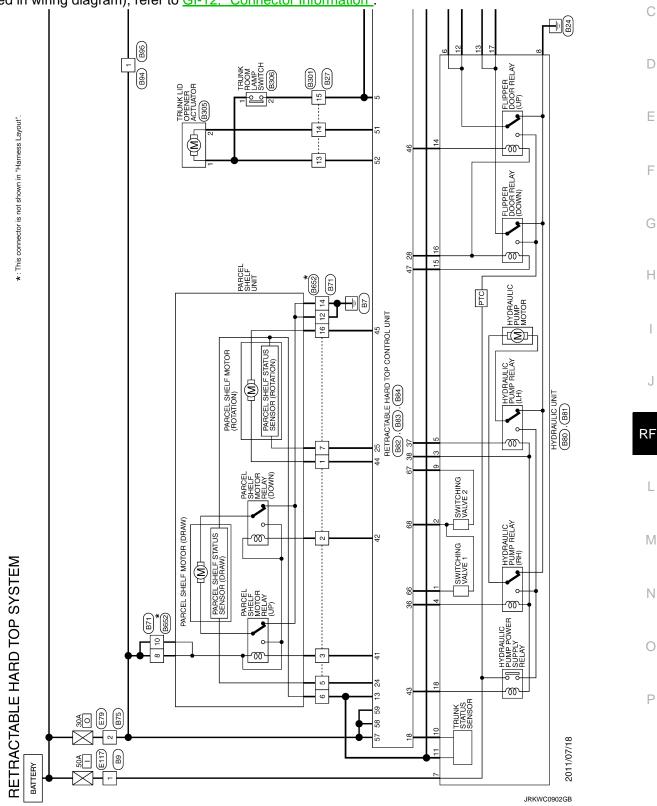
Display contents of CONSULT		Fail-safe	Freeze Frame Data	Reference page
B1756	FLIPPER DOOR STATE 3	×	×	<u>RF-194</u>
B1757	FLIPPER DOOR STATE 4	×	×	<u>RF-195</u>
B1758	THERMO PROTECTION	×	×	<u>RF-196</u>
B175C	PWR SOURCE(ROOF)	×	×	<u>RF-197</u>
B175D	PWR SOURCE(ROOF)	×	×	<u>RF-198</u>
B175E	PWR SOURCE(WINDOW)	×	×	<u>RF-199</u>
B175F	PWR SOURCE(WINDOW)	×	×	<u>RF-201</u>
B1760	ROOF CONTROL UNIT	×	×	<u>RF-203</u>
B1761	ROOF CONTROL UNIT	×	×	<u>RF-204</u>
B1762	ROOF STATE	×	×	<u>RF-205</u>
B1763	HYDRAULIC STATE	×	×	<u>RF-208</u>
B1764	ROOF LATCH STATE	×	×	<u>RF-210</u>
B1765	FLIPPER DOOR STATE	×	×	<u>RF-211</u>

< WIRING DIAGRAM >

WIRING DIAGRAM RETRACTABLE HARD TOP SYSTEM

Wiring Diagram

For connector terminal arrangements, harness layouts, and alphabets in a \bigcirc (option abbreviation; if not described in wiring diagram), refer to <u>GI-12, "Connector Information"</u>.

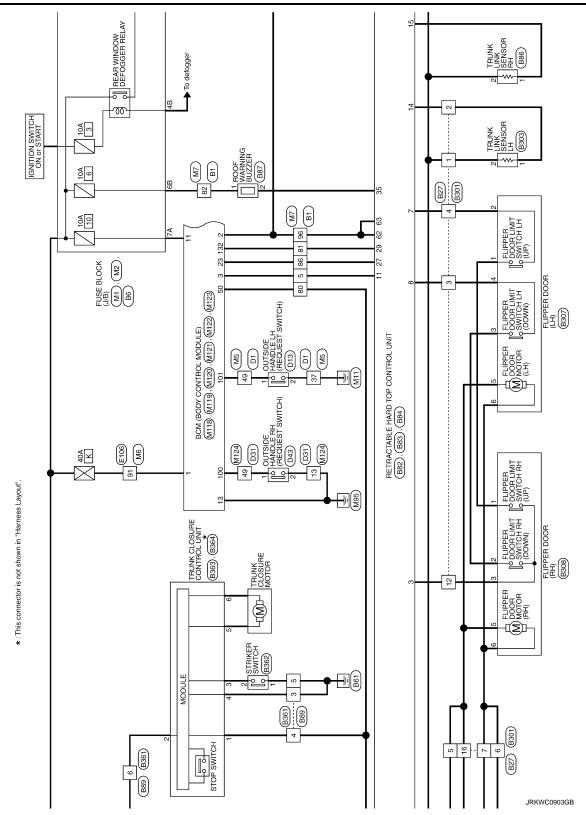


А

В

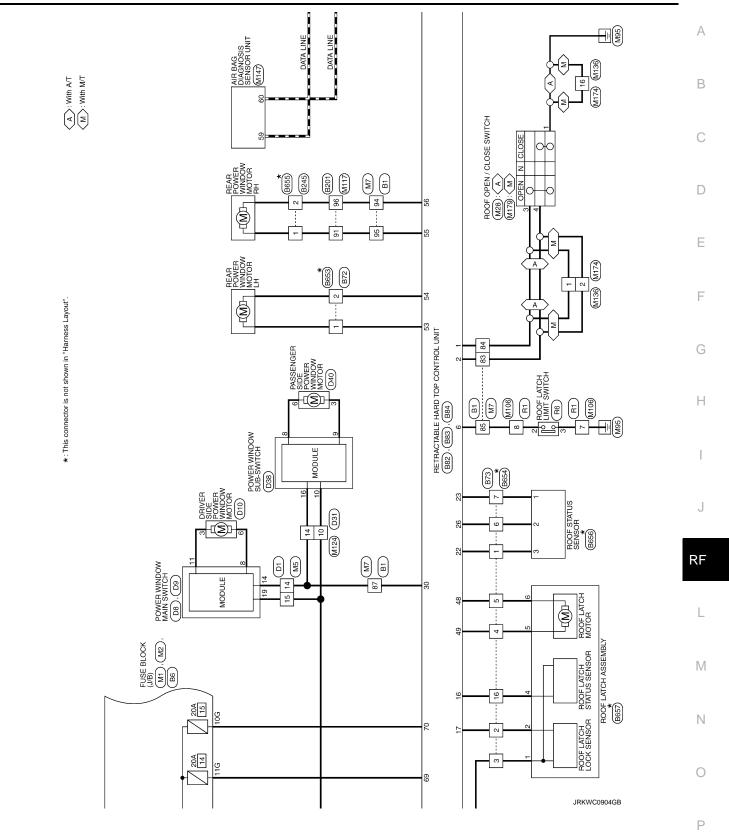
INFOID:000000008158273

< WIRING DIAGRAM >

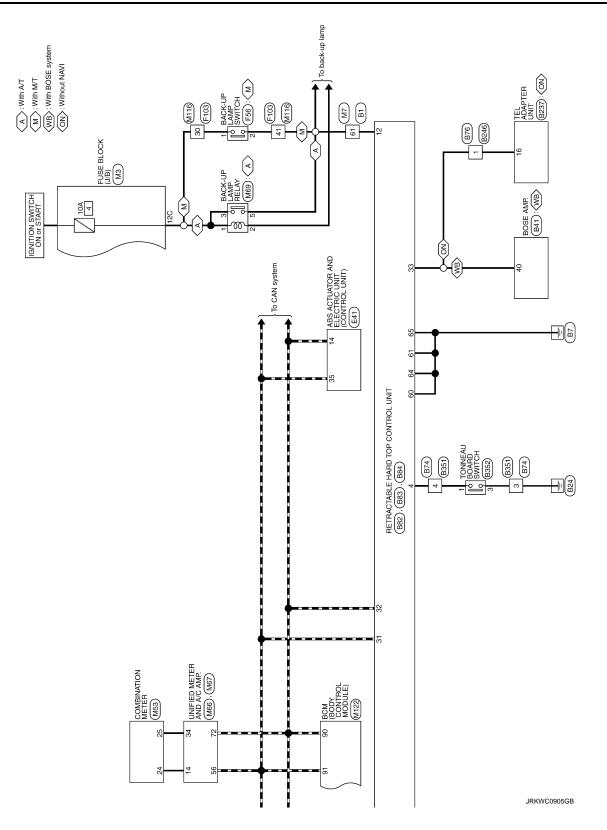




< WIRING DIAGRAM >



Revision: 2012 July



< BASIC INSPECTION >

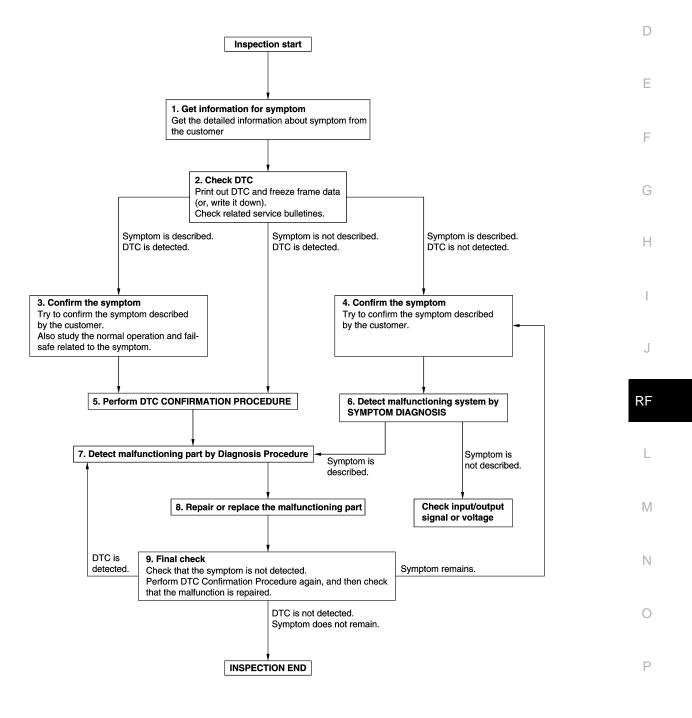
BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000008158274 B

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OVERALL SEQUENCE



JMKIA8652GB

DETAILED FLOW

Revision: 2012 July

< BASIC INSPECTION >

1.GET INFORMATION FOR SYMPTOM

- 1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).
- 2. Check operation condition of the function that is malfunctioning.

>> GO TO 2.

2.CHECK DTC

- 1. Check DTC.
- 2. Perform the following procedure if DTC is detected.
- Record DTC and freeze frame data (Print them out using CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- 3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3. Symptom is described, DTC is not detected>>GO TO 4. Symptom is not described, DTC is detected>>GO TO 5.

3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Also study the normal operation and fail-safe related to the symptom. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to <u>RF-61. "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.

If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR-MATION PROCEDURE.

Is DTC detected?

YES >> GO TO 7.

NO >> Check according to <u>GI-42. "Intermittent Incident"</u>.

6. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

Is the symptom described?

- YES >> GO TO 7.
- NO >> Monitor input data from related sensors or check voltage of related module terminals using CON-SULT.
- 7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >	
Inspect according to Diagnosis Procedure of the system.	
Is malfunctioning part detected?	А
YES >> GO TO 8. NO >> Check according to <u>GI-42, "Intermittent Incident"</u> .	
8. REPAIR OR REPLACE THE MALFUNCTIONING PART	В
 Repair or replace the malfunctioning part. Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replacement. 	С
3. Check DTC. If DTC is detected, erase it.	
>> GO TO 9.	D
9.FINAL CHECK	
When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the malfunction is repaired securely.	Е
When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.	F
Is DTC detected and does symptom remain?	1
YES-1 >> DTC is detected: GO TO 7. YES-2 >> Symptom remains: GO TO 4. NO >> Before returning the vehicle to the customer, always erase DTC.	G
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ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

< BASIC INSPECTION >

ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMI-NAL

Description

INFOID:000000008158275

There are 2 kinds of operations in initialization of retractable hard top system.

• Without CONSULT: Position information of parcel shelf and roof latch is memorized.

• With CONSULT: Roof position information is memorized.

It is necessary to perform initialization, because normal position information of each part is lost when the operation show in the following table are performed.

Operation	Operation procedure	Refer to
Pottony terminal is disconnected	1. Without CONSULT	DE 74
Battery terminal is disconnected	2. For front power window system	<u>RF-74</u>
	1. Without CONSULT	
Retractable hard top control unit is replaced	2. For front power window system	<u>RF-75</u>
	3. With CONSULT	
Roof components are replaced or removed and installed (Roof link, Roof panel No.1-3, Roof latch)	With CONSULT	<u>RF-76</u>
Parcel shelf components are replaced or removed and installed	Without CONSULT	<u>RF-76</u>
Roof latch components are replaced or removed and installed	Without CONSULT	<u>RF-76</u>
Open and close operations of retractable hard top are repeated with- out fully closing and fully opening	Without CONSULT	<u>RF-76</u>
15 minutes or more are passed without fully closing or fully opening re- tractable hard top	Without CONSULT	<u>RF-76</u>

NOTE:

The following state occurs if initialization is not complete.

- LCD on combination meter does not display retractable hard top system state.
- Audio system functions (Sound equalizer automatic switching function, hands-free phone system and voice recognition) do not operate.
- Fun speed control at roof open function of automatic air conditioner system does not operate.

Work Procedure

INFOID:000000008158276

1.PERFORM INITIALIZATION WITHOUT CONSULT

Perform initialization without CONSULT. Refer to RF-76, "Work Procedure".

>> GO TO 2.

2.PERFORM INITIALIZATION FOR FRONT POWER WINDOW

Perform initialization for front power window. Refer to <u>PWC-5</u>, "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".

>> GO TO 3.

 $\mathbf{3}$. Check retractable hard top operation

Check retractable hard top operation.

Does it operate normally?

YES >> WORK END

NO >> GO TO 1.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

Description

INFOID:000000008158277

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INFOID:000000008158278

There are 2 kinds of operations in initialization of retractable hard top system.

• Without CONSULT: Position information of parcel shelf and roof latch is memorized.

• With CONSULT: Roof position information is memorized.

It is necessary to perform initialization, because normal position information of each part is lost when the operation show in the following table are performed.

Operation	Operation procedure	Refer to
Detter terminel is disconnected	1. Without CONSULT	DE 74
Battery terminal is disconnected	2. For front power window system	<u>RF-74</u>
	1. Without CONSULT	
Retractable hard top control unit is replaced	2. For front power window system	<u>RF-75</u>
	3. With CONSULT	
Roof components are replaced or removed and installed (Roof link, Roof panel No.1-3, Roof latch)	With CONSULT	<u>RF-76</u>
Parcel shelf components are replaced or removed and installed	Without CONSULT	<u>RF-76</u>
Roof latch components are replaced or removed and installed	Without CONSULT	<u>RF-76</u>
Open and close operations of retractable hard top are repeated with- out fully closing and fully opening	Without CONSULT	<u>RF-76</u>
15 minutes or more are passed without fully closing or fully opening re- tractable hard top	Without CONSULT	<u>RF-76</u>

NOTE:

The following state occurs if initialization is not complete.

• LCD on combination meter does not display retractable hard top system state.

• Audio system functions (Sound equalizer automatic switching function, hands-free phone system and voice recognition) do not operate.

• Fun speed control at roof open function of automatic air conditioner system does not operate.

Work Procedure

	RF
1.PERFORM INITIALIZATION WITHOUT CONSULT	
Perform initialization without CONSULT. Refer to <u>RF-76, "Work Procedure"</u> .	L
>> GO TO 2.	
2. PERFORM INITIALIZATION FOR FRONT POWER WINDOW	M
Perform initialization for front power window. Refer to <u>PWC-5</u> , "ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL : Special Repair Requirement".	
	Ν
>> GO TO 3.	
3. PERFORM INITIALIZATION WITH CONSULT	0
Perform initialization with CONSULT. Refer to <u>RF-76. "Work Procedure"</u> .	0
>> GO TO 4.	Р
4. CHECK RETRACTABLE HARD TOP OPERATION	-

Check retractable hard top operation. Is the inspection result normal ?

YES >> WORK END NO >> GO TO 1.

INITIALIZATION OF ROOF SYSTEM

< BASIC INSPECTION >

INITIALIZATION OF ROOF SYSTEM

Description

INFOID:000000008158279

There are 2 kinds of operations in initialization of retractable hard top system.

• Without CONSULT: Position information of parcel shelf and roof latch is memorized.

• With CONSULT: Roof position information is memorized.

It is necessary to perform initialization, because normal position information of each part is lost when the operation show in the following table are performed.

Operation	Operation procedure	Refer to
Pattery terminal in disconnected	1. Without CONSULT	DE 74
Battery terminal is disconnected	2. For front power window system	<u>RF-74</u>
	1. Without CONSULT	
Retractable hard top control unit is replaced	2. For front power window system	<u>RF-75</u>
	3. With CONSULT	
Roof components are replaced or removed and installed (Roof link, Roof panel No.1-3, Roof latch)	With CONSULT	<u>RF-76</u>
Parcel shelf components are replaced or removed and installed	Without CONSULT	<u>RF-76</u>
Roof latch components are replaced or removed and installed	Without CONSULT	<u>RF-76</u>
Open and close operations of retractable hard top are repeated with- out fully closing and fully opening	Without CONSULT	<u>RF-76</u>
15 minutes or more are passed without fully closing or fully opening re- tractable hard top	Without CONSULT	<u>RF-76</u>

NOTE:

The following state occurs if initialization is not complete.

- LCD on combination meter does not display retractable hard top system state.
- Audio system functions (Sound equalizer automatic switching function, hands-free phone system and voice recognition) do not operate.
- Fun speed control at roof open function of automatic air conditioner system does not operate.

Work Procedure

INFOID:000000008158280

1.INSPECTION START

Will CONSULT be used?

Will CONSULT be used? YES >> GO TO 2. NO >> GO TO 7.

NO >> GO IC

2. STEP 1

With CONSULT

1. Start engine.

2. Fully close retractable hard top.

>> GO TO 3.

Check the operation.

What was the operation performed?

Replace or remove and install roof components.>>GO TO 4. Replace retractable hard top control unit.>>GO TO 5.

4. STEP 3

Perform "ROOF STATE RESET" in "Work Support" mode of "RETRACTABLE HARD TOP" using CONSULT and erase the current memorized position. Refer to <u>RF-45. "CONSULT Function"</u>.

RF-76

INITIALIZATION OF ROOF SYSTEM

< BASIC INSPECTION >

Perform "ROOF STATE LEARNING" in "Work Support" mode of "RETRACTABLE HARD TOP" SULT and memorize the new roof position. Refer to <u>RF-45, "CONSULT Function"</u> . Fully close the roof and repeat this operation (STEP 4), if roof warning buzzer sounds twice or do during the initialization. NOTE:	-
 Retractable hard top operation during this procedure is as per the following items. 1. Roof warning buzzer sounds once at the same time retractable hard top open operation is roof open/close switch (OPEN) operation, after touching "Start" on CONSULT screen. 2. Roof warning buzzer sounds once when the roof is fully open. 	
 Roof warning buzzer sounds once at the same time retractable hard top close operation is roof open/close switch (CLOSE) operation. Roof warning buzzer sounds once when the roof is fully closed. 	penonned by
>> GO TO 6. 6. STEP 5	
Check that retractable hard top operates normally by operating from fully closed to fully open from fully open to fully closed positions.	positions and
>> WORK END 7. STEP 1	
 Without CONSULT Start engine. Press and hold OPEN or CLOSE of roof open/close switch and check that parcel shelf and ro after operating. 	oof latch* stop
*: Depending on the operation (<u>RF-74, "Description"</u>), roof latch may not operate. Does roof warning buzzer sounds once at the same time parcel shelf stops?	
YES >> GO TO 9. NO >> GO TO 8. 8. STEP 2	
Repeat operation of step 1 until roof warning buzzer sounds once at the same time parcel shelf s	stops.
>> GO TO 9. 9. STEP 3	
Check that retractable hard top operates normally by operating from fully closed to fully open from fully open to fully closed positions.	positions and
>> WORK END	
>> WORK END	

DTC/CIRCUIT DIAGNOSIS U1000 CAN COMM CIRCUIT

Description

INFOID:000000008158281

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H-line, CAN L-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

DTC Logic

INFOID:000000008158282

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name	DTC detection condition	Possible cause
U1000	CAN COMM CIRCUIT	When retractable hard top control unit cannot communicate CAN communication signal con- tinuously for 2 seconds or more.	CAN communication system

Diagnosis Procedure

INFOID:000000008158283

1.PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 seconds or more.

2. Check "Self Diagnostic Results" mode of "RETRACTABLE HARD TOP" using CONSULT.

Is the DTC displayed?

YES >> Refer to LAN-14, "Trouble Diagnosis Flow Chart".

NO >> Refer to GI-42, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN)

DTC Logic

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INFOID:000000008158284

INFOID:000000008158285

DTC DETECTION LOGIC

DTC No.	Trouble doagnosis name	DTC detection condition	Possible cause	
U1010	CONTROL UNIT (CAN)	Retractable hard top control unit detected internal CAN communication circuit malfunction.	Retractablr hard top control unit	С

Diagnosis Procedure

1.REPLACE BCM

When DTC "U1010" is detected, replace retractable hard top control unit.

>> Replace retractable hard top control unit. Refer to RF-295, "Removal and Installation".

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U0140 LOCAL COMMUNICATION-1

Description

INFOID:000000008158286

Retractable hard top control unit performs local communication with BCM, power window main switch and power window sub-switch using communication line.

DTC Logic

INFOID:000000008158287

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
U0140	LOCAL COMM-1	The communication between retractable hard top con- trol unit and BCM is interrupted for a period of time.	Communication lineBCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self Diagnostic Results" mode of "RETRACTABLE HARD TOP" using CONSULT.

Is the DTC detected?

- YES >> Perform diagnosis procedure. Refer to <u>RF-80, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:00000008158288

1.CHECK COMMUNICATION LINE

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit and BCM connector.
- 3. Check continuity between retractable hard top control unit harness connector and BCM harness connector.

Retractable hard top control unit		BCM		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B82	29	M123	132	Existed

4. Check continuity between retractable hard top control unit harness connector and ground.

Retractable hard top control unit			Continuity
Connector	Terminal	Ground	Continuity
B82	29		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-79</u>, "Removal and Installation".

NO >> Repair or replace harness.

U0215 LOCAL COMMUNICATION-2

Description

Retractable hard top control unit performs local communication with BCM, power window main switch and В power window sub-switch using communication line.

DTC Logic

INFOID:000000008158290

INFOID:000000008158289

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DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to RF-61. "DTC Inspection Priority Chart", and determine trouble D diagnosis order.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
U0215	LOCAL COMM-2	The communication between retractable hard top con- trol unit, power window main switch and power win- dow sub-switch is interrupted for a period of time.	Communication linePower window main switchPower window sub-switch
TC CONFI	RMATION PROCED	DURE	
1.RERFORM	M DTC CONFIRMATIO	ON PROCEDURE	
3. Check "S <u>s the DTC de</u> YES >> F	retractable hard top to Self Diagnostic Results etected?	o fully open and fully close. 5" mode of "RETRACTABLE HARD TOP" usir cedure. Refer to <u>RF-81, "Diagnosis_Procedur</u>	•
Diagnosis	Procedure		INFOID:0000000815829
1.CHECK P	OWER WINDOW MA	IN SWITCH	
Check power dure".	window main switch.	Refer to PWC-15. "POWER WINDOW MAIN	I SWITCH : Diagnosis Proce-
	ion result normal?		
	GO TO 2.	unationing part	
•	Repair or replace malfo OWER WINDOW SUI	•	
dure".	window sub-switch.	Refer to <u>PWC-16, "POWER WINDOW SUB</u>	-SWITCH : Diagnosis Proce-
Is the inspect	tion result normal?		
	GO TO 3.		
-	Repair or replace malf		
3. CHECK C	OMMUNICATION LIN	IE-1	
 Disconne sub-swite Check ce 	ch connector.	op control unit, power window main switch o actable hard top control unit harness conne	·
	tractable bard ton control u	nit Dowor window main switch	

Retractable har	Retractable hard top control unit		Power window main switch		
Connector	Terminal	Connector Terminal		Continuity	
B82	30	D8	7	Existed	

Check continuity between retractable hard top control unit harness connector and ground. 4.

U0215 LOCAL COMMUNICATION-2

< DTC/CIRCUIT DIAGNOSIS >

Retractable har	d top control unit		Continuity
Connector	Terminal	Ground	Continuity
B82	30		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK COMMUNICATION LINE-2

1. Check continuity between retractable hard top control unit harness connector and power window subswitch harness connector.

Retractable hard top control unit		Power window sub-switch		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
B82	30	D38	15	Existed	

2. Check continuity between retractable hard top control unit harness connector and ground.

Retractable har	d top control unit		Continuity	
Connector	Terminal	Ground	Continuity	
B82	30		Not existed	

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Repair or replace harness.

B1701 RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B1701 RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B1701	ROOF CONTROL UNIT	Retractable hard top control unit detects inter- nal malfunction.	Retractable hard top control unit
DTC CONF	IRMATION PROCEDU	JRE	
1.PERFOR	M DTC CONFIRMATION	N PROCEDURE	
2. Check "S <u>Is DTC detec</u> YES >> I	<u>cted?</u> Refer to <u>RF-83, "Diagno</u>	of "RETRACTABLE HARD TOP" using C	ONSULT.
-	INSPECTION END		
	Procedure		INFOID:00000008158293
1. CHECK S	SELF DIAGNOSTIC RES	SULT	
2. Replace		ntrol unti. Refer to <u>RF-295, "Removal an</u> edure. Refer to <u>RF-83, "DTC Logic"</u> .	d Installation".
>>	INSPECTION END		

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INFOID:000000008158292

B1702 RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B1702 RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

INFOID:000000008158294

DTC DETECTION LOGIC

NOTE:

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If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B1702	ROOF CONTROL UNIT	Retractable hard top control unit detects internal malfunction.	Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

- YES >> Refer to <u>RF-84, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158295

1. CHECK SELF DIAGNOSTIC RESULT

- 1. Turn ignition switch OFF.
- 2. Replace retractable hard top control unti. Refer to <u>RF-295, "Removal and Installation"</u>.
- 3. Perform DTC Confirmation Procedure. Refer to <u>RF-84, "DTC Logic"</u>.

>> INSPECTION END

B1707 ROOF OPEN STATE

Description

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INFOID:000000008158298

Roof status sensor is installed to roof link assembly LH. This sensor is a potentiometer that converts the roof position to a voltage signal and transmits it to retractable hard top control unit. Retractable hard top control unit recognizes the roof position using this signal.

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible causes	
B1707	ROOF OPEN STATE	[LOST]	Retractable hard top control unit does not learn roof fully open position	 Harness or connectors (The sensor circuit is open or shorted.) Retractable hard top Retractable hard top control unit Roof status sensor Initialization is not complete 	

DTC CONFIRMATION PROCEDURE

1.PERFORM INITIALIZE

Refer to RF-76, "Description".

>> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check DTC.

Is DTC detected?

- YES >> Go to RF-85, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK ROOF STATUS SENSOR POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect roof status sensor harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between roof status sensor harness connector and ground.

(+)			0
Roof sta	tus sensor	()	Voltage (V) (Approx.)	
Connector	Terminal			Р
B656	3	Ground	5	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK ROOF STATUS SENSOR GROUND CIRCUIT FOR OPEN AND SHORT

1. Turn ignition switch OFF.

B1707 ROOF OPEN STATE

< DTC/CIRCUIT DIAGNOSIS >

- 2. Disconnect retractable hard top control unit harness connector.
- 3. Check the continuity between roof status sensor harness connector and retractable hard top control unit harness connector.

Roof stat	Roof status sensor		Retractable hard top control unit		
Connector	Terminal	Terminal Connector Terminal		- Continuity	
B656	1	B82	23	Existed	

4. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

 ${\it 3.}$ CHECK ROOF STATUS SENSOR INPUT SIGNAL CIRCUIT FOR OPEN AND SHORT

1. Check the continuity between roof status sensor harness connector and retractable hard top control unit harness connector.

Roof status sensor		Retractable hard top control unit		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
B656	2	B82	26	Existed	

2. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.REPLACE ROOF STATUS SENSOR

Replace roof status sensor. Refer to <u>RF-15, "Component Parts Location"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 5.

5.CHECK RETRACTABLE HARD TOP

Check retractable hard top mechanism deformation, looseness, rattle, interference with other parts, and pinched foreign materials. Refer to <u>RF-273, "Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace malfunctioning part.

 $\mathbf{6}.$ REPLACE RETRACTABLE HARD TOP CONTROL UNIT

Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 7.

7. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

B1708 ROOF CLOSE STATE

Description

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INFOID:000000008158300

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Roof status sensor is installed to roof link assembly LH. This sensor is a potentiometer that converts the roof position to a voltage signal and transmits it to retractable hard top control unit. Retractable hard top control unit recognizes the roof position using this signal.

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis r	name	DTC detecting condition	Possible causes
B1708	ROOF CLOSE STATE	[LOST]	Retractable hard top control unit does not learn roof fully closed position	 Harness or connectors (The sensor circuit is open or shorted.) Retractable hard top Retractable hard top control unit Roof status sensor Initialization is not complete

DTC CONFIRMATION PROCEDURE

1.PERFORM INITIALIZE

Refer to RF-76, "Description".

>> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check DTC.

Is DTC detected?

- YES >> Go to RF-87, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK ROOF STATUS SENSOR POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect roof status sensor harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between roof status sensor harness connector and ground.

-	(•	+)			0
-	Roof stat	us sensor	()	Voltage (V) (Approx.)	
-	Connector	Terminal			Р
_	B656	3	Ground	5	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK ROOF STATUS SENSOR GROUND CIRCUIT FOR OPEN AND SHORT

1. Turn ignition switch OFF.

INFOID:000000008158301

B1708 ROOF CLOSE STATE

< DTC/CIRCUIT DIAGNOSIS >

- 2. Disconnect retractable hard top control unit harness connector.
- 3. Check the continuity between roof status sensor harness connector and retractable hard top control unit harness connector.

Roof stat	Roof status sensor Retractable har		d top control unit	Continuity	
Connector	Terminal	Connector Terminal		Continuity	
B656	1	B82	23	Existed	

4. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

 ${\it 3.}$ CHECK ROOF STATUS SENSOR INPUT SIGNAL CIRCUIT FOR OPEN AND SHORT

1. Check the continuity between roof status sensor harness connector and retractable hard top control unit harness connector.

Roof stat	Roof status sensor		Retractable hard top control unit		
Connector	Terminal	Connector Terminal		Continuity	
B656	2	B82	26	Existed	

2. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.REPLACE ROOF STATUS SENSOR

Replace roof status sensor. Refer to <u>RF-15, "Component Parts Location"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 5.

5.CHECK RETRACTABLE HARD TOP

Check retractable hard top mechanism deformation, looseness, rattle, interference with other parts, and pinched foreign materials. Refer to <u>RF-273, "Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace malfunctioning part.

6.REPLACE RETRACTABLE HARD TOP CONTROL UNIT

Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 7.

7. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

B1709 ROOF OPEN/CLOSE SWITCH (OPEN)

< DTC/CIRCUIT DIAGNOSIS >

B1709 ROOF OPEN/CLOSE SWITCH (OPEN)

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosi	s name	DTC	c detecting condition	Possible cause
B1709	ROOF SWITCH- OPEN	[TIMEOUT]		rd top control unit detects roof itch (open) operation for 60	 Harness or connectors (The roof open/close switch cir- cuit is shorted.) Retractable hard top control unit Roof open/close switch
отс сог	NFIRMATION PRO	CEDURE			
1. CHEC	K ROOF OPEN/CLC	SE SWITCH	H SIGNAL		
 Opera Check 	engine. ate retractable hard t k DTC.	op to fully o	pen and fully	close.	
	 > Go to <u>RF-89, "Dia</u> > INSPECTION EN 		edure".		
Diagnos	sis Procedure				INFOID:00000008158303
1.снеск	K ROOF OPEN/CLC	SE SWITCH	H POWER SI	JPPLY CIRCUIT-I	
1. Turn i 2. Disco 3. Turn i	gnition switch OFF. nnect roof open/clos gnition switch ON.	e switch ha	rness connec	tor.	
4. Checl	k the voltage betwee	n roof open	close switch	harness connector and g	ground.
	(+)				Voltage (V)
	Roof open/cl			()	(Approx.)
	Connector	Terr	minal		

M179 (M/T models) Is the inspection result normal?

M28 (A/T models)

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK ROOF OPEN/CLOSE SWITCH POWER SUPPLY CIRCUIT-II

3

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector.
- 3. Check the continuity between retractable hard top control unit harness connector and roof open/close switch harness connector.

Ground

Retractable har	Retractable hard top control unit		Roof open/close switch	
Connector	Terminal	Connector	Terminal	Continuity
B82	1	M28 (A/T models)	3	Existed
Boz	I	M179 (M/T models)	5	Existed

4. Check harness for short to ground.

Is the inspection result normal?

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Battery voltage

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B1709 ROOF OPEN/CLOSE SWITCH (OPEN)

< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK ROOF OPEN/CLOSE SWITCH

Check roof open/close switch. Refer to <u>RF-90, "Component Inspection"</u>.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace roof open/close switch. Refer to <u>RF-15, "Component Parts Location"</u>.

4.REPLACE RETRACTABLE HARD TOP CONTROL UNIT

Replace retractable hard top control unit. Refer to <u>RF-295</u>, "Removal and Installation"

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 5.

5. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

Component Inspection

1.CHECK ROOF OPEN/CLOSE SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect roof open/close switch harness connector.
- 3. Check the continuity between roof open/close switch terminals under the following conditions.

Terminal	Condit	Continuity	
1 and 3		Open pressed	Existed
T and 5	Roof open/close switch	Except above	Not existed
1 and 4	Roof open/close switch	Close pressed	Existed
T and 4		Except above	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace roof open/close switch. Refer to <u>RF-15, "Component Parts Location"</u>.

INFOID:000000008158304

B170A ROOF OPEN/CLOSE SWITCH (CLOSE)

< DTC/CIRCUIT DIAGNOSIS >

B170A ROOF OPEN/CLOSE SWITCH (CLOSE)

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosi	s name	DTC	c detecting condition	Possible cause
B170A	ROOF SWITCH- CLOSE	[TIMEOUT]		rd top control unit detects roof itch (close) operation for 60	 Harness or connectors (The roof open/close switch cir- cuit is shorted.) Retractable hard top control unit Roof open/close switch
DTC COI	NFIRMATION PRC	CEDURE			
1. CHEC	K ROOF OPEN/CLC	SE SWITCH	H SIGNAL		
2. Opera 3. Chec Is DTC de YES >	engine. ate retractable hard t k DTC. <u>etected?</u> >> Go to <u>RF-91, "Dia</u> >> INSPECTION EN	gnosis Proc		close.	
Diagnos	sis Procedure				INFOID:00000008158306
1. CHEC	K ROOF OPEN/CLC	SE SWITCH	H POWER SI	JPPLY CIRCUIT-I	
 Disco Turn i 	ignition switch OFF. onnect roof open/clos ignition switch ON. k the voltage betwee			tor. harness connector and	ground.
	(+)	-			-
	Roof open/clo			(-)	Voltage (V) (Approx.)

(+, Roof open/cl		()	Voltage (V) (Approx.)	
Connector	Terminal		(//pp/ox.)	L
M28 (A/T models)	4	Cround	Potton voltago	_
M179 (M/T models)	4	Ground	Battery voltage	M

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK ROOF OPEN/CLOSE SWITCH POWER SUPPLY CIRCUIT-II

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector.
- 3. Check the continuity between retractable hard top control unit harness connector and roof open/close switch harness connector.

Retractable har	Retractable hard top control unit		Roof open/close switch		
Connector	Terminal	Connector	Terminal	Continuity	
B82	D 00 0		Λ	Existed	
DOZ	Z	M179 (M/T models)	4	Existed	

4. Check harness for short to ground.

Is the inspection result normal?

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B170A ROOF OPEN/CLOSE SWITCH (CLOSE)

< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK ROOF OPEN/CLOSE SWITCH

Check roof open/close switch. Refer to <u>RF-92, "Component Inspection"</u>.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace roof open/close switch. Refer to <u>RF-15, "Component Parts Location"</u>.

4.REPLACE RETRACTABLE HARD TOP CONTROL UNIT

Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 5.

5.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

Component Inspection

1.CHECK ROOF OPEN/CLOSE SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect roof open/close switch harness connector.
- 3. Check the continuity between roof open/close switch terminals under the following conditions.

Terminal	Condit	Continuity	
1 and 3		Open pressed	Existed
T and 5	Roof open/close switch	Except above	Not existed
1 and 4	Roof open/close switch	Close pressed	Existed
T and 4		Except above	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace roof open/close switch. Refer to <u>RF-15, "Component Parts Location"</u>.

INFOID:000000008158307

B170B ROOF OPEN/CLOSE SWITCH

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

	No. Trouble diagnosis name DT		DTC detecting condition	Possible cause
B170B	ROOF SWITCH	[INCOR- RECT]	Retractable hard top control unit detects roof open/close switch open operation and close operation at the same time	 Harness or connectors (The roof open/close switch circuit is shorted.) Retractable hard top control unit Roof open/close switch
	NFIRMATION PRO	OCEDURE		
.CHECł	K ROOF OPEN/CL	OSE SWITC	HSIGNAL	
2. Opera 3. Check <u>s DTC de</u> YES >	KDTC.	agnosis Prod	open and fully close. cedure".	
-	sis Procedure			
Jugilos				INFOID:000000081583
			H POWER SUPPLY CIRCUIT-I	
I. Turn i 2. Disco	gnition switch OFF. nnect roof open/clo			
1. Turn i 2. Disco 3. Turn i	gnition switch OFF. nnect roof open/clo gnition switch ON.	se switch ha	arness connector.	round.
1. Turn i 2. Disco 3. Turn i	gnition switch OFF. nnect roof open/clo gnition switch ON. < the voltage betwe	se switch ha en roof oper		ground.
1. Turn i 2. Disco 3. Turn i	gnition switch OFF. nnect roof open/clo gnition switch ON. < the voltage betwe (+	se switch ha en roof oper ·)	arness connector. n/close switch harness connector and g	Voltage (V)
1. Turn i 2. Disco 3. Turn i	gnition switch OFF. nnect roof open/clo gnition switch ON. < the voltage betwe	se switch ha en roof oper -) :lose switch	arness connector.	
I. Turn i 2. Discol 3. Turn i 4. Check	gnition switch OFF. nnect roof open/clo gnition switch ON. < the voltage betwe (+ Roof open/c	se switch ha en roof oper -) :lose switch	arness connector. n/close switch harness connector and g	Voltage (V)
I. Turn i 2. Discol 3. Turn i 4. Check	gnition switch OFF. nnect roof open/clo gnition switch ON. < the voltage betwe (+ Roof open/c Connector	se switch ha en roof oper -) :lose switch	arness connector. n/close switch harness connector and g (-) rminal 3	Voltage (V) (Approx.)
I. Turn i 2. Discol 3. Turn i 4. Check	gnition switch OFF. nnect roof open/clo gnition switch ON. < the voltage betwe (+ Roof open/c Connector 128 (A/T models)	se switch ha en roof oper -) :lose switch	arness connector. n/close switch harness connector and g	Voltage (V)

2.CHECK ROOF OPEN/CLOSE SWITCH POWER SUPPLY CIRCUIT-II 1. Turn ignition switch OFF.

2. Disconnect retractable hard top control unit harness connector.

3. Check the continuity between retractable hard top control unit harness connector and roof open/close switch harness connector.

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B170B ROOF OPEN/CLOSE SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Retractable har	d top control unit	Roof open/clos	se switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
	1	M28 (A/T models)	2	
Boo	I	M179 (M/T models)	_ 3	– Existed
B82	2	M28 (A/T models)		
	2	M179 (M/T models)	4	

4. Check harness for short to ground.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK ROOF OPEN/CLOSE SWITCH

Check roof open/close switch. Refer to <u>RF-94, "Component Inspection"</u>.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace roof open/close switch. Refer to <u>RF-15. "Component Parts Location"</u>.

4.REPLACE RETRACTABLE HARD TOP CONTROL UNIT

Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 5.

5. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:000000008158310

1.CHECK ROOF OPEN/CLOSE SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect roof open/close switch harness connector.
- 3. Check the continuity between roof open/close switch terminals under the following conditions.

Terminal	Condit	Continuity	
1 and 3		Open pressed	Existed
T and 5	Deef ener/alass switch	Except above	Not existed
1 and 4	Roof open/close switch	Close pressed	Existed
i allu 4		Except above	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace roof open/close switch. Refer to <u>RF-15, "Component Parts Location"</u>.

B170C TRUNK LINK SENSOR (LH)

< DTC/CIRCUIT DIAGNOSIS >

B170C TRUNK LINK SENSOR (LH)

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to RF-61, "DTC Inspection Priority Chart", and determine trouble diagnosis order.

DTC No.		ignosis name	DTC detecting condition	PC	ossible cause
B170C	TRUNK LINK SENSOR-LH	[PWR-SHORT] [GND-SHORT/ OPEN]	Trunk link sensor (LH) circuit is open short to ground or short to power.		circuit is open or shorted.) hard top control unit H)
			_		· · /
		NFIRMATION PI			
			RUGEDURE		
	engine. ate retractable	hard top to fully	open and fully close.		
3. Cheo	k DTC.				
	etected?				
YES NO	>> Go to <u>RF-98</u> >> INSPECTIC	5, "Diagnosis Pro N END	<u>ocedure"</u> .		
	sis Procedu				
					INFOID:0000000081583
1. CHEC	K TRUNK LIN	(SENSOR (LH)	POWER SUPPLY CIRCUIT-I		
		. ,			
1. Turn 2. Disco 3. Turn	ignition switch onnect trunk lin ignition switch	OFF. k sensor (LH) ha ON.	arness connector.		
1. Turn 2. Disco 3. Turn	ignition switch onnect trunk lin ignition switch	OFF. k sensor (LH) ha ON.	arness connector. k sensor (LH) harness connect	or and ground.	
1. Turn 2. Disco 3. Turn	ignition switch onnect trunk lin ignition switch	OFF. k sensor (LH) ha ON.			
1. Turn 2. Disco 3. Turn	ignition switch onnect trunk lin ignition switch ck the voltage b	OFF. k sensor (LH) ha ON. etween trunk lin		Vol	ltage (V)
1. Turn 2. Disco 3. Turn	ignition switch onnect trunk lin ignition switch ck the voltage b	OFF. k sensor (LH) ha ON. etween trunk lin (+) link sensor (LH)	k sensor (LH) harness connect	Vol	ltage (V) pprox.)
1. Turn 2. Disco 3. Turn	ignition switch onnect trunk lin ignition switch ck the voltage b Trunk	OFF. k sensor (LH) ha ON. etween trunk lin (+) link sensor (LH)	k sensor (LH) harness connect	Vol	
1. Turn 2. Disc 3. Turn 4. Cheo 	ignition switch onnect trunk lin ignition switch ck the voltage b Trunk Connector B303 pection result n	OFF. k sensor (LH) ha ON. etween trunk lin (+) link sensor (LH) Terr	k sensor (LH) harness connect	Vol	pprox.)
1. Turn 2. Disc 3. Turn 4. Cheo <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u>_</u> <u></u>	ignition switch onnect trunk lin ignition switch ck the voltage b Trunk Connector B303 pection result r >> GO TO 2.	OFF. k sensor (LH) ha ON. etween trunk lin (+) link sensor (LH) Terr ormal?	k sensor (LH) harness connect	Vol	pprox.)
1. Turn 2. Disc 3. Turn 4. Cheo <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u>_</u> <u></u>	ignition switch onnect trunk lin ignition switch ck the voltage b Trunk Connector B303 pection result r >> GO TO 2. >> Repair or re	OFF. k sensor (LH) ha ON. etween trunk lin (+) link sensor (LH) Terr ormal? place harness.	k sensor (LH) harness connecte (-) ninal 2 Ground	Vol (A	pprox.)
1. Turn 2. Disc 3. Turn 4. Cheo <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u>_</u> <u></u>	ignition switch onnect trunk lin ignition switch ck the voltage b Trunk Connector B303 pection result r >> GO TO 2. >> Repair or re	OFF. k sensor (LH) ha ON. etween trunk lin (+) link sensor (LH) <u>(+)</u> ormal? place harness. K SENSOR (LH)	k sensor (LH) harness connect	Vol (A	pprox.)
1. Turn 2. Disc 3. Turn 4. Cheo 4. Cheo <u>s the ins</u> YES NO 2.CHEC 1. Turn	ignition switch onnect trunk lin ignition switch ck the voltage b Trunk Connector B303 pection result r >> GO TO 2. >> Repair or re cK TRUNK LINH ignition switch	OFF. k sensor (LH) ha ON. etween trunk lin (+) link sensor (LH) (+) Terr ormal? place harness. K SENSOR (LH) OFF.	k sensor (LH) harness connecte (-) ninal 2 Ground	Vol (A	pprox.)
1. Turn 2. Disc 3. Turn 4. Cheo <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u>_</u> <u></u>	ignition switch onnect trunk lin ignition switch ck the voltage b Trunk Connector B303 pection result r >> GO TO 2. >> Repair or re CK TRUNK LINF ignition switch onnect retractal ck the continuit	OFF. k sensor (LH) ha ON. etween trunk lin (+) link sensor (LH) (+) ormal? place harness. K SENSOR (LH) OFF. ole hard top cont y between trunk	k sensor (LH) harness connecte (-) minal 2 Ground GROUND CIRCUIT FOR OPE	Vol (A	5
1. Turn 2. Disc 3. Turn 4. Cheo <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u>_</u> <u></u>	ignition switch onnect trunk lin ignition switch ck the voltage b Trunk Connector B303 pection result r >> GO TO 2. >> Repair or re CK TRUNK LINF ignition switch onnect retractal	OFF. k sensor (LH) ha ON. etween trunk lin (+) link sensor (LH) (+) ormal? place harness. K SENSOR (LH) OFF. ole hard top cont y between trunk	k sensor (LH) harness connecter (-) ninal 2 GROUND CIRCUIT FOR OPE trol unit harness connector.	Vol (A	5
1. Turn 2. Disc 3. Turn 4. Cheo <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u>_</u> <u></u>	ignition switch onnect trunk lin ignition switch ck the voltage b Trunk Connector B303 pection result r >> GO TO 2. >> Repair or re CK TRUNK LINF ignition switch onnect retractal ck the continuit	OFF. k sensor (LH) ha ON. etween trunk lin (+) link sensor (LH) Terr ormal? place harness. K SENSOR (LH) OFF. ole hard top cont y between trunk connector.	k sensor (LH) harness connecter (-) ninal 2 GROUND CIRCUIT FOR OPE trol unit harness connector.	Vol (A SN AND SHORT	5 d retractable hard to
1. Turn 2. Disc 3. Turn 4. Cheo 4. Cheo 4. Cheo 5. Cheo 5. CHEO 1. Turn 2. Disc 3. Cheo conti	ignition switch onnect trunk lin ignition switch ck the voltage b Trunk Connector B303 pection result r >> GO TO 2. >> Repair or re cK TRUNK LINF ignition switch onnect retractal ck the continuity ol unit harness	OFF. k sensor (LH) ha ON. etween trunk lin (+) link sensor (LH) Terr ormal? place harness. K SENSOR (LH) OFF. ole hard top cont y between trunk connector.	k sensor (LH) harness connecter (-) ninal 2 GROUND CIRCUIT FOR OPE trol unit harness connector.	Vol (A SN AND SHORT	5

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness. А

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B170C TRUNK LINK SENSOR (LH)

< DTC/CIRCUIT DIAGNOSIS >

3.REPLACE TRUNK LINK SENSOR (LH)

Replace trunk link sensor (LH) sensor. Refer to <u>RF-15, "Component Parts Location"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 4.

4.CHECK RETRACTABLE HARD TOP

Check retractable hard top mechanism deformation, looseness, rattle, interference with other parts, and pinched foreign materials. Refer to <u>RF-273, "Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace malfunctioning part.

5.REPLACE RETRACTABLE HARD TOP CONTROL UNIT

Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 6.

6. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

B170D TRUNK LINK SENSOR (RH)

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble dia	gnosis name	DTC detecting condition	Р	ossible cause
B170D	TRUNK LINK SENSOR-RH	[PWR-SHORT] [GND-SHORT/ OPEN]	Trunk link sensor (RH) circuit is op short to ground or short to power.		circuit is open or shorted.) hard top control unit H)
отс сс	NFIRMATION	PROCEDURE			
1. PERF	ORM DTC CON	NFIRMATION PR	ROCEDURE		
2. Ope 3. Cheo I <u>s DTC d</u> YES	ck DTC. etected?	7, "Diagnosis Pro	open and fully close. <u>ocedure"</u> .		
_	sis Procedu				
					INFOID:0000000081583
	K TRUNK I INF	(SENSOR (RH)	POWER SUPPLY CIRCUIT-	·l	
1. Turn	ignition switch	OFF.			
1. Turn 2. Disc 3. Turn	ignition switch onnect trunk linl ignition switch ck the voltage b	OFF. < sensor (RH) ha ON. etween trunk linł (+)	arness connector. < sensor (RH) harness conne	ector and ground.	Itage (V)
1. Turn 2. Disc 3. Turn	ignition switch onnect trunk linl ignition switch ck the voltage b Trunk I	OFF. < sensor (RH) ha ON. etween trunk link (+) ink sensor (RH)	arness connector. < sensor (RH) harness conne (–)	ctor and ground.	Itage (V) Approx.)
1. Turn 2. Disc 3. Turn	ignition switch onnect trunk linl ignition switch ck the voltage b Trunk I Connector	OFF. < sensor (RH) ha ON. etween trunk link (+) ink sensor (RH) Term	arness connector. < sensor (RH) harness conne (–)	ctor and ground.	Approx.)
1. Turn 2. Disc 3. Turn 4. Cheo	ignition switch onnect trunk linl ignition switch ck the voltage b Trunk I Connector B86	OFF. < sensor (RH) ha ON. etween trunk link (+) ink sensor (RH) Term	arness connector. < sensor (RH) harness conne (–)	ctor and ground.	
1. Turn 2. Disc 3. Turn 4. Cheo <u></u> <u>Is the ins</u> YES	ignition switch onnect trunk lini ignition switch ck the voltage b Trunk I Connector B86 spection result n >> GO TO 2. >> Repair or re	OFF. < sensor (RH) ha ON. etween trunk link (+) ink sensor (RH) Term 2 ormal? place harness.	arness connector. < sensor (RH) harness conne (-) hinal 2 Ground	vo (A	5
1. Turn 2. Disc 3. Turn 4. Cheo <u>Is the ins</u> YES NO 2.CHEO 1. Turn 2. Disc 3. Cheo	ignition switch onnect trunk lini ignition switch ck the voltage b Trunk I Connector B86 spection result n >> GO TO 2. >> Repair or re CK TRUNK LINF ignition switch onnect retractab	OFF. < sensor (RH) ha ON. etween trunk link (+) ink sensor (RH) <u>(+)</u> cormal? place harness. < SENSOR (RH) OFF. ole hard top cont / between trunk	arness connector. < sensor (RH) harness conne (–)	PEN AND SHORT	5 -
1. Turn 2. Disc 3. Turn 4. Cheo <u>Is the ins</u> YES NO 2.CHEO 1. Turn 2. Disc 3. Cheo	ignition switch onnect trunk lini ignition switch ck the voltage b Trunk I Connector B86 spection result n >> GO TO 2. >> Repair or re CK TRUNK LINF ignition switch onnect retractat ck the continuity	OFF. (sensor (RH) ha ON. etween trunk link (+) ink sensor (RH) Cormal? place harness. (SENSOR (RH) OFF. ole hard top cont / between trunk connector.	arness connector. < sensor (RH) harness conne (-) hinal 2 Ground GROUND CIRCUIT FOR OF rol unit harness connector.	PEN AND SHORT	5
1. Turn 2. Disc 3. Turn 4. Cheo <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u>_</u> <u></u>	ignition switch onnect trunk lini ignition switch ck the voltage b Trunk I Connector B86 spection result n >> GO TO 2. >> Repair or re CK TRUNK LINF ignition switch onnect retractat ck the continuity rol unit harness	OFF. (sensor (RH) ha ON. etween trunk link (+) ink sensor (RH) Cormal? place harness. (SENSOR (RH) OFF. ole hard top cont / between trunk connector.	arness connector. < sensor (RH) harness conne (-) ninal 2 Ground GROUND CIRCUIT FOR OF rol unit harness connector. link sensor (RH) sensor harr	PEN AND SHORT	5 -

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

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B170D TRUNK LINK SENSOR (RH)

< DTC/CIRCUIT DIAGNOSIS >

3.CHECK TRUNK LINK SENSOR (RH)

Replace trunk link sensor (RH) sensor. Refer to <u>RF-15, "Component Parts Location"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 4.

4.CHECK RETRACTABLE HARD TOP

Check retractable hard top mechanism deformation, looseness, rattle, interference with other parts, and pinched foreign materials. Refer to <u>RF-273, "Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace malfunctioning part.

5.REPLACE RETRACTABLE HARD TOP CONTROL UNIT

Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 6.

6. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

B170F SENSOR POWER SUPPLY

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

2. Operate retractable hard top fully open and fully close.

3. Check DTC.

Is DTC detected?

- YES >> Go to <u>RF-95</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158316

1.CHECK ROOF LATCH LOCK SENSOR POWER SUPPLY CIRCUIT-I

- 1. Turn ignition switch OFF.
- 2. Disconnect roof latch assembly (roof latch lock sensor) harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between roof latch assembly (roof latch lock sensor) harness connector and ground.

(+)				
Roof latch assembly (Roof latch assembly (roof latch lock sensor)		Voltage (V) (Approx.)	Р
Connector	Connector Terminal		(, + F)	
B657	1	Ground	5	

Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 2.

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INFOID:000000008158315

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B170F SENSOR POWER SUPPLY

< DTC/CIRCUIT DIAGNOSIS >

2.CHECK ROOF LATCH LOCK SENSOR POWER SUPPLY CIRCUIT-II

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector.
- 3. Check the continuity between roof latch assembly (roof latch lock sensor) harness connector and retractable hard top control unit harness connector.

Roof latch assembly (roof latch lock sensor)		Retractable har	d top control unit	Continuity
Connector	Terminal	Connector	Terminal	Continuity
B657	1	B82	13	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

${f 3.}$ CHECK SENSOR POWER SUPPLY CIRCUIT

- 1. Disconnect following parts harness connector.
- Hydraulic unit
- Parcel shelf unit
- Roof latch assembly
- Trunk link sensor (LH)
- Trunk link sensor (RH)
- 2. Check harness for short to ground (Check the continuity between following parts harness connector and ground, or retractable hard top control unit harness connector and ground).

Part	Ground	Continuity		
Name	Connector	Terminal	Giouna	Continuity
Hydraulic unit (trunk status sensor)	B80	11		
Parcel shelf unit [parcel shelf motor (draw) and parcel shelf motor (rota- tion)]	B71	6	_	
Roof latch assembly (roof latch lock sensor and roof latch status sensor)	B657	1	Ground	Not existed
Trunk link sensor (LH)	B303	2		
Trunk link sensor (RH)	B86	2		

Retractable har	d top control unit	Ground	Continuity	
Connector	Connector Terminal		Continuity	
B82	13	Ground	Not existed	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK PARCEL SHELF UNIT

1. Reconnect retractable hard top control unit harness connector and parcel shelf unit harness connector.

- 2. Turn ignition switch ON.
- 3. Check DTC.

Is DTC B170F displayed?

YES >> Replace parcel shelf unit. Refer to <u>RF-276, "REAR PARCEL SHELF UNIT : Removal and Installa-</u> tion".

NO $>> \overline{\text{GO TO 5}}$.

5.CHECK ROOF LATCH ASSEMBLY

- 1. Turn ignition switch OFF.
- 2. Reconnect roof latch assembly harness connector.
- 3. Turn ignition switch ON.
- 4. Check DTC.

B170F SENSOR POWER SUPPLY

< DTC/CIRCUIT DIAGNOSIS >	
Is DTC B170F displayed?	
YES >> Replace roof latch assembly. Refer to <u>RF-255, "ROOF LOCK ASSEMBLY : Removal and Installa-</u> tion".	А
NO $>>$ GO TO 6.	
6.CHECK TRUNK LINK SENSOR (LH)	В
1. Turn ignition switch OFF.	
 Reconnect trunk link sensor (LH) harness connector. Turn ignition switch ON. 	С
4. Check DTC.	
Is DTC B170F displayed?	D
 YES >> Replace trunk link sensor (LH). Refer to <u>RF-15. "Component Parts Location"</u>. NO >> GO TO 7. 	D
7. CHECK TRUNK LINK SENSOR (RH)	_
1. Turn ignition switch OFF.	E
 Reconnect trunk link sensor (RH) harness connector. Turn ignition switch ON. 	
4. Check DTC.	F
Is DTC B170F displayed?	
 YES >> Replace trunk link sensor (RH). Refer to <u>RF-15, "Component Parts Location"</u>. NO >> GO TO 8. 	G
8. CHECK HYDRAULIC UNIT	
1. Turn ignition switch OFF.	Н
2. Reconnect hydraulic unit harness connector.	
 Turn ignition switch ON. Check DTC. 	
Is DTC B170F displayed?	I
YES >> Replace hydraulic unit. Refer to <u>RF-285. "Removal and Installation"</u> .	
NO >> GO TO 9. 9. REPLACE RETRACTABLE HARD TOP CONTROL UNIT	J
Replace retractable hard top control unit. Refer to <u>RF-295. "Removal and Installation"</u> . <u>Is the inspection result normal?</u>	RF
YES >> INSPECTION END	
NO >> GO TO 10.	L
10. CHECK INTERMITTENT INCIDENT	
Refer to <u>GI-42, "Intermittent Incident"</u> .	ъл
>> INSPECTION END	M
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B1710 ROOF LATCH STATUS SENSOR

< DTC/CIRCUIT DIAGNOSIS >

B1710 ROOF LATCH STATUS SENSOR

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible cause
		[PWR-SHORT]		Harness or connectors (The sense are also as a sense of the s
B1710	LATCH STATUS SENSOR	[GND-SHORT/ OPEN]	Roof latch status sensor circuit is open, short to ground or short to power.	 (The sensor circuit is open or shorted.) Retractable hard top Retractable hard top control unit Roof latch status sensor

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check DTC.

Is DTC detected?

- YES >> Go to RF-95, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158318

INFOID:000000008158317

1. CHECK ROOF LATCH STATUS SENSOR POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect roof latch assembly (roof latch status sensor) harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between roof latch assembly (roof latch status sensor) harness connector and ground.

(1	+)			
Roof latch assembly (r	Roof latch assembly (roof latch status sensor)		Voltage (V) (Approx.)	
Connector	Terminal		(++)	
B657	1	Ground	5	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK ROOF LATCH STATUS SENSOR GROUND CIRCUIT FOR OPEN AND SHORT

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector.
- 3. Check the continuity between roof latch assembly (roof latch status sensor) harness connector and retractable hard top control unit harness connector.

Roof latch assembly (roof latch status sensor)		Retractable hard	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
B657	4	B82	16	Existed	

4. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 3.

B1710 ROOF LATCH STATUS SENSOR

< DTC/CIRCUIT DIAGNOSIS >	
NO >> Repair or replace harness.	
3.REPLACE ROOF LATCH ASSEMBLY	А
Replace roof latch assembly. Refer to RF-255, "ROOF LOCK ASSEMBLY : Removal and Installation".	
Is the inspection result normal?	В
YES >> INSPECTION END NO >> GO TO 4.	
4. CHECK RETRACTABLE HARD TOP	С
Check retractable hard top mechanism deformation, looseness, rattle, interference with other parts, and	
pinched foreign materials. Refer to <u>RF-273, "Exploded View"</u> . Is the inspection result normal?	D
YES >> GO TO 5.	
NO >> Repair or replace malfunctioning part.	_
5. REPLACE RETRACTABLE HARD TOP CONTROL UNIT	E
Replace retractable hard top control unit. Refer to RF-295, "Removal and Installation".	
Is the inspection result normal?	F
YES >> INSPECTION END NO >> GO TO 6.	
6. CHECK INTERMITTENT INCIDENT	G
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Refer to <u>GI-42, "Intermittent Incident"</u> .	
>> INSPECTION END	Н
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B1711 ROOF LATCH LOCK SENSOR

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible cause
		[PWR-SHORT]		Harness or connectors (The sense are also as a sense of the s
B1711	LATCH LOCK SENSOR	[GND-SHORT/ OPEN]	Roof latch lock sensor circuit is open, short to ground or short to power.	 (The sensor circuit is open or shorted.) Retractable hard top Retractable hard top control unit Roof latch lock sensor

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top fully open and fully close.
- 3. Check DTC.

Is DTC detected?

- YES >> Go to RF-95, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158320

INFOID:000000008158319

1. CHECK ROOF LATCH LOCK SENSOR POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect roof latch assembly (roof latch lock sensor) harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between roof latch assembly (roof latch lock sensor) harness connector and ground.

(•	+)	(-)		
Roof latch assembly (roof latch lock sensor)		Voltage (V) (Approx.)	
Connector Terminal			(
B657 1		Ground	5	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK ROOF LATCH LOCK SENSOR GROUND CIRCUIT FOR OPEN AND SHORT

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector.
- 3. Check the continuity between roof latch assembly (roof latch lock sensor) harness connector and retractable hard top control unit harness connector.

Roof latch assembly (re	oof latch lock sensor)	Retractable hard	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
B657	2	B82	17	Existed

4. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 3.

B1711 ROOF LATCH LOCK SENSOR

< DTC/CIRCUIT DIAGNOSIS >	
NO >> Repair or replace harness.	
3.REPLACE ROOF LATCH ASSEMBLY	А
Replace roof latch assembly. Refer to RF-255, "ROOF LOCK ASSEMBLY : Removal and Installation".	
Is the inspection result normal?	В
YES >> INSPECTION END NO >> GO TO 4.	
4. CHECK RETRACTABLE HARD TOP	С
Check retractable hard top mechanism deformation, looseness, rattle, interference with other parts, and	
pinched foreign materials. Refer to <u>RF-273. "Exploded View"</u> .	D
Is the inspection result normal?	
YES >> GO TO 5. NO >> Repair or replace malfunctioning part.	
5. REPLACE RETRACTABLE HARD TOP CONTROL UNIT	Е
Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u> ,	
Is the inspection result normal?	F
YES >> INSPECTION END NO >> GO TO 6.	
6.check intermittent incident	G
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Refer to <u>GI-42, "Intermittent Incident"</u> .	
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>> INSPECTION END	
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B1712 TRUNK STATUS SENSOR

DTC Logic

INFOID:000000008158321

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible causes
B1712	TRUNK STA- TUS SENSOR	[PWR-SHORT] [GND-SHORT/ OPEN]	Trunk status sensor circuit is open, short to ground or short to power.	 Harness or connectors (The sensor circuit is open or shorted.) Hydraulic unit Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check DTC.

Is DTC detected?

- YES >> Go to RF-95, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158322

1. CHECK TRUNK STATUS SENSOR POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect hydraulic unit (trunk status sensor) harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between hydraulic unit (trunk status sensor) harness connector and ground.

	(+)	()		
Hydraulic unit (tr	unk status sensor)		Voltage (V) (Approx.)	
Connector	Connector Terminal			
B80	B80 11		5	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK TRUNK STATUS SENSOR GROUND CIRCUIT FOR OPEN AND SHORT

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector.
- 3. Check the continuity between hydraulic unit (trunk status sensor) harness connector and retractable hard top control unit harness connector.

Hydraulic unit (tre	unk status sensor)	Retractable har	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
B80	10	B82	18	Existed

4. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

B1712 TRUNK STATUS SENSOR

< DTC/CIRCUIT DIAGNOSIS >	
3. REPLACE HYDRAULIC UNIT	
Replace hydraulic unit. Refer to <u>RF-285, "Removal and Installation"</u> .	Α
Is the inspection result normal?	
YES >> INSPECTION END	В
NO $>>$ GO TO 4.	
4.REPLACE RETRACTABLE HARD TOP CONTROL UNIT	C
Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u> .	
Is the inspection result normal? YES >> INSPECTION END	
NO $>>$ GO TO 5.	D
5. CHECK INTERMITTENT INCIDENT	
Refer to GI-42, "Intermittent Incident".	E
>> INSPECTION END	
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B1715 ROOF STATUS SENSOR POWER SUPPLY

< DTC/CIRCUIT DIAGNOSIS >

B1715 ROOF STATUS SENSOR POWER SUPPLY

DTC Logic

INFOID:000000008158323

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible causes
B1715	ROOF STAUS SEN PWR	[GND- SHORT]	Roof status sensor power supply circuit is short to ground.	 Harness or connectors (The sensor circuit is short- ed.) Retractable hard top Retractable hard top control unit Roof status sensor

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- Check DTC.

Is DTC detected?

- YES >> Go to <u>RF-108</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158324

1.CHECK ROOF STATUS SENSOR POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect roof status sensor harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between roof status sensor harness connector and ground.

(+)	()		
Roof stat	us sensor		Voltage (V) (Approx.)	
Connector Terminal				
B656	3	Ground	5	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. Check roof status sensor ground circuit for open and short

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector.
- 3. Check the continuity between roof status sensor harness connector and retractable hard top control unit harness connector.

Roof sta	tus sensor	Retractable har	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
B656	1	B82	23	Existed

4. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 3.

B1715 ROOF STATUS SENSOR POWER SUPPLY

< DTC/CIRCUIT DIAGNOSIS >	
NO >> Repair or replace harness.	
3. REPLACE ROOF STATUS SENSOR	А
Replace roof status sensor. Refer to RF-15, "Component Parts Location".	
Is the inspection result normal?	В
YES >> INSPECTION END NO >> GO TO 4.	
4.CHECK RETRACTABLE HARD TOP	С
Check retractable hard top mechanism deformation, looseness, rattle, interference with other parts, and pinched foreign materials. Refer to <u>RF-273. "Exploded View"</u> . <u>Is the inspection result normal?</u>	D
YES >> GO TO 5. NO >> Repair or replace malfunctioning part. 5. REPLACE RETRACTABLE HARD TOP CONTROL UNIT	Е
Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u> . Is the inspection result normal? YES >> INSPECTION END NO >> GO TO 6.	F
6. CHECK INTERMITTENT INCIDENT	G
Refer to GI-42, "Intermittent Incident".	
>> INSPECTION END	Н

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B1716 PARCEL SHELF STATUS SENSOR (DRAW)

< DTC/CIRCUIT DIAGNOSIS >

B1716 PARCEL SHELF STATUS SENSOR (DRAW)

DTC Logic

INFOID:000000008158325

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible causes
		[PWR- SHORT]		• Harness or connectors (The sensor circuit is open
B1718	PS STAUS SEN (DRAW)	[GND- SHORT/ OPEN]	Parcel shelf status sensor (draw) circuit is open, short to ground or short to power.	or shorted.) Parcel shelf unit Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check DTC.

Is DTC detected?

- YES >> Go to <u>RF-110, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158326

1.CHECK PARCEL SHELF STATUS SENSOR (DRAW) POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect parcel shelf unit [parcel shelf status sensor (draw)] harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between parcel shelf unit [parcel shelf status sensor (draw)] harness connector and ground.

(•	+)			
Parcel shelf unit [parcel s	helf status sensor (draw)]	(—)	Voltage (V) (Approx.)	
Connector	Terminal			
B71 6		Ground	5	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.check parcel shelf status sensor (draw) ground circuit for open and short

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector.
- 3. Check the continuity between parcel shelf unit [parcel shelf status sensor (draw)] harness connector and retractable hard top control unit harness connector.

-	Parcel shelf unit [parcel s	helf status sensor (draw)]	Retractable har	Continuity	
_	Connector	Terminal	Connector	Terminal	Continuity
-	B71	5	B82	24	Existed

4. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 3.

B1716 PARCEL SHELF STATUS SENSOR (DRAW)

< DTC/CIRCUIT DIAGNOSIS >	
NO >> Repair or replace harness.	
3. CHECK PARCEL SHELF UNIT	А
Replace parcel shelf unit. Refer to RF-276, "REAR PARCEL SHELF UNIT : Removal and Installation".	
Is the inspection result normal?	В
YES >> INSPECTION END NO >> GO TO 4.	
4.CHECK RETRACTABLE HARD TOP	С
Check retractable hard top mechanism deformation, looseness, rattle, interference with other parts, and pinched foreign materials. Refer to <u>RF-273</u> , "Exploded View".	
Is the inspection result normal?	D
YES >> GO TO 5. NO >> Repair or replace malfunctioning part.	
5. REPLACE RETRACTABLE HARD TOP CONTROL UNIT	Ε
Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u> .	
Is the inspection result normal?	F
YES >> INSPECTION END	
NO $>>$ GO TO 6.	
6.CHECK INTERMITTENT INCIDENT	G
Refer to GI-42, "Intermittent Incident".	
>> INSPECTION END	Н
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B1718 PARCEL SHELF STATUS SENSOR (ROTATE)

< DTC/CIRCUIT DIAGNOSIS >

B1718 PARCEL SHELF STATUS SENSOR (ROTATE)

DTC Logic

INFOID:000000008158327

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible causes
		[PWR- SHORT]		Harness or connectors (The sensor circuit is open and the sensor circuit is open
B1716	PS STATUS SEN(RO- TA)	[GND- SHORT/ OPEN]	Parcel shelf status sensor (rotation) circuit is open, short to ground or short to power.	or shorted.) Parcel shelf motor (rotation) Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check DTC.

Is DTC detected?

- YES >> Go to <u>RF-112</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158328

1. CHECK PARCEL SHELF STATUS SENSOR (ROTATION) POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect parcel shelf unit [parcel shelf status sensor (rotation)] harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between parcel shelf unit [parcel shelf status sensor (rotation)] harness connector and ground.

(Parcel shelf unit [parcel sh	+) elf status sensor (rotation)]	()	Voltage (V) (Approx.)	
Connector	Terminal			
B71 6		Ground	5	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. Check parcel shelf status sensor (rotation) ground circuit for open and short

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector.
- 3. Check the continuity between parcel shelf unit [parcel shelf status sensor (rotation)] harness connector and retractable hard top control unit harness connector.

Parcel shelf unit [parcel shelf status sensor (rota- tion)]		Retractable hard top control unit		Continuity
Connector	Terminal	Connector	Terminal	
B71	7	B82	25	Existed

4. Check harness for short to ground and short to power. Is the inspection result normal?

B1718 PARCEL SHELF STATUS SENSOR (ROTATE)

< DTC/CIRCUIT DIAGNOSIS >	
YES >> GO TO 3. NO >> Repair or replace harness.	А
3. REPLACE PARCEL SHELF UNIT	A
Replace parcel shelf unit. Refer to <u>RF-276, "REAR PARCEL SHELF UNIT : Removal and Installation"</u> .	_
Is the inspection result normal?	В
YES >> INSPECTION END NO >> GO TO 4.	
4. CHECK RETRACTABLE HARD TOP	С
Check retractable hard top mechanism deformation, looseness, rattle, interference with other parts, and pinched foreign materials. Refer to <u>RF-273</u> , "Exploded View".	D
Is the inspection result normal?	
YES >> GO TO 5. NO >> Repair or replace malfunctioning part.	Е
5. REPLACE RETRACTABLE HARD TOP CONTROL UNIT	
Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u> .	F
<u>Is the inspection result normal?</u> YES >> INSPECTION END	
NO $>>$ GO TO 6.	G
6. CHECK INTERMITTENT INCIDENT	
Refer to GI-42, "Intermittent Incident".	Н
>> INSPECTION END	
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< DTC/CIRCUIT DIAGNOSIS >

B1719 ROOF STATUS SENSOR

DTC Logic

INFOID:000000008158329

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible causes
B1719	ROOF STATUS SEN	[GND- SHORT] [PWR- SHORT/ OPEN]	Roof status sensor signal circuit is open, short to ground or short to power.	 Harness or connectors (The sensor circuit is open or shorted.) Retractable hard top control unit Roof status sensor

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check DTC.

Is DTC detected?

- YES >> Go to <u>RF-114</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158330

1. CHECK ROOF STATUS SENSOR GROUND CIRCUIT FOR OPEN AND SHORT

- 1. Turn ignition switch OFF.
- 2. Disconnect roof status sensor harness connector and retractable hard top control unit harness connector.
- 3. Check the continuity between roof status sensor harness connector and retractable hard top control unit harness connector.

Roof status sensor Connector Terminal		Retractable har	Continuity	
		Connector	Terminal	Continuity
B656	1	B82	23	Existed

4. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK ROOF STATUS SENSOR INPUT SIGNAL CIRCUIT FOR OPEN AND SHORT

 Check the continuity between roof status sensor harness connector and retractable hard top control unit harness connector.

 Roof status sensor		Retractable har	Continuity	
 Connector	Terminal	Connector	Terminal	Continuity
 B656	2	B82	26	Existed

2. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.REPLACE ROOF STATUS SENSOR

B1719 ROOF STATUS SENSOR

< DTC/CIRCUIT DIAGNOSIS >	
Replace roof status sensor. Refer to <u>RF-15. "Component Parts Location"</u> .	
Is the inspection result normal?	А
YES >> INSPECTION END NO >> GO TO 4.	
4.CHECK RETRACTABLE HARD TOP	В
Check retractable hard top mechanism deformation, looseness, rattle, interference with other parts, and pinched foreign materials. Refer to <u>RF-273, "Exploded View"</u> .	С
Is the inspection result normal?	
YES >> GO TO 5. NO >> Repair or replace malfunctioning part.	D
5. REPLACE RETRACTABLE HARD TOP CONTROL UNIT	
Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u> .	_
Is the inspection result normal?	Е
YES >> INSPECTION END	
NO $>>$ GO TO 6.	F
6.CHECK INTERMITTENT INCIDENT	
Refer to <u>GI-42, "Intermittent Incident"</u> .	
>> INSPECTION END	G
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B171A HYDRAULIC PUMP (LH)

< DTC/CIRCUIT DIAGNOSIS >

B171A HYDRAULIC PUMP (LH)

DTC Logic

INFOID:000000008158331

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible causes
		[GND- SHORT]		Harness or connectors (The hydraulic pump relay (LH) circuit is open or short-
B171A		[PWR- SHORT]	Hydraulic pump relay (LH) circuit is open, short to ground or short to power.	ed.) • Hydraulic unit
		[OPEN]		Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check DTC.

Is DTC detected?

- YES >> Go to RF-116, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158332

1. CHECK HYDRAULIC PUMP RELAY (LH) POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect hydraulic unit [hydraulic pump relay (LH)] harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between hydraulic unit [hydraulic pump relay (LH)] harness connector and ground.

	+) ulic pump relay (LH)]	(-)	Voltage (V) (Approx)	
Connector	Terminal			
B80 5		Ground	Battery voltage	

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace harness.

2.check hydraulic pump relay (LH) ground circuit for open and short

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector.
- Check the continuity between hydraulic unit [hydraulic pump relay (LH)] harness connector and retractable hard top control unit harness connector.

	Hydraulic unit [hydra	ulic pump relay (LH)]	Retractable har	d top control unit	Continuity
-	Connector	Terminal	Connector	Terminal	Continuity
-	B80	3	B82	38	Existed

4. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 3.

B171A HYDRAULIC PUMP (LH)

< DTC/CIRCUIT DIAGNOSIS >	
NO >> Repair or replace harness.	
3. REPLACE HYDRAULIC UNIT	A
Replace hydraulic unit. Refer to RF-285, "Removal and Installation".	
Is the inspection result normal?	В
YES >> INSPECTION END NO >> GO TO 4.	
4. REPLACE RETRACTABLE HARD TOP CONTROL UNIT	С
Replace retractable hard top control unit. Refer to RF-295, "Removal and Installation".	
Is the inspection result normal?	D
YES >> INSPECTION END	D
NO >> GO TO 5.	
5. CHECK INTERMITTENT INCIDENT	E
Refer to GI-42, "Intermittent Incident".	
>> INSPECTION END	F
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B171B HYDRAULIC PUMP (RH)

< DTC/CIRCUIT DIAGNOSIS >

B171B HYDRAULIC PUMP (RH)

DTC Logic

INFOID:000000008158333

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible causes
B171B	HYDRAULIC PMP	[GND- SHORT] [PWR-	Hydraulic pump relay (RH) circuit is open, short to	Harness or connectors (The hydraulic pump relay (RH) circuit is open or short- ed.)
22	(RH)	SHORT] [OPEN]	ground or short to power.	 Hydraulic unit Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check DTC.

Is DTC detected?

- YES >> Go to RF-118, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158334

1. CHECK HYDRAULIC PUMP RELAY (RH) POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect hydraulic unit [hydraulic pump relay (RH)] harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between hydraulic unit [hydraulic pump relay (RH)] harness connector and ground.

	+) ulic pump relay (RH)]	(-)	Voltage (V) (Approx.)	
Connector	Terminal			
B80 4		Ground	Battery voltage	

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace harness.

2.check hydraulic pump relay (RH) ground circuit for open and short

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector.
- Check the continuity between hydraulic unit [hydraulic pump relay (RH)] harness connector and retractable hard top control unit harness connector.

 Hydraulic unit [hydra	ulic pump relay (RH)]	Retractable har	d top control unit	Continuity
 Connector	Terminal	Connector	Terminal	Continuity
 B80	3	B82	38	Existed

4. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 3.

B171B HYDRAULIC PUMP (RH)

< DTC/CIRCUIT DIAGNOSIS >	
NO >> Repair or replace harness.	
3. REPLACE HYDRAULIC UNIT	А
Replace hydraulic unit. Refer to RF-285, "Removal and Installation".	
Is the inspection result normal?	В
YES >> INSPECTION END NO >> GO TO 4.	
4. REPLACE RETRACTABLE HARD TOP CONTROL UNIT	С
Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u> .	
Is the inspection result normal?	D
YES >> INSPECTION END NO >> GO TO 5.	D
5. CHECK INTERMITTENT INCIDENT	Е
Refer to GI-42, "Intermittent Incident".	
>> INSPECTION END	F
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< DTC/CIRCUIT DIAGNOSIS >

B171C SWITCHING VALVE 1

DTC Logic

INFOID:000000008158335

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible causes	
		[GND- SHORT]	Switching whys 4 singuities appendix to ground an	Harness or connectors (The switching valve 1 cir-	
B171C	SWITCHING VALVE 1	[PWR- SHORT]	Switching valve 1 circuit is open, short to ground or short to power.	R- BRTI short to power.	cuit is open or shorted.)Hydraulic unitRetractable hard top control
		[OPEN]	1	unit	

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check DTC.

Is DTC detected?

- YES >> Go to <u>RF-120, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158336

1. CHECK SWITCHING VALVE 1 POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect hydraulic unit (switching valve 1) harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between hydraulic unit (switching valve 1) harness connector and ground.

(+)			
Hydraulic unit (s	switching valve 1)	()	Voltage (V) (Approx.)	
Connector	Terminal			
B80 1		Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK SWITCHING VALVE 1 GROUND CIRCUIT FOR OPEN AND SHORT

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector.
- 3. Check the continuity between hydraulic unit (switching valve 1) harness connector and retractable hard top control unit harness connector.

Hydraulic unit (switching valve 1)		witching valve 1) Retractable hard top control unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B80	2	B84	68	Existed

4. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

B171C SWITCHING VALVE 1

< DTC/CIRCUIT DIAGNOSIS >	
3. REPLACE HYDRAULIC UNIT	
Replace hydraulic unit. Refer to RF-285, "Removal and Installation".	Α
Is the inspection result normal?	
YES >> INSPECTION END	В
NO >> GO TO 4. 4.REPLACE RETRACTABLE HARD TOP CONTROL UNIT	
	C
Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u> . <u>Is the inspection result normal?</u>	
YES >> INSPECTION END	
NO $>>$ GO TO 5.	D
5. CHECK INTERMITTENT INCIDENT	
Refer to GI-42, "Intermittent Incident".	E
>> INSPECTION END	
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< DTC/CIRCUIT DIAGNOSIS >

B171D SWITCHING VALVE 2

DTC Logic

INFOID:000000008158337

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible causes
		[GND- SHORT]		Harness or connectors (The switching valve 2 cir-
B171D	SWITCHING VALVE 2	[PWR- SHORT]	Switching valve 2 circuit is open, short to ground or short to power.	cuit is open or shorted.) Hydraulic unit Retractable hard top control
		[OPEN]		unit

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check DTC.

Is DTC detected?

- YES >> Go to <u>RF-120, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158338

1. CHECK SWITCHING VALVE 2 POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect hydraulic unit (switching valve 2) harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between hydraulic unit (switching valve 2) harness connector and ground.

	(+)		
Hydraulic unit (switching valve 2)	()	Voltage (V) (Approx.)
Connector	Terminal		()
B80	9	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK SWITCHING VALVE 2 GROUND CIRCUIT FOR OPEN AND SHORT

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector.
- 3. Check the continuity between hydraulic unit (switching valve 2) harness connector and retractable hard top control unit harness connector.

Hydraulic unit (s	witching valve 2)	Retractable har	d top control unit	Continuity
Connector	Terminal	Connector	Terminal	Continuity
B80	9	B84	67	Existed

4. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

B171D SWITCHING VALVE 2

< DTC/CIRCUIT DIAGNOSIS >	
3. REPLACE HYDRAULIC UNIT	A
Replace hydraulic unit. Refer to <u>RF-285. "Removal and Installation"</u> . <u>Is the inspection result normal?</u>	
YES >> INSPECTION END NO >> GO TO 4.	В
4.REPLACE RETRACTABLE HARD TOP CONTROL UNIT	0
Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u> .	— C
Is the inspection result normal? YES >> INSPECTION END NO >> GO TO 5.	D
5. CHECK INTERMITTENT INCIDENT	
Refer to GI-42, "Intermittent Incident".	E
>> INSPECTION END	F
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B171E RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B171E RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

INFOID:000000008158339

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B171E	ROOF CONTROL UNIT	 Retractable hard top control unit detects output to parcel shelf motor (draw)-UP without output request. Retractable hard top control unit requests output to parcel shelf motor (draw)-UP but cannot detect output. 	Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

2. Operate retractable hard top to fully open and fully close.

3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Refer to <u>RF-124</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158340

1.CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch OFF.

- 2. Replace retractable hard top control unit. Refer to RF-295, "Removal and Installation".
- 3. Perform DTC Confirmation Procedure. Refer to <u>RF-124, "DTC Logic"</u>.

B171F RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B171F RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

PERFORM DTC CONFIRMATION PROCEDURE Start engine. Operate retractable hard top to fully open and fully close. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT. <u>OTC detected?</u>	
Start engine. Operate retractable hard top to fully open and fully close. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT. <u>DTC detected?</u>	
Operate retractable hard top to fully open and fully close. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT. DTC detected?	
Operate retractable hard top to fully open and fully close. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT. <u>DTC detected?</u>	
Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT. DTC detected?	
DTC detected?	
ES >> Refer to <u>RF-125, "Diagnosis Procedure"</u> .	
NO >> INSPECTION END	
agnosis Procedure	0000008158342
CHECK SELF DIAGNOSTIC RESULT	
Turn ignition switch OFF.	
Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u> .	
Perform DTC Confirmation Procedure. Refer to <u>RF-125. "DTC Logic"</u> .	
>> INSPECTION END	

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B1720 RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B1720 RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

INFOID:000000008158343

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B1720	ROOF CONTROL UNIT	 Retractable hard top control unit detects output to parcel shelf motor (rotation)-HORI-ZONTAL without output request. Retractable hard top control unit requests output to parcel shelf motor (rotation)-HOR-IZONTAL but cannot detect output. 	Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Refer to <u>RF-126, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158344

1. CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch OFF.

- 2. Replace retractable hard top control unit. Refer to RF-295, "Removal and Installation".
- 3. Perform DTC Confirmation Procedure. Refer to <u>RF-126. "DTC Logic"</u>.

B1721 RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B1721 RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to RF-61, "DTC Inspection Priority Chart", and determine trouble diagnosis order.

 PERFORM DTC CONFIRMATION PROCEDURE Start engine. Operate retractable hard top to fully open and fully close. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT. <u>a DTC detected?</u> YES >> Refer to <u>RF-127, "Diagnosis Procedure"</u>. NO >> INSPECTION END Diagnosis Procedure .CHECK SELF DIAGNOSTIC RESULT Turn ignition switch OFF. Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>. 	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
 Start engine. Operate retractable hard top to fully open and fully close. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT. <u>s DTC detected?</u> YES >> Refer to <u>RF-127, "Diagnosis Procedure"</u>. NO >> INSPECTION END Diagnosis Procedure .CHECK SELF DIAGNOSTIC RESULT Turn ignition switch OFF. Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>. Perform DTC Confirmation Procedure. Refer to <u>RF-127, "DTC Logic"</u>. 	B1721	ROOF CONTROL UNIT	to parcel shelf motor (rotation)-VERTICAL without output request.Retractable hard top control unit requests output to parcel shelf motor (rotation)-VERTICAL	Retractable hard top control unit
 Operate retractable hard top to fully open and fully close. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT. <u>s DTC detected?</u> YES >> Refer to <u>RF-127, "Diagnosis Procedure"</u>. NO >> INSPECTION END Diagnosis Procedure I.CHECK SELF DIAGNOSTIC RESULT Turn ignition switch OFF. Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>. Perform DTC Confirmation Procedure. Refer to <u>RF-127, "DTC Logic"</u>. 	TC CONF	FIRMATION PROCEDU	JRE	
 Operate retractable hard top to fully open and fully close. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT. Is DTC detected? YES >> Refer to <u>RF-127, "Diagnosis Procedure"</u>. NO >> INSPECTION END Diagnosis Procedure Diagnosis Procedure CHECK SELF DIAGNOSTIC RESULT Turn ignition switch OFF. Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>. Perform DTC Confirmation Procedure. Refer to <u>RF-127, "DTC Logic"</u>. 	1 .PERFOR	M DTC CONFIRMATION	N PROCEDURE	
YES >> Refer to <u>RF-127, "Diagnosis Procedure"</u> . NO >> INSPECTION END Diagnosis Procedure 1.CHECK SELF DIAGNOSTIC RESULT 1. Turn ignition switch OFF. 2. Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u> . 3. Perform DTC Confirmation Procedure. Refer to <u>RF-127, "DTC Logic"</u> .	2. Operate 3. Check "	e retractable hard top to f Self-Diagnostic Result" o	ully open and fully close. f "RETRACTABLE HARD TOP" using CO	NSULT.
 CHECK SELF DIAGNOSTIC RESULT Turn ignition switch OFF. Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>. Perform DTC Confirmation Procedure. Refer to <u>RF-127, "DTC Logic"</u>. 	YES >>	Refer to <u>RF-127, "Diagn</u>	osis Procedure".	
 Turn ignition switch OFF. Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>. Perform DTC Confirmation Procedure. Refer to <u>RF-127, "DTC Logic"</u>. 	Diagnosis	s Procedure		INFOID:00000008158346
 Turn ignition switch OFF. Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>. Perform DTC Confirmation Procedure. Refer to <u>RF-127, "DTC Logic"</u>. 	1.снеск	SELF DIAGNOSTIC RES	SULT	
>> INSPECTION END	1. Turn ign 2. Replace	nition switch OFF. e retractable hard top cor	ntrol unit. Refer to <u>RF-295, "Removal and</u>	Installation".

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Revision: 2012 July

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INFOID:000000008158345

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B1722 RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B1722 RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

INFOID:000000008158347

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B1722	ROOF CONTROL UNIT	 Retractable hard top control unit detects output toflipper door motor (LH/RH)-UP without output request. Retractable hard top control unit requests output to parcel shelf motor flipper door motor (LH/RH)-UP but cannot detect output. 	Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Refer to <u>RF-128</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158348

1. CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch OFF.

- 2. Replace retractable hard top control unit. Refer to RF-295, "Removal and Installation".
- 3. Perform DTC Confirmation Procedure. Refer to <u>RF-128. "DTC Logic"</u>.

B1723 RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B1723 RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to RF-61, "DTC Inspection Priority Chart", and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B1723	ROOF CONTROL UNIT	 Retractable hard top control unit detects output toflipper door motor (LH/RH)-DOWN without out- put request. Retractable hard top control unit requests output to parcel shelf motor flipper door motor (LH/RH)- DOWN but cannot detect output. 	Retractable hard top control unit
TC CONF	IRMATION PROCEDU	JRE	
.PERFOR	M DTC CONFIRMATION	N PROCEDURE	
. Check "	retractable hard top to fu	ully open and fully close. f "RETRACTABLE HARD TOP" using CON	SULT.
SDTC deter	cted?		
<u>SDTC deter</u> YES >> NO >>	<u>cted?</u> Refer to <u>RF-129, "Diagno</u> INSPECTION END	osis Procedure".	
YES >> NO >>	Refer to <u>RF-129, "Diagno</u>	osis Procedure".	INFOID:00000008158350
YES >> NO >> Diagnosis	Refer to <u>RF-129, "Diagno</u> INSPECTION END Procedure		
YES >> NO >> Diagnosis .CHECK S . Turn ign . Replace	Refer to <u>RF-129, "Diagno</u> INSPECTION END Procedure SELF DIAGNOSTIC RES ition switch OFF.		INFOID:00000008158350
YES >> NO >> Diagnosis .CHECK S . Turn ign . Replace . Perform	Refer to <u>RF-129, "Diagno</u> INSPECTION END Procedure SELF DIAGNOSTIC RES ition switch OFF.	SULT Itrol unit. Refer to <u>RF-295, "Removal and In</u>	INFOID:00000008158350
YES >> NO >> Diagnosis .CHECK S . Turn ign . Replace . Perform	Refer to <u>RF-129, "Diagnon</u> INSPECTION END Procedure SELF DIAGNOSTIC RES ition switch OFF. retractable hard top con DTC Confirmation Proce	SULT Itrol unit. Refer to <u>RF-295, "Removal and In</u>	INFOID:00000008158350

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B1724 RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B1724 RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

INFOID:000000008158351

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DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B1724	ROOF CONTROL UNIT	Retractable hard top control unit requests out- put to roof latch motor-UNLOCK but cannot de- tect output.	

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Refer to <u>RF-130, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

1. CHECK SELF DIAGNOSTIC RESULT

- 1. Turn ignition switch OFF.
- 2. Replace retractable hard top control unit. Refer to RF-295, "Removal and Installation".
- 3. Perform DTC Confirmation Procedure. Refer to <u>RF-130, "DTC Logic"</u>.

B1725 RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B1725 RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B1725	ROOF CONTROL UNIT	Retractable hard top control unit requests output to roof latch motor-LOCK but cannot detect output.	Retractable hard top control unit
DTC CONF	IRMATION PROCEDURE	1	
1.perfor	M DTC CONFIRMATION P	ROCEDURE	
	retractable hard top to fully	open and fully close. ETRACTABLE HARD TOP" using C	CONSULT.
	<u>cted?</u> Refer to <u>RF-131, "Diagnosis</u> INSPECTION END	<u>Procedure"</u> .	
Diagnosis	Procedure		INFOID:00000008158354
1 .CHECK S	ELF DIAGNOSTIC RESUL	Т	
2. Replace		unit. Refer to <u>RF-295, "Removal an</u>	d Installation".
3. Perform	DIC Confirmation Procedu	re. Refer to <u>RF-131, "DTC Logic"</u> .	
_	INSPECTION END		

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INFOID:000000008158353

B1726 RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B1726 RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

INFOID:000000008158355

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B1726	ROOF CONTROL UNIT	 Retractable hard top control unit detects output to trunk lid opener actuator without output request. Retractable hard top control unit requests output to trunk lid opener actuator but cannot detect out- put. 	Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

- YES >> Refer to <u>RF-132</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158356

- 1.CHECK SELF DIAGNOSTIC RESULT
- 1. Turn ignition switch OFF.
- 2. Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>.
- 3. Perform DTC Confirmation Procedure. Refer to <u>RF-132, "DTC Logic"</u>.

B1728 RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B1728 RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
B1728	ROOF CONTROL UNIT	 Retractable hard top control unit detects output torear power window motor (LH)- UP without output request. Retractable hard top control unit requests output to rear power window motor (LH)- UP but cannot detect output. 	Retractable hard top control unit
DTC CONFIR	RMATION PROCEDU	RE	
1.PERFORM	DTC CONFIRMATION	PROCEDURE	
	etractable hard top to ful elf-Diagnostic Result" of	lly open and fully close. "RETRACTABLE HARD TOP" using C	CONSULT.
YES >> Re	efer to <u>RF-133, "Diagnos</u> SPECTION END	sis Procedure".	
Diagnosis F	Procedure		INFOID:00000008158358
1. CHECK SE	LF DIAGNOSTIC RESU	JLT	
 Turn ignition Replace response 	on switch OFF. etractable hard top conti	rol unit. Refer to <u>RF-295, "Removal an</u> dure. Refer to <u>RF-133, "DTC Logic"</u> .	d Installation".
>> IN	SPECTION END		

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INFOID:000000008158357

B1729 RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B1729 RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

INFOID:000000008158359

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B1729	ROOF CONTROL UNIT	 Retractable hard top control unit detects output torear power window motor (LH)- DOWN without output request. Retractable hard top control unit requests output to rear power window motor (LH)- DOWN but cannot detect output. 	Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

2. Operate retractable hard top to fully open and fully close.

3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Refer to <u>RF-134, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158360

1. CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch OFF.

- 2. Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>.
- 3. Perform DTC Confirmation Procedure. Refer to <u>RF-134, "DTC Logic"</u>.

B172A RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B172A RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B172A	ROOF CONTROL UNIT	 Retractable hard top control unit detects output torear power window motor (RH)-UP without output request. Retractable hard top control unit requests output to rear power window motor (RH)-UP but cannot detect output. 	Retractable hard top control unit
DTC CONF	IRMATION PROCEDU	JRE	
1. PERFOR	M DTC CONFIRMATION	N PROCEDURE	
	retractable hard top to f Self-Diagnostic Result" c	ully open and fully close. of "RETRACTABLE HARD TOP" using C	CONSULT.
YES >>	Refer to <u>RF-135, "Diagn</u> INSPECTION END	osis Procedure".	
Diagnosis	Procedure		INFOID:00000008158362
1.снеск з	SELF DIAGNOSTIC RES	SULT	
2. Replace		ntrol unit. Refer to <u>RF-295, "Removal an</u> edure. Refer to <u>RF-135, "DTC Logic"</u> .	d Installation".
>>	INSPECTION END		

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INFOID:000000008158361

< DTC/CIRCUIT DIAGNOSIS >

B172B ROOF STATUS SIGNAL (AUDIO)

Description

INFOID:000000008158363

Retractable hard top control unit transmits retractable hard top open and close states to audio volume control unit. Audio volume control unit automatically switches equalizer according to retractable hard top open or close state that is received.

DTC Logic

INFOID:000000008158364

INFOID:00000008158365

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	s name	DTC detecting condition	Possible cause
B172B	ROOF STATE SIG (AUDIO)	[PWR- SHORT]	BOSE AMP. (with NAVI) or tel adapter unit (with- out NAVI) circuit is short to power.	 Harness or connectors (The BOSE AMP. circuit is shorted) (The tel adapter unit circuit is short- ed) BOSE AMP. (with NAVI) Tel adapter unit (without NAVI) Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check DTC.
- Is DTC detected?
- YES >> Go to <u>RF-120, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1. CHECK ROOF POSITION SIGNAL CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect retractable hard top control unit harness connector and BOSE AMP. (with NAVI) or tel adapter unit (without NAVI) harness connector.
- 3. Check voltage between retractable hard top control unit harness connector and ground.

(+) Retractable hard top control unit		(-)	Voltage (V) (Approx.)	
Connector	Terminal			
B82	33	Ground	0	

Is the inspection result normal?

YES-1 >> BOSE AMP. (with NAVI): GO TO 2.

YES-2 >> Tel adapter unit (without): GO TO 3.

NO >> Repair or replace harness or connectors.

2. CHECK BOSE AMP.

Check BOSE AMP. Refer to AV-347, "BOSE AMP. : Diagnosis Procedure".

Is the inspection result normal?

NO >> Replace BOSE AMP.

3.CHECK TEL ADAPTER UNIT

B172B ROOF STATUS SIGNAL (AUDIO)

< DTC/CIRCUIT DIAGNOSIS >	
Check tel adapter unit. Refer to AV-196, "TEL ADAPTER UNIT : Diagnosis Procedure".	
Is the inspection result normal?	А
YES >> GO TO 4. NO >> Replace BOSE AMP.	
4. REPLACE RETRACTABLE HARD TOP CONTROL UNIT	В
Replace retractable hard top control unit. Refer to RF-295, "Removal and Installation".	
Is the inspection result normal?	С
YES >> INSPECTION END	
NO >> GO TO 5.	
5. CHECK INTERMITTENT INCIDENT	D
Refer to GI-42, "Intermittent Incident".	
>> INSPECTION END	Е

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< DTC/CIRCUIT DIAGNOSIS >

B172D ROOF WARNING BUZZER

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis na	me	DTC detecting condition	Possible causes
B172D	ROOF WARNING BUZZER	[PWR- SHORT]	Roof warning buzzer circuit is short to power.	 Harness or connectors (The roof warning buzzer circuit is shorted) Retractable hard top control unit Roof warning buzzer

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check DTC.

Is DTC detected?

- YES >> Go to <u>RF-120, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158367

INFOID:000000008158366

1.CHECK ROOF WARNING BUZZER CIRCUIT-I

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit harness connector and fuse block (J/B) harness connector.
- 3. Check voltage between retractable hard top control unit harness connector and ground.

Retractable hard	top control unit	()	Voltage (V) (Approx.)
(+)		
Connector	Terminal		
B82	35	Ground	0

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK ROOF WARNING BUZZER CIRCUIT-II

1. Disconnect roof warning buzzer harness connector.

2. Check voltage between fuse block (J/B) harness connector and ground.

/	pck (J/B) +)	(-)	Voltage (V) (Approx.)	
Connector	Terminal			
M2	6B	Ground	0	

3. Check voltage between retractable hard top control unit harness connector and ground.

B172D ROOF WARNING BUZZER

< DTC/CIRCUIT DIAGNOSIS >

Retractable hard top control unit		()	Voltage (V) (Approx.)
(+)			
Connector	Terminal		
B82	35	Ground	0
s the inspection result norma	<u> ?</u>		
		"Removal and Installation	<u>)"</u> .
	harness or connector.		
3. CHECK FUSE BLOCK (J/I	3)		
Check fuse block (J/B). Refer	to PG-110, "Fuse, Conn	ector and Terminal Arrang	<u>gement"</u> .
s the inspection result norma	<u>l?</u>		
YES >> GO TO 4.			
NO >> Replace fuse bloc			
1. REPLACE RETRACTABLI	E HARD TOP CONTROL	_ UNIT	
Replace retractable hard top	control unit. Refer to RF-	295, "Removal and Install	lation".
s the inspection result norma			
YES >> INSPECTION EN NO >> GO TO 5.	ID		
D. CHECK INTERMITTENT I	NCIDENT		
Refer to <u>GI-42, "Intermittent Ir</u>	<u>ncident"</u> .		
NIODEOTION			
>> INSPECTION EN	ID		

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B172E RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B172E RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

INFOID:000000008158368

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to RF-61, "DTC Inspection Priority Chart", and determine trouble diagnosis order.

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
B172E	ROOF CONTROL UNIT	 Retractable hard top control unit detects output torear power window motor (RH)- DOWN without output request. Retractable hard top control unit requests output to rear power window motor (RH)- DOWN but cannot detect output. 	Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.

2. Operate retractable hard top to fully open and fully close.

3. Check DTC.

Is DTC detected?

YES >> Refer to <u>RF-140</u>, "Diagnosis Procedure".

>> INSPECTION END NO

Diagnosis Procedure

INFOID:000000008158369

1. CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch OFF.

- Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>. Perform DTC Confirmation Procedure. Refer to <u>RF-83, "DTC Logic"</u>. 2.
- 3.

B172F REAR POWER WINDOW (LH)

< DTC/CIRCUIT DIAGNOSIS >

B172F REAR POWER WINDOW (LH)

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No. Trouble diagnosis name			DTC detecting condition	Possible causes		
		[OPEN]	Rear power window motor (LH) circuit is open.	 Harness or connectors (The rear power window mo- tor (LH) circuit is open or shorted.) Rear power window motor (LH) Retractable hard top control unit 		
B172F	REAR PWR WIN- DOW(LH)	[TIME- OUT]	An improper current is sent to the retractable hard top control unit through rear power window motor (LH).			
DTC CO	NFIRMATION PF	ROCEDU	IRE			
1. PERF	ORM DTC CONFI	RMATION	N PROCEDURE-I			
2. Oper			to fully open and fully close.			
3. Chec Is DTC de	k DTC.					
	>> GO TO 2.					
~	>> INSPECTION E					
2. PERF	ORM DTC CONFI	RMATION	N PROCEDURE-II			
			t at least 2 minutes. to fully open and fully close.			
	k DTC.					
Is DTC de						
	>> Go to <u>RF-141, "</u> >> INSPECTION E		s Procedure".			
	sis Procedure			INFOID:00000008158371		
				INFOL:00000000130371		
I.CHEC	K RETRACTABLE	HARD TO	OP CONTROL UNIT OUTPUT SIGNAL			
2. Disco	ignition switch OFF onnect rear power v ignition switch ON.	window m	notor (LH) harness connector.			
			er window motor (LH) harness connector and	ground.		
	(+)			Voltage (V)		

(+)		(–) Condi	ion	Voltage (V)		
Connector	Terminal	(—)	Conditi		(Approx.)	
B72	1	Ground	Power window main	UP	Battery voltage	
				DOWN	0	
	B72		Ground	switch (rear LH)	UP	0
	2	2		DOWN	Battery voltage	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

 $2. {\sf CHECK REAR POWER WINDOW MOTOR (LH) CIRCUIT FOR OPEN AND SHORT}$

Check rear power window motor (LH). Refer to PWC-20, "REAR LH : Component Function Check".

RF-141

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B172F REAR POWER WINDOW (LH)

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace rear power window motor (LH). Refer to <u>PWC-9</u>, "Component Parts Location".

3.REPLACE RETRACTABLE HARD TOP CONTROL UNIT

Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 4.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

B1730 REAR POWER WINDOW (RH)

< DTC/CIRCUIT DIAGNOSIS >

B1730 REAR POWER WINDOW (RH)

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No. Trouble diagnosis name		s name	DTC detecting condition	Possible causes	
		[OPEN]	Rear power window motor (RH) circuit is open.	Harness or connectors	
B1730	REAR PWR WIN- DOW(RH)	(TIME- OUT)	control unit through rear power window motor (RH).	 (The rear power window motor (RH) circuit is open or shorted.) Rear power window motor (RH) Retractable hard top control unit 	
отс со	NFIRMATION PF	ROCEDU	RE		
1. PERF	ORM DTC CONFI	RMATION	N PROCEDURE-I		
	ignition switch ON				
	ate rear power win k DTC.	dow (RH)	to fully open and fully close.		
ls DTC de	-				
YES :	>> GO TO 2.				
~	>> INSPECTION E				
	ORM DTC CONFI				
			t at least 2 minutes. to fully open and fully close.		
	k DTC.				
<u>Is DTC de</u>					
	>> Go to <u>RF-141, "</u> >> INSPECTION E		<u>s Procedure"</u> .		
-	sis Procedure				
				INFOID:00000008158373	
1. CHEC	K RETRACTABLE	HARD TO	OP CONTROL UNIT OUTPUT SIGNAL		
	ignition switch OFI				
	onnect rear power v ignition switch ON		otor (RH) harness connector.		
			er window motor (RH) harness connector and g	round.	

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	(+)		()	Condition		Voltage (V)	
_	Connector	Terminal	()	Condi		(Approx.)	
	1			UP	Battery voltage	0	
	D245	I	Ground	Power window main	DOWN	0	
B245	2	Ground	switch (rear RH)	UP	0	D	
				1	DOWN	Battery voltage	P

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. Check rear power window motor (RH) circuit for open and short

Check rear power window motor (RH). Refer to PWC-22, "REAR RH : Component Function Check".

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INFOID:000000008158372

B1730 REAR POWER WINDOW (RH)

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace rear power window motor (RH). Refer to <u>PWC-9</u>, "Component Parts Location".

3.REPLACE RETRACTABLE HARD TOP CONTROL UNIT

Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 4.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

B1731 HYDRAULIC STATE 1

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

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DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnos	ia nomo	DTC detecting condition	Possible cause
B1731	HYDRAULIC STATE 1	[TIMEOUT]	Retractable hard top control unit does not detect changing from hydraulic state 1 for the specified period of time, during an open and close operation • Open operation: Hydraulic state 2, 3 or 4 is not detected for 2 seconds	 Hydraulic system Trunk lid Trunk room lamp switch Hydraulic unit
	NFIRMATION PROC	EDURE		
1.PERFC	ORM DTC CONFIRM	ATION PROC	EDURE	
2. Opera 3. Check Is DTC de YES >	•	sult" of "RETF gnosis Proce	RACTABLE HARD TOP" using CONSU	JLT.
Diagnos	sis Procedure			INFOID:0000000815837
1. CHEC	K RETRACTABLE HA	RD TOP SYS	STEM COMPONENT PARTS	
parts, and • Hydrauli • Trunk lic <u>Is the insp</u> YES >	I pinched foreign mate ic system: Refer to <u>RF</u> d: Refer to <u>DLK-235, "</u> section result normal? >> GO TO 2.	rials. -285, "Explo TRUNK LID /	ASSEMBLY : Exploded View".	ttle, interference with othe
-	>> Repair or replace m	-) part.	
	K TRUNK ROOM LAN			
<u>Is the insp</u> YES >	nk room lamp switch. <u>pection result normal?</u> >> GO TO 3. >> Repair or replace m		<u>-81, "Component Function Check"</u> .	
•	K TRUNK ROOM LAN			
			NITOR" mode of "RETRACTABLE HAP	RD TOP" using CONSULT.
	Monitor item		Condition	Status

B1731 HYDRAULIC STATE 1

< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 5. >> GO TO 4.

NO

4.CHECK TRUNK ROOM LAMP SWITCH CIRCUIT

- 1. Disconnect trunk room lamp switch connector, BCM connector, trunk closure control unit connector and retractable hard top control unit connector.
- Check continuity between retractable hard top control unit harness connector and trunk room lamp switch 2. harness connector.

Retractable hard top control unit		Trunk room lamp switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B82	5	B306	2	Existed

3. Check continuity between BCM harness connector and ground.

Retractable har	d top control unit		Continuity
Connector	Connector Terminal		Continuity
B82	5	*	Not existed

Is the inspection result normal?

YES >> Check trunk lid auto closure system. Refer to <u>DLK-186, "OPEN/CLOSURE FUNCTION : Diagno-</u> sis Procedure".

NO >> Repair harness or connector.

5.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to RF-228, "Diagnosis Procedure".

- YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".
- >> Replace hydraulic unit. Refer to RF-285, "Removal and Installation". NO

B1732 HYDRAULIC STATE 2

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

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DTC DETECTION LOGIC

NOTE:

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B1732	HYDRAULIC STATE2	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 2 for the specified period of time, during an open and close operation Open operation: Hydraulic state 4 is not detected for 2 seconds Close operation: Hydraulic state 1 is not detected for 2 seconds 	 Hydraulic system Trunk lid Trunk room lamp switch Hydraulic unit
	FIRMATION PROC	EDURE		
1. PERFC	RM DTC CONFIRMA	TION PROC	EDURE	
3. Check <u>Is DTC dei</u> YES >	te retractable hard top "Self-Diagnostic Resu	It" of "RETR	ACTABLE HARD TOP" using CONSU	LT.
-	is Procedure			INFOID:0000000815837
			STEM COMPONENT PARTS	
			as bellow deformation, looseness, rat	tla interference with othe
parts, and	pinched foreign mater	ials.		
	c system: Refer to <u>RF-</u> : Refer to <u>DLK-235, "T</u>		ASSEMBLY : Exploded View".	
ls the insp	ection result normal?			
	> GO TO 2.			
YES >		alfunctioning	part.	
YES > NO >	> Repair or replace ma CTRUNK ROOM LAM	0	part.	
YES > NO > 2.CHECK	> Repair or replace ma CTRUNK ROOM LAMI	P SWITCH		
YES > NO > 2.CHECk Check trur	> Repair or replace ma K TRUNK ROOM LAM Ink room lamp switch. R ection result normal?	P SWITCH	part81, "Component Function Check".	
YES > NO > 2.CHECk Check trur Is the insp YES >	> Repair or replace ma K TRUNK ROOM LAM Ink room lamp switch. R ection result normal? > GO TO 3.	P SWITCH	-81, "Component Function Check".	
YES > NO > 2.CHECK Check trur Is the insp YES > NO >	> Repair or replace ma K TRUNK ROOM LAM Ink room lamp switch. R ection result normal?	P SWITCH	-81, "Component Function Check".	

B1732 HYDRAULIC STATE 2

< DTC/CIRCUIT DIAGNOSIS >

Monitor item	Condition		Status
TR ROOM LAMP SW	Trunk lid	Open	ON
		Closed	OFF

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK TRUNK ROOM LAMP SWITCH CIRCUIT

- 1. Disconnect trunk room lamp switch connector, BCM connector, trunk closure control unit connector and retractable hard top control unit connector.
- 2. Check continuity between retractable hard top control unit harness connector and trunk room lamp switch harness connector.

Retractable hard top control unit		Trunk room lamp switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B82	5	B306	2	Existed

3. Check continuity between BCM harness connector and ground.

Retractable har	d top control unit		Continuity	
Connector	Terminal	Ground	Continuity	
B82	5	Ť	Not existed	

Is the inspection result normal?

YES >> Check trunk lid auto closure system. Refer to <u>DLK-186. "OPEN/CLOSURE FUNCTION : Diagno-</u> sis Procedure".

NO >> Repair harness or connector.

5.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to <u>RF-228, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

B1733 HYDRAULIC STATE 3

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158381

INFOID:000000008158380

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DTC DETECTION LOGIC

NOTE:

DTC No.	Trouble diagnosis n	ame	DTC detecting condition	Possible cause
B1733	HYDRAULIC STATE 3	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 3 for the specified period of time, during an open and close operation Open operation: Hydraulic state 4 is not detected for 2 seconds Close operation: Hydraulic state 1 is not detected for 2 seconds 	 Hydraulic system Trunk lid Trunk room lamp switch Hydraulic unit
DTC COM	NFIRMATION PROCED	URE		
1.PERFC	ORM DTC CONFIRMATIC	N PROCED	DURE	
2. Opera 3. Check Is DTC de YES >	•	of "RETRAC	CTABLE HARD TOP" using CONSULT.	
Diagnos	is Procedure			INFOID:00000008158382
	(RETRACTABLE HARD		EM COMPONENT PARTS	•
Check retiparts, and • Hydrauli • Trunk lid Is the insp YES > NO >	ractable hard top compor pinched foreign materials c system: Refer to <u>RF-28</u> I: Refer to <u>DLK-235, "TRL</u> ection result normal? > GO TO 2. > Repair or replace malfu	ent parts as 5. 5. "Exploded INK LID AS INK LID AS	bellow deformation, looseness, rattle, <u>d View"</u> . SEMBLY : Exploded View".	interference with other
	K TRUNK ROOM LAMP S			
Is the insp	nk room lamp switch. Ref <u>ection result normal?</u> -> GO TO 3.	er to <u>DLK-81</u>	I, "Component Function Check".	
NO >	 > GO TO 3. > Repair or replace malfu < TRUNK ROOM LAMP \$ 	• •		
			OR" mode of "RETRACTABLE HARD	TOP" using CONSULT.

B1733 HYDRAULIC STATE 3

< DTC/CIRCUIT DIAGNOSIS >

Monitor item	Condition		Status
TR ROOM LAMP SW	Trunk lid	Open	ON
		Closed	OFF

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK TRUNK ROOM LAMP SWITCH CIRCUIT

- 1. Disconnect trunk room lamp switch connector, BCM connector, trunk closure control unit connector and retractable hard top control unit connector.
- 2. Check continuity between retractable hard top control unit harness connector and trunk room lamp switch harness connector.

Retractable hard top control unit		Trunk room lamp switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B82	5	B306	2	Existed

3. Check continuity between BCM harness connector and ground.

Retractable har	d top control unit		Continuity	
Connector	Connector Terminal		Continuity	
B82	5	Ť	Not existed	

Is the inspection result normal?

YES >> Check trunk lid auto closure system. Refer to <u>DLK-186. "OPEN/CLOSURE FUNCTION : Diagno-</u> sis Procedure".

NO >> Repair harness or connector.

5.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to <u>RF-228, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

B1734 HYDRAULIC STATE 4

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158384

INFOID:000000008158383

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DTC DETECTION LOGIC

NOTE:

DTC No.	Trouble diagnosi	s name	DTC detecting condition	Possible cause
B1734	HYDRAULIC STATE 4	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 4 for the specified period of time, during an open and close operation Open operation: Hydraulic state 5 is not detected for 0.6 second Close operation: Hydraulic state 1, 2 or 3 is not detected for 2 seconds 	 Hydraulic system Trunk lid Trunk room lamp switch Hydraulic unit
DTC CON	IFIRMATION PROC	EDURE		
1.PERFO	RM DTC CONFIRMA	TION PROCE	EDURE	
1. Start e				
	te retractable hard top : "Self-Diagnostic Res		and fully close. ACTABLE HARD TOP" using CONSUL	T.
Is DTC det	•			
YES >	> Go to <u>RF-151, "Diag</u>	nosis Proced	ure".	
-	> INSPECTION END			
Diagnos	is Procedure			INFOID:000000008158385
1. CHECK	RETRACTABLE HAP	RD TOP SYS	TEM COMPONENT PARTS	
Check retr	actable hard top com	oonent parts a	as bellow deformation, looseness, rattle	e, interference with other
parts, and	pinched foreign mater c system: Refer to <u>RF-</u>	ials.	od Viow"	
 Trunk lid 	: Refer to <u>DLK-235, "T</u>	RUNK LID A	<u>ed view .</u> SSEMBLY : Exploded View".	
•	ection result normal?			
-	> GO TO 2.	olfunctioning	port	
INU >	> Repair or replace ma CTRUNK ROOM LAM	•	μαιι.	
2 הטבהי			94 "Component Evention Oberty"	
	k room lomp owitch F	ofor to DUK		
Check trur	ik room lamp switch. F	Refer to <u>DLK-</u>	81, Component Function Check.	
Check trur Is the insp	ik room lamp switch. F ection result normal? > GO TO 3.	Refer to <u>DLK-</u>	81, Component Function Check.	
Check trun Is the insp YES >: NO >:	ection result normal?	alfunctioning	part.	

B1734 HYDRAULIC STATE 4

< DTC/CIRCUIT DIAGNOSIS >

Monitor item	Con	dition	Status
TR ROOM LAMP SW	Trunk lid	Open	ON
		Closed	OFF

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK TRUNK ROOM LAMP SWITCH CIRCUIT

- 1. Disconnect trunk room lamp switch connector, BCM connector, trunk closure control unit connector and retractable hard top control unit connector.
- 2. Check continuity between retractable hard top control unit harness connector and trunk room lamp switch harness connector.

Retractable har	d top control unit	Trunk room	lamp switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
B82	5	B306	2	Existed

3. Check continuity between BCM harness connector and ground.

Retractable har	d top control unit		Continuity
Connector	Terminal	Ground	Continuity
B82	5	*	Not existed

Is the inspection result normal?

YES >> Check trunk lid auto closure system. Refer to <u>DLK-186. "OPEN/CLOSURE FUNCTION : Diagno-</u> sis Procedure".

NO >> Repair harness or connector.

5.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to <u>RF-228, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

B1735 HYDRAULIC STATE 5

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158387

INFOID:000000008158386

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DTC DETECTION LOGIC

NOTE:

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B1735	HYDRAULIC STATE 5	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 5 for the specified period of time, during an open and close operation Open operation: Hydraulic state 6 is not detected for 7 seconds Close operation: Hydraulic state 4 is not detected for 7 seconds 	 Hydraulic system Trunk lid Trunk room lamp switch Hydraulic unit
DTC CON	FIRMATION PROCE	EDURE		
1.PERFC	ORM DTC CONFIRMAT	ION PROCE	DURE	
	engine.			
 Opera Check 	te retractable hard top	to fully open It" of "RETR	and fully close. ACTABLE HARD TOP" using CONSUL	т
Is DTC de	•			
YES >	> Go to <u>RF-153, "Diag</u>	nosis Proced	ure".	
-	> INSPECTION END			
Diagnos	is Procedure			INFOID:00000008158388
1. CHECK	RETRACTABLE HAR	D TOP SYS	TEM COMPONENT PARTS	
			as bellow deformation, looseness, ratt	le, interference with other
 parts, and Hydrauli 	pinched foreign materi c system: Refer to <u>RF-</u>	als. 285 "Explod	ed View"	
 Trunk lid 	: Refer to <u>DLK-235, "T</u>	RUNK LID A	SSEMBLY : Exploded View"	
•	ection result normal?			
	> GO TO 2. > Repair or replace ma	lfunctioning	part	
•	TRUNK ROOM LAMF	•		
			81, "Component Function Check".	
	ection result normal?			
YES >	> GO TO 3.			
-	> Repair or replace ma	lfunctioning	part.	
NO >				

B1735 HYDRAULIC STATE 5

< DTC/CIRCUIT DIAGNOSIS >

Monitor item	Con	dition	Status
TR ROOM LAMP SW	Trunk lid	Open	ON
		Closed	OFF

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK TRUNK ROOM LAMP SWITCH CIRCUIT

- 1. Disconnect trunk room lamp switch connector, BCM connector, trunk closure control unit connector and retractable hard top control unit connector.
- 2. Check continuity between retractable hard top control unit harness connector and trunk room lamp switch harness connector.

Retractable har	d top control unit	Trunk room	lamp switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
B82	5	B306	2	Existed

3. Check continuity between BCM harness connector and ground.

Retractable har	d top control unit		Continuity
Connector	Terminal	Ground	Continuity
B82	5	Ť	Not existed

Is the inspection result normal?

YES >> Check trunk lid auto closure system. Refer to <u>DLK-186. "OPEN/CLOSURE FUNCTION : Diagno-</u> sis Procedure".

NO >> Repair harness or connector.

5.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to <u>RF-228, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

B1736 HYDRAULIC STATE 6

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

DTC DETECTION LOGIC

INFOID:000000008158390

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NOTE:

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause	
B1736	HYDRAULIC STATE 6	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 6 for the specified period of time, during a close operation Close operation: Hydraulic state 4 is not detected for 3 seconds 	 Hydraulic system Hydraulic unit Roof Roof latch Roof latch motor 	F
OTC CON	IFIRMATION PROCE	DURE			
1.PERFO	RM DTC CONFIRMAT	ION PROCE	DURE		Н
3. Check I <u>s DTC det</u> YES >:	te retractable hard top "Self-Diagnostic Resu	It" of "RETRA	CTABLE HARD TOP" using CONSUL	-	l J
Diagnos	is Procedure			INFOID:00000008158391	
- 1 снеск			TEM COMPONENT PARTS		RF
parts, and Hydraulio Roof: Re	pinched foreign materi c system: Refer to <u>RF-2</u> fer to <u>RF-273, "Explod</u>	als. <u>285, "Explode</u> ed View"	as bellow deformation, looseness, rattle ed View". ASSEMBLY : Exploded View".	e, interference with other	L
ls the insp	ection result normal?				
NO >:	> GO TO 2. > Repair or replace ma (HYDRAULIC PUMP F	01			Ν
l <u>s the insp</u> YES >:	ection result normal? > GO TO 3.		fer to <u>RF-228, "Diagnosis Procedure"</u> .		0
-	> Repair or replace ma	• ·	part.		Р
J.CHECK	ROOF LATCH MOTO				
	(latah maatan Dafanta I	2E-223 "Dia	anosis Procedure".		
	_				
ls the insp	ection result normal?		to GI-42, "Intermittent Incident".		

B1737 HYDRAULIC STATE 7

Description

INFOID:000000008158392

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158393

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B1737	HYDRAULIC STATE 7	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 7 for the specified period of time, during an open and close operation Open operation: Hydraulic state 8 is not detected for 5 seconds Close operation: Hydraulic state 6 is not detected for 5 seconds 	 Hydraulic system Hydraulic unit Roof Roof latch Roof latch motor

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Go to <u>RF-156</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158394

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

- Hydraulic system: Refer to <u>RF-285</u>, "Exploded View".
- Roof: Refer to <u>RF-273</u>, "Exploded View".
- Roof latch: Refer to <u>RF-255</u>, "ROOF LOCK ASSEMBLY : Exploded View".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to RF-228, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.

- NO >> Repair or replace malfunctioning part.
- 3.CHECK ROOF LATCH MOTOR

Check roof latch motor. Refer to RF-223, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Repair or replace malfunctioning part.

RF-156

B1738 HYDRAULIC STATE 8

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158396

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DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnos	is name	DTC detecting condition	Possible cause	
B1738	HYDRAULIC STATE 8	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 8 for the specified period of time, during an open and close operation Open operation: Hydraulic state 9 is not detected for 2 seconds 	 Hydraulic system Hydraulic unit Roof Roof latch Roof latch motor 	F
	VERMATION PROC	CEDURE			
1.PERFC	ORM DTC CONFIRM	ATION PROC	EDURE		ŀ
1. Start e	engine.				
	ate retractable hard to			Ŧ	1
3. Check Is DTC de	U	SUIL OF RET	RACTABLE HARD TOP" using CONSU	_1.	
	So to <u>RF-157, "Dia</u>	anosis Proce	dure".		
	> INSPECTION END				,
Diagnos	sis Procedure			INFOID:00000008158397	
			STEM COMPONENT PARTS		R
				la interference with other	
	pinched foreign mate		as bellow deformation, looseness, ration		l
	ic system: Refer to <u>RF</u>		ded View".		
	efer to <u>RF-273, "Explo</u> ch: Refer to <u>RF-255, "</u>		ASSEMBLY : Exploded View".		Π
	pection result normal?				Ν
	»> GO TO 2.				
•	>> Repair or replace m		j part.		Γ
	K ROOF LATCH MOT				
	of latch motor. Refer to		agnosis Procedure".		(
	pection result normal?				
-	> GO TO 3. > Repair or replace m	nalfunctioning	a part.		
~	K HYDRAULIC PUMF				F
			efer to <u>RF-228, "Diagnosis Procedure"</u> .		
	pection result normal?				
-			er to GI-42, "Intermittent Incident".		
			DE 205 "Domoval and Installation"		

B1739 HYDRAULIC STATE 9

Description

INFOID:000000008158398

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158399

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	s name	DTC detecting condition	Possible cause
B1739	HYDRAULIC STATE 9	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 9 for the specified period of time, during an open and close operation Open operation: Hydraulic state 10 is not detected for 4 seconds Close operation: Hydraulic state 8 is not detected for 3 seconds 	Hydraulic systemRoofHydraulic unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

- YES >> Go to <u>RF-158</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158400

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

- Hydraulic system: Refer to <u>RF-285, "Exploded View"</u>.
- Roof: Refer to <u>RF-273, "Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to RF-228, "Diagnosis Procedure".

- YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.
- NO >> Replace hydraulic unit. Refer to <u>RF-285, "Removal and Installation"</u>.

B173A HYDRAULIC STATE 10

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158402

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DTC DETECTION LOGIC

NOTE:

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B173A	HYDRAULIC STATE 10	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 10 for the specified period of time, during an open and close operation Open operation: Hydraulic state 11 is not detected for 4.5 seconds Close operation: Hydraulic state 9 is not detected for 5 seconds 	 Hydraulic system Roof Hydraulic unit
DTC CON	IFIRMATION PROCE	DURE		
1.PERFO	RM DTC CONFIRMAT	ION PROCE	EDURE	
3. Check Is DTC det YES >:	te retractable hard top t "Self-Diagnostic Resul tected? > Go to <u>RF-159, "Diagn</u>	t" of "RETR	ACTABLE HARD TOP" using CONSU	LT.
NO >:	> INSPECTION END			
NU >:				
	is Procedure			INFOID:000000008158403
Diagnos	is Procedure	D TOP SYS	TEM COMPONENT PARTS	INFOID:00000008158403
Diagnos 1.CHECK Check retr	is Procedure	onent parts	TEM COMPONENT PARTS	
Diagnos 1.CHECK Check retr parts, and • Hydraulio	is Procedure	onent parts a als. 285, "Explod	as bellow deformation, looseness, ratt	
Diagnos 1.CHECK Check retr parts, and • Hydraulic • Roof: Re Is the inspective YES >:	is Procedure RETRACTABLE HARI actable hard top compo pinched foreign materia c system: Refer to <u>RF-2</u> fer to <u>RF-273, "Explode</u> ection result normal? > GO TO 2.	onent parts a als. <u>85, "Explod</u> ad View".	as bellow deformation, looseness, ratt <u>ed View"</u> .	
Diagnosi 1.CHECK Check retr parts, and • Hydraulio • Roof: Re Is the inspo YES >: NO >:	is Procedure CRETRACTABLE HARI actable hard top compo- pinched foreign materia c system: Refer to <u>RF-2</u> fer to <u>RF-273, "Explode</u> ection result normal? > GO TO 2. > Repair or replace mal	onent parts als. 85, "Explod ed View".	as bellow deformation, looseness, ratt <u>ed View"</u> . part.	
Diagnosi 1.CHECK Check retr parts, and • Hydraulio • Roof: Re Is the inspo YES >: NO >: 2.CHECK	is Procedure CRETRACTABLE HARI actable hard top compo- pinched foreign materia c system: Refer to <u>RF-2</u> fer to <u>RF-273, "Explode</u> <u>ection result normal?</u> > GO TO 2. > Repair or replace mal C HYDRAULIC PUMP P	onent parts als. 285, "Explod ed View". functioning POWER SUF	as bellow deformation, looseness, ratt <u>ed View"</u> . part. PPLY RELAY	le, interference with other
Diagnos 1.CHECK Check retr parts, and • Hydraulid • Roof: Re Is the inspective YES >: NO >: 2.CHECK Check hyd	is Procedure CRETRACTABLE HARI actable hard top compo- pinched foreign materia c system: Refer to <u>RF-2</u> fer to <u>RF-273, "Explode</u> <u>ection result normal?</u> > GO TO 2. > Repair or replace mal C HYDRAULIC PUMP P	onent parts als. 285, "Explod ed View". functioning POWER SUF	as bellow deformation, looseness, ratt <u>ed View"</u> . part.	le, interference with other
Diagnosi 1.CHECK Check retr parts, and • Hydraulic • Roof: Re Is the inspective YES >: 2.CHECK Check hyd Is the inspective YES >:	is Procedure CRETRACTABLE HARI actable hard top compo- pinched foreign materia c system: Refer to <u>RF-2</u> fer to <u>RF-273, "Explode</u> ection result normal? > GO TO 2. > Repair or replace male C HYDRAULIC PUMP P raulic pump power supp ection result normal? > Check intermittent inc	onent parts a als. <u>85, "Explod</u> ed View". functioning OWER SUP ply relay. Re	as bellow deformation, looseness, ratt <u>ed View"</u> . part. PPLY RELAY	le, interference with other

B173B HYDRAULIC STATE 11

Description

INFOID:000000008158404

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158405

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B173B	HYDRAULIC STATE 11	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 11 for the specified period of time, during an open and close operation Open operation: Hydraulic state 12 is not detected for 4 seconds Close operation: Hydraulic state 10 is not detected for 7 seconds 	Hydraulic systemRoofHydraulic unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

- YES >> Go to <u>RF-160, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158406

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

- Hydraulic system: Refer to <u>RF-285, "Exploded View"</u>.
- Roof: Refer to <u>RF-273, "Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to RF-228, "Diagnosis Procedure".

- YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.
- NO >> Replace hydraulic unit. Refer to <u>RF-285, "Removal and Installation"</u>.

B173C HYDRAULIC STATE 12

< DTC/CIRCUIT DIAGNOSIS >

B173C HYDRAULIC STATE 12

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158408

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DTC DETECTION LOGIC

NOTE:

DTC No.	Trouble diagnosis i	name	DTC detecting condition	Possible cause
B173C	HYDRAULIC STATE 12	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 12 for the specified period of time, during an open and close operation Open operation: Hydraulic state 13 is not detected for 2 seconds Close operation: Hydraulic state 11 is not detected for 2.5 seconds 	 Hydraulic system Roof Hydraulic unit
DTC CON	FIRMATION PROCE	DURE		
1.PERFC	ORM DTC CONFIRMATI	ION PROCE	DURE	
	engine.			
	te retractable hard top t "Self-Diagnostic Result		ACTABLE HARD TOP" using CONSUL	_T.
Is DTC de				
YES >	> Go to <u>RF-161, "Diagn</u> > INSPECTION END	osis Proced	<u>ure"</u> .	-
NO >	> INSPECTION END	osis Proced	<u>ure"</u> .	INFOID:000000008158409
NO > Diagnos	> INSPECTION END is Procedure			
NO > Diagnos 1.check	> INSPECTION END is Procedure (RETRACTABLE HARI	D TOP SYS	TEM COMPONENT PARTS	INFOID:00000008158409
NO > Diagnos 1.CHECk Check retr parts, and	> INSPECTION END is Procedure (RETRACTABLE HARD ractable hard top comport pinched foreign materia	D TOP SYS	TEM COMPONENT PARTS as bellow deformation, looseness, rattl	INFOID:00000008158409
NO > Diagnos 1.CHECk Check retr parts, and • Hydraulie	> INSPECTION END is Procedure (RETRACTABLE HARI ractable hard top compo	D TOP SYS ⁻ onent parts a als. :85, "Explode	TEM COMPONENT PARTS as bellow deformation, looseness, rattl	INFOID:00000008158409
NO > Diagnos 1.CHECk Check retr parts, and • Hydraulia • Roof: Re Is the insp	> INSPECTION END is Procedure CRETRACTABLE HARD ractable hard top comport pinched foreign materia c system: Refer to <u>RF-2</u> offer to <u>RF-273, "Explode</u> ection result normal?	D TOP SYS ⁻ onent parts a als. :85, "Explode	TEM COMPONENT PARTS as bellow deformation, looseness, rattl	INFOID:00000008158409
NO > Diagnos 1.CHECk Check retr parts, and • Hydraulie • Roof: Re Is the insp YES >	> INSPECTION END is Procedure (RETRACTABLE HARD ractable hard top comport pinched foreign materia c system: Refer to <u>RF-2</u> offer to <u>RF-273, "Explode</u> ection result normal? > GO TO 2.	D TOP SYS onent parts a als. <u>85, "Explode</u> ed View".	TEM COMPONENT PARTS as bellow deformation, looseness, rattl <u>ed View"</u> .	INFOID:00000008158409
NO > Diagnos 1.CHECk Check retr parts, and • Hydraulie • Roof: Re Is the insp YES > NO >	> INSPECTION END is Procedure (RETRACTABLE HARD ractable hard top comport pinched foreign material c system: Refer to <u>RF-2</u> offer to <u>RF-273, "Explode</u> <u>ection result normal?</u> > GO TO 2. > Repair or replace mal	D TOP SYS onent parts a als. <u>85, "Explode</u> ed View".	TEM COMPONENT PARTS as bellow deformation, looseness, rattl ed View". part.	INFOID:00000008158409
NO > Diagnos 1.CHECk Check retr parts, and • Hydraulie • Roof: Re Is the insp YES > NO > 2.CHECk	 INSPECTION END is Procedure CRETRACTABLE HARD Cactable hard top comports pinched foreign material c system: Refer to <u>RF-2</u> effer to <u>RF-273. "Explode</u> ection result normal? > GO TO 2. > Repair or replace main C HYDRAULIC PUMP P 	D TOP SYS onent parts a als. <u>85, "Explode</u> ed View". functioning p OWER SUF	TEM COMPONENT PARTS as bellow deformation, looseness, rattl ed View". part. PPLY RELAY	INFOID:00000008158409
NO > Diagnos 1.CHECK Check retr parts, and • Hydraulie • Roof: Re Is the insp YES > NO > 2.CHECK Check hyd	 INSPECTION END is Procedure CRETRACTABLE HARD Cactable hard top comports pinched foreign material c system: Refer to <u>RF-2</u> effer to <u>RF-273. "Explode</u> ection result normal? > GO TO 2. > Repair or replace main C HYDRAULIC PUMP P 	D TOP SYS onent parts a als. <u>85, "Explode</u> ed View". functioning p OWER SUF	TEM COMPONENT PARTS as bellow deformation, looseness, rattl ed View". part.	INFOID:00000008158409
NO > Diagnos 1.CHECk Check retr parts, and • Hydraulie • Roof: Re Is the insp YES > NO > 2.CHECk Check hyd Is the insp YES >	> INSPECTION END is Procedure (RETRACTABLE HARD actable hard top comport pinched foreign material c system: Refer to <u>RF-2</u> offer to <u>RF-273, "Explode ection result normal?</u> > GO TO 2. > Repair or replace main (HYDRAULIC PUMP Port lraulic pump power suppression ection result normal? > Check intermittent inc	D TOP SYS onent parts a als. <u>85, "Explode</u> ad View". functioning p OWER SUF oly relay. Re	TEM COMPONENT PARTS as bellow deformation, looseness, rattl ed View". part. PPLY RELAY	INFOID:00000008158409

B173D HYDRAULIC STATE 13

Description

INFOID:000000008158410

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158411

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B173D	HYDRAULIC STATE 13	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 13 for the specified period of time, during an open and close operation Open operation: Hydraulic state 14 is not detected for 3 seconds Close operation: Hydraulic state 12 is not detected for 2.5 seconds 	Hydraulic systemRoofHydraulic unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Go to <u>RF-162</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158412

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

- Hydraulic system: Refer to <u>RF-285</u>, "Exploded View".
- Roof: Refer to <u>RF-273</u>, "Exploded View".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace malfunctioning part.

2. CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to <u>RF-228. "Diagnosis Procedure"</u>.

- YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.
- NO >> Replace hydraulic unit. Refer to <u>RF-285, "Removal and Installation"</u>.

B173E HYDRAULIC STATE 14

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158414

INFOID:000000008158413

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DTC DETECTION LOGIC

NOTE:

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B173E	HYDRAULIC STATE 14	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 14 for the specified period of time, during an open and close operation Open operation: Hydraulic state 15 is not detected for 3.5 seconds Close operation: Hydraulic state 13 is not detected for 2.5 seconds 	 Hydraulic system Roof Hydraulic unit
DTC COM	FIRMATION PROC	EDURE		
1.PERFC	ORM DTC CONFIRMA	TION PROC	EDURE	
	engine.	(. (e and falls also a	
	te retractable hard top < "Self-Diagnostic Resu		n and fully close. RACTABLE HARD TOP" using CONSL	ILT.
<u>ls DTC de</u>	tected?		-	
YES >	> Go to <u>RF-163, "Diao</u>	inosis Proce	dure"	
NO >	> INSPECTION END		<u>adre</u> .	
NO >	> INSPECTION END		<u>aure</u> .	INFOID:000000008158415
NO > Diagnos	> INSPECTION END			INFOID:000000008158415
NO > Diagnos 1.check	> INSPECTION END is Procedure < RETRACTABLE HAP	RD TOP SYS	STEM COMPONENT PARTS	
NO > Diagnos 1.CHECk Check retr parts, and	> INSPECTION END is Procedure < RETRACTABLE HAP ractable hard top comp pinched foreign mater	RD TOP SYS	STEM COMPONENT PARTS as bellow deformation, looseness, ra	
NO > Diagnos 1.CHECk Check retr parts, and • Hydrauli	> INSPECTION END is Procedure KRETRACTABLE HAP ractable hard top comp pinched foreign mater c system: Refer to RF-	RD TOP SYS ponent parts ials. -285, "Explo	STEM COMPONENT PARTS as bellow deformation, looseness, ra	
NO > Diagnos 1.CHECH Check retr parts, and • Hydrauli • Roof: Re	> INSPECTION END is Procedure < RETRACTABLE HAP ractable hard top comp pinched foreign mater	RD TOP SYS ponent parts ials. -285, "Explo	STEM COMPONENT PARTS as bellow deformation, looseness, ra	
NO > Diagnos 1.CHECK Check retr parts, and • Hydrauli • Roof: Re Is the insp YES >	> INSPECTION END is Procedure (RETRACTABLE HAP ractable hard top comp pinched foreign mater c system: Refer to <u>RF-273, "Explore ection result normal?</u> > GO TO 2.	RD TOP SYS ponent parts ials. -285, "Explo ded View".	STEM COMPONENT PARTS as bellow deformation, looseness, raided View".	
NO > Diagnos 1.CHECH Check retri parts, and • Hydrauli • Roof: Re Is the insp YES > NO >	 > INSPECTION END is Procedure K RETRACTABLE HAP ractable hard top comp pinched foreign mater c system: Refer to <u>RF-273, "Explore</u> ection result normal? > GO TO 2. > Repair or replace mater 	RD TOP SYS ponent parts ials. <u>-285, "Explo</u> ded View".	STEM COMPONENT PARTS as bellow deformation, looseness, ra ded View".	
NO > Diagnos 1.CHECH Check retri parts, and • Hydrauli • Roof: Re Is the insp YES > NO > 2.CHECH	 > INSPECTION END is Procedure K RETRACTABLE HAP ractable hard top comp pinched foreign mater c system: Refer to <u>RF-273, "Explore</u> ection result normal? > GO TO 2. > Repair or replace mater K HYDRAULIC PUMP 	RD TOP SYS ponent parts ials. <u>-285, "Explo</u> ded View". alfunctioning POWER SL	STEM COMPONENT PARTS as bellow deformation, looseness, ra ded View". g part. JPPLY RELAY	ttle, interference with other
NO > Diagnos 1.CHECK Check retr parts, and • Hydrauli • Roof: Re Is the insp YES > NO > 2.CHECK Check hyd	 > INSPECTION END is Procedure K RETRACTABLE HAP ractable hard top compounded foreign materic system: Refer to <u>RF-273. "Explore</u> ection result normal? > GO TO 2. > Repair or replace matching > K HYDRAULIC PUMP draulic pump power support 	RD TOP SYS ponent parts ials. <u>-285, "Explo</u> ded View". alfunctioning POWER SL	STEM COMPONENT PARTS as bellow deformation, looseness, ra ded View".	ttle, interference with other
NO > Diagnos 1.CHECH Check retri parts, and • Hydrauli • Roof: Re Is the insp YES > NO > 2.CHECH Check hydr Is the insp YES >	 > INSPECTION END > INSPECTION END is Procedure (RETRACTABLE HAP ractable hard top comp pinched foreign mater c system: Refer to RF- effer to RF-273, "Explore ection result normal? > GO TO 2. > Repair or replace mater < HYDRAULIC PUMP draulic pump power suppression result normal? > Check intermittent in 	RD TOP SYS ponent parts ials. <u>-285, "Explo</u> ded View". alfunctioning POWER SU pply relay. R	STEM COMPONENT PARTS as bellow deformation, looseness, ra ded View". g part. JPPLY RELAY	ttle, interference with other

B173F HYDRAULIC STATE 15

Description

INFOID:000000008158416

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158417

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B173F	HYDRAULIC STATE 15	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 15 for the specified period of time, during an open and close operation Open operation: Hydraulic state 16 is not detected for 3.5 seconds Close operation: Hydraulic state 14 is not detected for 2.5 seconds 	 Hydraulic system Hydraulic unit Roof Roof latch Roof latch motor

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

- YES >> Go to <u>RF-164</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158418

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

- Hydraulic system: Refer to <u>RF-285, "Exploded View"</u>.
- Roof: Refer to <u>RF-273, "Exploded View"</u>.
- Roof latch: Refer to <u>RF-255</u>, "ROOF LOCK ASSEMBLY : Exploded View".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to RF-228. "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace malfunctioning part.

3.CHECK ROOF LATCH MOTOR

Check roof latch motor. Refer to RF-223, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Repair or replace malfunctioning part.

RF-164

B1740 HYDRAULIC STATE 16

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

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INFOID:000000008158419

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INFOID:00000000815842

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DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause	
B1740	HYDRAULIC STATE 16	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 16 for the specified period of time, during an open and close operation Open operation: Hydraulic state 17 is not detected for 5 seconds 	 Hydraulic system Hydraulic unit Trunk Trunk room lamp switch Parcel shelf motor Flipper door motor Flipper door limit switch Roof latch Roof latch motor 	F

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

- YES >> Go to <u>RF-165</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

- Hydraulic system: Refer to <u>RF-285, "Exploded View"</u>.
- Trunk lid: Refer to DLK-235, "TRUNK LID ASSEMBLY : Exploded View".
- Parcel shelf: Refer to <u>RF-276, "REAR PARCEL SHELF UNIT : Exploded View"</u>.
- Flipper door: Refer to <u>RF-281, "Exploded View"</u>.
- Roof: Refer to <u>RF-273, "Exploded View"</u>.
- Roof latch assy: Refer to <u>RF-255, "ROOF LOCK ASSEMBLY : Exploded View"</u>.
- Is the inspection result normal?

YES >> GO TO 2.

- NO >> Repair or replace malfunctioning part.
- 2. CHECK TRUNK ROOM LAMP SWITCH

Check trunk room lamp switch. Refer to DLK-81, "Component Function Check".

- YES >> GO TO 3.
- NO >> Repair or replace malfunctioning part.
- 3.CHECK TRUNK ROOM LAMP SWITCH SIGNAL

B1740 HYDRAULIC STATE 16

< DTC/CIRCUIT DIAGNOSIS >

Check "TR ROOM LAMP SW" in "DATA MONITOR" mode of "RETRACTABLE HARD TOP" using CONSULT.

Monitor item	Condition		Status
TR ROOM LAMP SW	Trunk lid	Open	ON
		Closed	OFF

Is the inspection result normal?

YES >> GO TO 5. NO >> GO TO 4.

100 *>>* 00 10 4.

4.CHECK TRUNK ROOM LAMP SWITCH CIRCUIT

- 1. Disconnect trunk room lamp switch connector, BCM connector trunk closure control unit connector and retractable hard top control unit connector.
- 2. Check continuity between retractable hard top control unit harness connector and trunk room lamp switch harness connector.

Retractable har	Retractable hard top control unit		Trunk room lamp switch		
Connector	Terminal	Connector	Terminal	Continuity	
B82	5	B306	2	Existed	

3. Check continuity between BCM harness connector and ground.

Retractable har	d top control unit		Continuity	
Connector	Terminal	Ground	Continuity	
B82	5		Not existed	

Is the inspection result normal?

YES >> Check trunk lid auto closure system. Refer to <u>DLK-186. "OPEN/CLOSURE FUNCTION : Diagno-</u> <u>sis Procedure"</u>.

NO >> Repair harness or connector.

5.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to <u>RF-228, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace hydraulic unit. Refer to <u>RF-285</u>, "Removal and Installation".

6.CHECK PARCEL SHELF MOTOR

Check parcel shelf motor. Refer to <u>RF-224, "Diagnosis Procedure"</u> (DRAW) and <u>RF-226, "Diagnosis Proce-dure"</u> (ROTATION).

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace parcel shelf. Refer to <u>RF-276, "REAR PARCEL SHELF UNIT : Removal and Installation"</u>.

7.CHECK FLIPPER DOOR MOTOR

Check flipper door motor. Refer to <u>RF-221, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace flipper door. Refer to <u>RF-281, "Removal and Installation"</u>.

8.CHECK FLIPPER DOOR LIMIT SWITCH

Check flipper door limit switch. Refer to RF-221, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 9.

NO >> Replace flipper door. Refer to <u>RF-281, "Removal and Installation"</u>.

9.CHECK ROOF LATCH MOTOR

Check roof latch motor. Refer to RF-223, "Diagnosis Procedure".

< DTC/	/CIRCUIT DIAGNOSIS >	
Is the in	nspection result normal?	
YES NO	 >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>. >> Replace roof latch motor. Refer to <u>RF-255, "ROOF LOCK ASSEMBLY : Removal and Installa-tion"</u>. 	A
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B1741 HYDRAULIC STATE 17

Description

INFOID:000000008158422

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158423

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis n	ame	DTC detecting condition	Possible cause
B1741	HYDRAULIC STATE 17	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 17 for the specified period of time, during an open and close operation Open operation: Hydraulic state 18 is not detected for 3 seconds 	 Hydraulic system Hydraulic unit Roof Roof latch Roof latch motor

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.
- Is DTC detected?
- YES >> Go to <u>RF-168</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158424

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

- Hydraulic system: Refer to <u>RF-285, "Exploded View"</u>.
- Roof: Refer to <u>RF-273, "Exploded View"</u>.
- Roof latch: Refer to <u>RF-255, "ROOF LOCK ASSEMBLY : Exploded View"</u>.
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to <u>RF-228, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace malfunctioning part.

3.CHECK ROOF LATCH MOTOR

Check roof latch motor. Refer to RF-223. "Diagnosis Procedure".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Repair or replace malfunctioning part.

B1742 HYDRAULIC STATE 18

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

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INFOID:000000008158425

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DTC DETECTION LOGIC

NOTE:

DTC No.	Trouble diagnosis r	ame	DTC detecting condition	Possible cause
B1742	HYDRAULIC STATE 18	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 18 for the specified period of time, during an open and close operation Open operation: Hydraulic state 19 is not detected for 7 seconds Close operation: Hydraulic state 17 is not detected for 7 seconds 	 Hydraulic system Trunk lid Trunk room lamp switch Hydraulic unit
DTC COM	NFIRMATION PROCE	DURE		
1. PERFC	ORM DTC CONFIRMATIO	ON PROCE	DURE	
2. Opera 3. Checł <u>Is DTC de</u> YES >	•	' of "RETRA	CTABLE HARD TOP" using CONSULT	
Diagnos	is Procedure			INFOID:00000008158427
1. CHECK	KRETRACTABLE HARD	TOP SYST	EM COMPONENT PARTS	
parts, and • Hydrauli • Trunk lid Is the insp YES > NO >	pinched foreign material c system: Refer to RF-28	s. <u>35, "Explode</u> <u>UNK LID AS</u> unctioning p	SEMBLY : Exploded View".	e, interference with other
Check trui	nk room lamp switch. Re	fer to <u>DLK-8</u>	1, "Component Function Check".	
	ection result normal?			
-	 > GO TO 3. > Repair or replace malf 	unctioning p	art.	
3. снеси	K TRUNK ROOM LAMP	SWITCH SI	GNAL	
Check "TF	R ROOM LAMP SW" in "I	DATA MONI	TOR" mode of "RETRACTABLE HARD	TOP" using CONSULT.

B1742 HYDRAULIC STATE 18

< DTC/CIRCUIT DIAGNOSIS >

Monitor item	Condition		Status
TR ROOM LAMP SW	Trunk lid	Open	ON
		Closed	OFF

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK TRUNK ROOM LAMP SWITCH CIRCUIT

- 1. Disconnect trunk room lamp switch connector, BCM connector trunk closure control unit connector and retractable hard top control unit connector.
- 2. Check continuity between retractable hard top control unit harness connector and trunk room lamp switch harness connector.

Retractable har	d top control unit	Trunk room	lamp switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
B82	5	B306	2	Existed

3. Check continuity between BCM harness connector and ground.

Retractable har	d top control unit		Continuity	
Connector	Terminal	Ground	Continuity	
B82	5	Ť	Not existed	

Is the inspection result normal?

YES >> Check trunk lid auto closure system. Refer to <u>DLK-186. "OPEN/CLOSURE FUNCTION : Diagno-</u> sis Procedure".

NO >> Repair harness or connector.

5.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to <u>RF-228, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

B1743 HYDRAULIC STATE 19

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158429

INFOID:000000008158428

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DTC DETECTION LOGIC

NOTE:

	Trouble diagnosis	name	DTC detecting condition	Possible cause
B1743	HYDRAULIC STATE 19	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 19 for the specified period of time, during an open and close operation Open operation: Hydraulic state 20 is not detected for 2 seconds Close operation: Hydraulic state 18 is not detected for 0.6 second 	 Hydraulic system Trunk lid Trunk room lamp switch Hydraulic unit
	NFIRMATION PROC	EDURE		
1. PERFC	ORM DTC CONFIRMA	TION PROC	EDURE	
2. Opera 3. Check <u>Is DTC de</u> YES >	•	ult" of "RETR	ACTABLE HARD TOP" using CONSU	LT.
Diagnos	is Procedure			INFOID:00000008158430
1				-
I.CHECk	K RETRACTABLE HAF	RD TOP SYS	STEM COMPONENT PARTS	
Check retr parts, and • Hydrauli • Trunk lid Is the insp YES > NO >	ractable hard top comp pinched foreign mater c system: Refer to RF-	oonent parts ials. <u>285, "Exploc</u> RUNK LID <i>F</i> alfunctioning	as bellow deformation, looseness, rat ded View". ASSEMBLY : Exploded View".	tle, interference with other
Check retr parts, and • Hydraulie • Trunk lid <u>Is the insp</u> YES > NO > 2. CHECk	ractable hard top comp pinched foreign mater c system: Refer to <u>RF-</u> l: Refer to <u>DLK-235, "T ection result normal?</u> -> GO TO 2. -> Repair or replace ma K TRUNK ROOM LAM	oonent parts ials. 285, "Explor RUNK LID A alfunctioning P SWITCH	as bellow deformation, looseness, rat ded View". ASSEMBLY : Exploded View".	tle, interference with other
Check retr parts, and • Hydraulie • Trunk lid Is the insp YES > NO > 2.CHECk Check trur Is the insp	ractable hard top comp pinched foreign mater c system: Refer to <u>RF-</u> l: Refer to <u>DLK-235, "T</u> ection result normal? > GO TO 2. > Repair or replace ma K TRUNK ROOM LAM hk room lamp switch. F ection result normal?	oonent parts ials. 285, "Explor RUNK LID A alfunctioning P SWITCH	as bellow deformation, looseness, rat <u>ded View"</u> . <u>ASSEMBLY : Exploded View"</u> . part.	tle, interference with other
Check retr parts, and • Hydraulie • Trunk lid Is the insp YES > 2.CHECk Check trur Is the insp YES >	ractable hard top comp pinched foreign mater c system: Refer to <u>RF-</u> l: Refer to <u>DLK-235, "T</u> <u>ection result normal?</u> > GO TO 2. > Repair or replace ma K TRUNK ROOM LAM	oonent parts ials. 285, "Explor RUNK LID A alfunctioning P SWITCH Refer to <u>DLK</u>	as bellow deformation, looseness, rat <u>ded View"</u> . <u>ASSEMBLY : Exploded View"</u> . part. <u>-81, "Component Function Check"</u> .	tle, interference with other
Check retr parts, and • Hydraulie • Trunk lid <u>Is the insp</u> YES > Check trur <u>Is the insp</u> YES > NO >	ractable hard top comp pinched foreign mater c system: Refer to <u>RF-</u> l: Refer to <u>DLK-235, "T</u> ection result normal? > GO TO 2. > Repair or replace ma K TRUNK ROOM LAM hk room lamp switch. F ection result normal? > GO TO 3.	oonent parts ials. <u>285, "Exploo</u> RUNK LID A alfunctioning P SWITCH Refer to <u>DLK</u>	as bellow deformation, looseness, rat <u>ded View"</u> . <u>ASSEMBLY : Exploded View"</u> . part. <u>-81, "Component Function Check"</u> . part.	tle, interference with other

B1743 HYDRAULIC STATE 19

< DTC/CIRCUIT DIAGNOSIS >

Monitor item	Condition		Status
TR ROOM LAMP SW Trunk lid	Trupk lid	Open	ON
		Closed	OFF

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK TRUNK ROOM LAMP SWITCH CIRCUIT

- 1. Disconnect trunk room lamp switch connector, BCM connector, trunk closure control unit connector and retractable hard top control unit connector.
- 2. Check continuity between retractable hard top control unit harness connector and trunk room lamp switch harness connector.

Retractable har	d top control unit	Trunk room	lamp switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
B82	5	B306	2	Existed

3. Check continuity between BCM harness connector and ground.

Retractable har	d top control unit		Continuity	
Connector	Terminal	Ground	Continuity	
B82	5	Ť	Not existed	

Is the inspection result normal?

YES >> Check trunk lid auto closure system. Refer to <u>DLK-186. "OPEN/CLOSURE FUNCTION : Diagno-</u> sis Procedure".

NO >> Repair harness or connector.

5.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to <u>RF-228, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

B1744 HYDRAULIC STATE 20

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158432

INFOID:000000008158431

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DTC DETECTION LOGIC

NOTE:

	DTC No.	Trouble diagnos	sis name	DTC detecting condition	Possible cause
1. PERFORM DTC CONFIRMATION PROCEDURE Start engine. Operate retractable hard top to fully open and fully close. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT. Is DTC detected? YES >> Go to <u>RF-173. "Diagnosis Procedure"</u>. NO >> INSPECTION END Diagnosis Procedure ArcHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials. Hydraulic system: Refer to <u>RF-285. "Exploded View"</u>. Trunk lid: Refer to <u>DLK-235. "TRUNK LID ASSEMBLY : Exploded View"</u>. Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace malfunctioning part. CHECK TRUNK ROOM LAMP SWITCH Check trunk room lamp switch. Refer to <u>DLK-81. "Component Function Check"</u>. Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace malfunctioning part. CHECK TRUNK ROOM LAMP SWITCH SIGNAL 	B1744	HYDRAULIC STATE 20	[TIMEOUT]	 tect changing from hydraulic state 20 for the specified period of time, during an open and close operation Open operation: Hydraulic state 21 is not detected for 2 seconds Close operation: Hydraulic state 19 is not 	Trunk lidTrunk room lamp switch
 Start engine. Operate retractable hard top to fully open and fully close. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT. Is DTC detected? YES >> Go to RF-173. "Diagnosis Procedure". NO >> INSPECTION END Diagnosis Procedure I.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials. Hydraulic system: Refer to RF-285. "Exploded View". Trunk lid: Refer to DLK-235. "TRUNK LID ASSEMBLY : Exploded View". Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace malfunctioning part. CHECK TRUNK ROOM LAMP SWITCH Check trunk room lamp switch. Refer to DLK-81. "Component Function Check". Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace malfunctioning part. CHECK TRUNK ROOM LAMP SWITCH SIGNAL 	DTC COI	NFIRMATION PROC	EDURE		
 2. Operate retractable hard top to fully open and fully close. 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT. Is DTC detected? YES >> Go to RF-173, "Diagnosis Procedure". NO >> INSPECTION END Diagnosis Procedure I.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials. Hydraulic system: Refer to RF-285, "Exploded View". Trunk lid: Refer to DLK-235, "TRUNK LID ASSEMBLY : Exploded View". Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace malfunctioning part. 2.CHECK TRUNK ROOM LAMP SWITCH Check trunk room lamp switch. Refer to DLK-81, "Component Function Check". Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace malfunctioning part. 3.CHECK TRUNK ROOM LAMP SWITCH SIGNAL 	1.PERF	ORM DTC CONFIRMA	TION PROCE	EDURE	
Diagnosis Procedure Increase of the process of the procesets of the process of the process of the process of t	2. Opera 3. Chec I <u>s DTC de</u> YES >	ate retractable hard top k "Self-Diagnostic Res <u>etected?</u> -> Go to <u>RF-173, "Diac</u>	ult" of "RETRA	ACTABLE HARD TOP" using CONSULT	
 1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials. Hydraulic system: Refer to <u>RF-285, "Exploded View"</u>. Trunk lid: Refer to <u>DLK-235, "TRUNK LID ASSEMBLY : Exploded View"</u>. Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace malfunctioning part. 2.CHECK TRUNK ROOM LAMP SWITCH Check trunk room lamp switch. Refer to <u>DLK-81, "Component Function Check"</u>. Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace malfunctioning part. 3.CHECK TRUNK ROOM LAMP SWITCH SIGNAL 	-				
Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials. • Hydraulic system: Refer to <u>RF-285, "Exploded View"</u> . • Trunk lid: Refer to <u>DLK-235, "TRUNK LID ASSEMBLY : Exploded View"</u> . Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace malfunctioning part. 2.CHECK TRUNK ROOM LAMP SWITCH Check trunk room lamp switch. Refer to <u>DLK-81, "Component Function Check"</u> . Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace malfunctioning part. 3.CHECK TRUNK ROOM LAMP SWITCH SIGNAL	Diagnos	sis Procedure			INFOID:00000008158433
parts, and pinched foreign materials. • Hydraulic system: Refer to <u>RF-285, "Exploded View"</u> . • Trunk lid: Refer to <u>DLK-235, "TRUNK LID ASSEMBLY : Exploded View"</u> . <u>Is the inspection result normal?</u> YES >> GO TO 2. NO >> Repair or replace malfunctioning part. 2.CHECK TRUNK ROOM LAMP SWITCH Check trunk room lamp switch. Refer to <u>DLK-81, "Component Function Check"</u> . <u>Is the inspection result normal?</u> YES >> GO TO 3. NO >> Repair or replace malfunctioning part. 3.CHECK TRUNK ROOM LAMP SWITCH SIGNAL	1.CHEC	K RETRACTABLE HA	RD TOP SYS	TEM COMPONENT PARTS	
Check trunk room lamp switch. Refer to <u>DLK-81, "Component_Function_Check"</u> . <u>Is the inspection result normal?</u> YES >> GO TO 3. NO >> Repair or replace malfunctioning part. 3. CHECK TRUNK ROOM LAMP SWITCH SIGNAL	parts, and • Hydraul • Trunk lid Is the insp YES NO	I pinched foreign mate ic system: Refer to <u>RF</u> d: Refer to <u>DLK-235. ""</u> <u>pection result normal?</u> >> GO TO 2. >> Repair or replace m	rials. <u>-285, "Explod</u> IRUNK LID A alfunctioning	<u>ed View"</u> . SSEMBLY : Exploded View"	, interference with other
Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace malfunctioning part. 3.CHECK TRUNK ROOM LAMP SWITCH SIGNAL		K TRUNK ROOM LAN	IP SWITCH		
NO >> Repair or replace malfunctioning part. 3.CHECK TRUNK ROOM LAMP SWITCH SIGNAL	Is the insp	pection result normal?	Refer to <u>DLK-</u>	81, "Component Function Check".	
	VEC .	>> (コレノ しし、う			
	NO >	> Repair or replace m	-	•	

B1744 HYDRAULIC STATE 20

< DTC/CIRCUIT DIAGNOSIS >

Monitor item	Condition		Status
TR ROOM LAMP SW	Trunk lid	Open	ON
		Closed	OFF

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK TRUNK ROOM LAMP SWITCH CIRCUIT

- 1. Disconnect trunk room lamp switch connector, BCM connector, trunk closure control unit connector and retractable hard top control unit connector.
- 2. Check continuity between retractable hard top control unit harness connector and trunk room lamp switch harness connector.

Retractable har	d top control unit	Trunk room	lamp switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
B82	5	B306	2	Existed

3. Check continuity between BCM harness connector and ground.

Retractable har	d top control unit		Continuity	
Connector	Terminal	Ground	Continuity	
B82	5	Ť	Not existed	

Is the inspection result normal?

YES >> Check trunk lid auto closure system. Refer to <u>DLK-186. "OPEN/CLOSURE FUNCTION : Diagno-</u> sis Procedure".

NO >> Repair harness or connector.

5.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to <u>RF-228, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

B1745 HYDRAULIC STATE 21

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

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DTC DETECTION LOGIC

NOTE:

			DTC detecting condition	Dessible serves
DTC No.	Trouble diagnosis na	ame	DTC detecting condition	Possible cause
B1745	HYDRAULIC STATE 21	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 21 for the specified period of time, during an open and close operation Open operation: Hydraulic state 22 is not detected for 2 seconds Close operation: Hydraulic state 20 is not detected for 2 seconds 	 Hydraulic system Trunk lid Trunk room lamp switch Hydraulic unit
DTC CO	NFIRMATION PROCED	URE		
1.PERFC	ORM DTC CONFIRMATIC	N PROCE	DURE	
	engine.			
2. Opera	ate retractable hard top to	fully open a	and fully close.	
	0	of "RETRA	CTABLE HARD TOP" using CONSULT	
Is DTC de		ele Dresedu		
YES > NO >	So to <u>RF-175, "Diagno</u> " NSPECTION END	sis Procedu	<u>re</u>	
Diagnos	sis Procedure			
				INFOID:00000008158436
1.CHECK	K RETRACTABLE HARD	TOP SYST	EM COMPONENT PARTS	
			s bellow deformation, looseness, rattle	e, interference with other
	l pinched foreign materials ic system: Refer to <u>RF-28</u>		d View"	
 Trunk lic 	d: Refer to <u>DLK-235, "TRL</u>	JNK LID AS	<u>SEMBLY : Exploded View"</u> .	
	pection result normal?			
	»> GO TO 2.			
-	> Repair or replace malful	• •	art.	
	K TRUNK ROOM LAMP S			
Check tru	nk room lamp switch. Ref	er to <u>DLK-8</u>	1, "Component Function Check".	
	pection result normal?			
-	>> GO TO 3.	notioning n	ort	
	> Repair or replace malful	ncuoning p	dit.	
•				
3.CHEC	K TRUNK ROOM LAMP S		GNAL TOR" mode of "RETRACTABLE HARD	

B1745 HYDRAULIC STATE 21

< DTC/CIRCUIT DIAGNOSIS >

Monitor item	Condition		Status
TR ROOM LAMP SW	Trunk lid	Open	ON
		Closed	OFF

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK TRUNK ROOM LAMP SWITCH CIRCUIT

- 1. Disconnect trunk room lamp switch connector, BCM connector, trunk closure control unit connector and retractable hard top control unit connector.
- 2. Check continuity between retractable hard top control unit harness connector and trunk room lamp switch harness connector.

Retractable hard top control unit		Trunk room lamp switch		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
B82	5	B306	2	Existed	

3. Check continuity between BCM harness connector and ground.

Retractable har	d top control unit		Continuity
Connector	Terminal	Ground	Continuity
B82	5	Ť	Not existed

Is the inspection result normal?

YES >> Check trunk lid auto closure system. Refer to <u>DLK-186. "OPEN/CLOSURE FUNCTION : Diagno-</u> sis Procedure".

NO >> Repair harness or connector.

5.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to <u>RF-228, "Diagnosis Procedure"</u>. Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

B1746 HYDRAULIC STATE 22

Description

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-31, "HYDRAULIC SYSTEM</u> <u>CONTROL FUNCTION : System Description"</u>.

DTC Logic

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DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosi	s name	DTC detecting condition	Possible cause
B1746	HYDRAULIC STATE 22	[TIMEOUT]	 Retractable hard top control unit does not detect changing from hydraulic state 22 for the specified period of time, during an open and close operation Close operation: Hydraulic state 21 is not detected for 2 seconds 	 Hydraulic system Trunk lid Trunk room lamp switch Hydraulic unit
	FIRMATION PROC	EDURE		
1. PERFC	ORM DTC CONFIRMA	TION PROCE	DURE	
	engine.			
	ite retractable hard top ("Self-Diagnostic Resu		and fully close. ACTABLE HARD TOP" using CONSUL	T.
ls DTC de	v			
	> Go to <u>RF-177, "Diag</u> > INSPECTION END	nosis Proced	ure".	
	is Procedure			
				INFOID:000000081584
1.CHECK	KRETRACTABLE HAP	RD TOP SYS	TEM COMPONENT PARTS	
parts, and • Hydrauli	pinched foreign mater c system: Refer to <u>RF-</u>	ials. 285, "Explode	as bellow deformation, looseness, rattl <u>ed View"</u> . SSEMBLY : Exploded View".	e, interference with othe
	ection result normal?			
-	> GO TO 2. > Repair or replace ma		20rt	
-	TRUNK ROOM LAM	• •	Jan.	
			31, "Component Function Check".	
	ection result normal?		<u> </u>	
	> GO TO 3. > Repair or replace ma	alfunctioning	nart	
~	TRUNK ROOM LAM	• •		
			TOR" mode of "RETRACTABLE HARI	D TOP" using CONSULT
	Monitor item		Condition	Status

Monitor item Condition Status TR ROOM LAMP SW Trunk lid Open ON Closed OFF

B1746 HYDRAULIC STATE 22

< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 5. >> GO TO 4.

NO

4.CHECK TRUNK ROOM LAMP SWITCH CIRCUIT

- 1. Disconnect trunk room lamp switch connector, BCM connector, trunk closure control unit connector and retractable hard top control unit connector.
- Check continuity between retractable hard top control unit harness connector and trunk room lamp switch 2. harness connector.

Retractable hard top control unit		Trunk room lamp switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B82	5	B306	2	Existed

3. Check continuity between BCM harness connector and ground.

Retractable har	d top control unit		Continuity
Connector	Terminal	Ground	Continuity
B82	5		Not existed

Is the inspection result normal?

YES >> Check trunk lid auto closure system. Refer to <u>DLK-186, "OPEN/CLOSURE FUNCTION : Diagno-</u> sis Procedure".

NO >> Repair harness or connector.

5.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check hydraulic pump power supply relay. Refer to RF-228, "Diagnosis Procedure".

- >> Check intermittent incident. Refer to GI-42, "Intermittent Incident". YES
- >> Replace hydraulic unit. Refer to RF-285, "Removal and Installation". NO

B1747 PARCEL SHELF (DRAW)-STATE 1

Description

There are 4 rotation operation states and 6 draw operation states in parcel shelf. Open and close operations of retractable hard tops are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-37</u>, "<u>PARCEL SHELF FUNCTION</u>: <u>System Description</u>".

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis n	ame	DTC detecting condition	Possible cause
B1747	P SHELF (DRAW) STATE 1	[TIMEOUT]	 Retractable hard top control unit does not detect changing from parcel shelf (draw) state 1 for the specified period of time, during an open and close operation DOWN operation: Parcel shelf (draw) state 1 is not detected for 2 seconds 	Parcel shelfParcel shelf motor (draw)
DTC CO	NFIRMATION PROCED	URE		
1.PERFC	ORM INITIALIZE			
Perform in	nitialization without CONS	ULT. Refer to	RF-76, "Description".	
	0.0 70 0			
•	-> GO TO 2. DRM DTC CONFIRMATIC			
		DN PROCED	URE	
1. Start e	enaine			
2. Opera	engine. ate retractable hard top to k "Self-Diagnostic Result"	fully open th of "RETRAC	nen fully close. CTABLE HARD TOP" using CONSUL	.т.
 Opera Check <u>Is DTC de</u> 	ate retractable hard top to k "Self-Diagnostic Result" etected?	of "RETRAC	CTABLE HARD TOP" using CONSUL	.T.
2. Opera 3. Check Is DTC de YES >	ate retractable hard top to k "Self-Diagnostic Result"	of "RETRAC	CTABLE HARD TOP" using CONSUL	.T.
2. Opera 3. Check Is DTC de YES > NO >	ate retractable hard top to k "Self-Diagnostic Result" <u>etected?</u> >> Go to <u>RF-179, "Diagno</u> >> INSPECTION END	of "RETRAC	CTABLE HARD TOP" using CONSUL	Т.
2. Opera 3. Check Is DTC de YES > NO > Diagnos	ate retractable hard top to k "Self-Diagnostic Result" etected? >> Go to <u>RF-179, "Diagno</u> >> INSPECTION END sis Procedure	of "RETRAC <u>sis Procedur</u>	CTABLÉ HARD TOP" using CONSUL <u>e"</u> .	
2. Opera 3. Checl Is DTC de YES > NO > Diagnos 1.CHECH	ate retractable hard top to k "Self-Diagnostic Result" <u>etected?</u> >> Go to <u>RF-179, "Diagno</u> >> INSPECTION END sis Procedure K RETRACTABLE HARD	of "RETRAC <u>sis Procedur</u> TOP SYSTE	CTABLÉ HARD TOP" using CONSUL <u>e"</u> . EM COMPONENT PARTS	INF0ID:00000008158442
2. Opera 3. Check Is DTC de YES > NO > Diagnos 1.CHECH Check ret parts, and	ate retractable hard top to k "Self-Diagnostic Result" etected? >> Go to <u>RF-179, "Diagno</u> >> INSPECTION END sis Procedure K RETRACTABLE HARD ractable hard top compor	of "RETRAC sis Procedur TOP SYSTE tient parts as	CTABLE HARD TOP" using CONSUL e". EM COMPONENT PARTS bellow deformation, looseness, rattl	INF0ID:00000008158442
2. Opera 3. Check Is DTC de YES > NO > Diagnos 1.CHECH Check ret parts, and • Parcel s	ate retractable hard top to k "Self-Diagnostic Result" etected? >> Go to <u>RF-179, "Diagno</u> >> INSPECTION END sis Procedure K RETRACTABLE HARD ractable hard top compor l pinched foreign materials helf: Refer to <u>RF-276, "R</u>	of "RETRAC sis Procedur TOP SYSTE tient parts as	CTABLÉ HARD TOP" using CONSUL <u>e"</u> . EM COMPONENT PARTS	INF0ID:00000008158442
2. Opera 3. Check Is DTC de YES > NO > Diagnos 1.CHECH Check ret parts, and • Parcel s Is the insp	ate retractable hard top to k "Self-Diagnostic Result" etected? >> Go to <u>RF-179, "Diagno</u> >> INSPECTION END Sis Procedure K RETRACTABLE HARD ractable hard top compor pinched foreign materials helf: Refer to <u>RF-276, "RI</u> pection result normal?	of "RETRAC sis Procedur TOP SYSTE tient parts as	CTABLE HARD TOP" using CONSUL e". EM COMPONENT PARTS bellow deformation, looseness, rattl	INF0ID:00000008158442
2. Opera 3. Check Is DTC de YES > NO > Diagnos 1.CHECH Check ret parts, and • Parcel s Is the insp YES >	ate retractable hard top to k "Self-Diagnostic Result" etected? >> Go to <u>RF-179, "Diagno</u> >> INSPECTION END sis Procedure K RETRACTABLE HARD ractable hard top compor l pinched foreign materials helf: Refer to <u>RF-276, "R</u>	of "RETRAC sis Procedur TOP SYSTE nent parts as S. EAR PARCE	CTABLE HARD TOP" using CONSUL e". M COMPONENT PARTS bellow deformation, looseness, rattl L SHELF UNIT : Exploded View".	INF0ID:00000008158442
2. Opera 3. Check Is DTC de YES > NO > Diagnos 1.CHECH Check ret parts, and • Parcel s Is the insp YES > NO >	ate retractable hard top to k "Self-Diagnostic Result" etected? Solution of the self-179, "Diagno NSPECTION END Sis Procedure K RETRACTABLE HARD ractable hard top compor pinched foreign materials helf: Refer to <u>RF-276, "Ri-</u> pection result normal? Solution 2.	of "RETRAC sis Procedur TOP SYSTE tent parts as a EAR PARCE	CTABLE HARD TOP" using CONSUL e". M COMPONENT PARTS bellow deformation, looseness, rattl L SHELF UNIT : Exploded View".	INF0ID:00000008158442
2. Opera 3. Check Is DTC de YES > NO > Diagnos 1.CHECH Check ret parts, and • Parcel s Is the insp YES > NO > 2.CHECH	ate retractable hard top to k "Self-Diagnostic Result" etected? Solution of the self-Diagnostic Result" Solution of the self- sis Procedure K RETRACTABLE HARD ractable hard top compored pinched foreign materials helf: Refer to <u>RF-276, "Rigonal self</u> Solution result normal? Solution result normal? Solution of the self of the sel	of "RETRAC sis Procedur TOP SYSTE tent parts as <u>a</u> EAR PARCE	CTABLE HARD TOP" using CONSUL e". M COMPONENT PARTS bellow deformation, looseness, rattl L SHELF UNIT : Exploded View".	INF0ID:00000008158442
2. Opera 3. Check Is DTC de YES > NO > Diagnos 1.CHECH Check ret parts, and • Parcel s Is the insp YES > NO > 2.CHECH Check part Is the insp	ate retractable hard top to k "Self-Diagnostic Result" etected? Solution of the self-179, "Diagnoon NSPECTION END Sis Procedure K RETRACTABLE HARD ractable hard top compored pinched foreign materials helf: Refer to <u>RF-276, "Ri- pection result normal?</u> Solution result normal? Solution result normal?	of "RETRAC sis Procedur TOP SYSTE nent parts as <u>S</u> EAR PARCE Inctioning pa DR efer to <u>RF-22</u>	CTABLÉ HARD TOP" using CONSUL e". M COMPONENT PARTS bellow deformation, looseness, rattl L SHELF UNIT : Exploded View".	INF0ID:00000008158442

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INFOID:000000008158440

INFOID:000000008158441

B1748 PARCEL SHELF (DRAW)-STATE 2

Description

INFOID:000000008158443

INEOID:000000008158444

There are 4 rotation operation states and 6 draw operation states in parcel shelf. Open and close operations of retractable hard tops are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-37</u>, "<u>PARCEL SHELF FUNCTION</u>: <u>System Description</u>".

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible cause
B1748	P SHELF (DRAW) STATE 2	[TIMEOUT]	 Retractable hard top control unit does not detect changing from parcel shelf (draw) state 2 for the specified period of time, during an open and close operation Down operation: Parcel shelf (draw) state 3 is not detected for 4 seconds Up operation: Parcel shelf (draw) state 1 is not detected for 4 seconds 	Parcel shelfParcel shelf motor (draw)

DTC CONFIRMATION PROCEDURE

1.PERFORM INITIALIZE

Perform initialization without CONSULT. Refer to <u>RF-76, "Description"</u>.

>> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open then fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

- YES >> Go to <u>RF-180, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158445

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

• Parcel shelf: Refer to <u>RF-276, "REAR PARCEL SHELF UNIT : Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2. CHECK PARCEL SHELF MOTOR

Check parcel shelf motor (draw). Refer to RF-224, "Diagnosis Procedure".

- YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.
- NO >> Repair or replace malfunctioning part.

B1749 PARCEL SHELF (DRAW)-STATE 3

Description

There are 4 rotation operation states and 6 draw operation states in parcel shelf. Open and close operations of retractable hard tops are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-37</u>, "<u>PARCEL SHELF FUNCTION</u>: <u>System Description</u>".

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis na	ame	DTC detecting condition	Possible cause
B1749	P SHELF (DRAW) STATE 3	[TIMEOUT]	 Retractable hard top control unit does not detect changing from parcel shelf (draw) state 3 for the specified period of time, during an open and close operation Down operation: Parcel shelf (draw) state 4 is not detected for 4 seconds Up operation: Parcel shelf (draw) state 2 is not detected for 4 seconds 	 Parcel shelf Parcel shelf motor (draw)
DTC COI	NFIRMATION PROCED	DURE		
1.PERFC	ORM INITIALIZE			
Perform in	nitialization without CONS	ULT. Refer	to RF-76, "Description".	
-	>> GO TO 2.			
			DURE	
	engine.			
2. Opera	ate retractable hard top to	fully open t	then fully close.	
3. Chec	k "Self-Diagnostic Result"	fully open t of "RETRA	then fully close. CTABLE HARD TOP" using CONSUL	Т.
3. Check Is DTC de	k "Self-Diagnostic Result" etected?	of "RETRA	CTABLE HARD TOP" using CONSUL	Т.
3. Check Is DTC de YES >	k "Self-Diagnostic Result"	of "RETRA	CTABLE HARD TOP" using CONSUL	Τ.
3. Check Is DTC de YES > NO >	k "Self-Diagnostic Result" e <u>tected?</u> >> Go to <u>RF-181, "Diagno</u>	of "RETRA	CTABLE HARD TOP" using CONSUL	T.
3. Check Is DTC de YES > NO > Diagnos	k "Self-Diagnostic Result" etected? >> Go to <u>RF-181, "Diagno</u> >> INSPECTION END sis Procedure	of "RETRA <u>sis Procedu</u>	CTABLE HARD TOP" using CONSUL	
3. Check Is DTC de YES > NO > Diagnos 1.CHECK	k "Self-Diagnostic Result" etected? >> Go to <u>RF-181, "Diagno</u> >> INSPECTION END sis Procedure K RETRACTABLE HARD	of "RETRA <u>sis Procedu</u> TOP SYST	CTABLE HARD TOP" using CONSUL Jre". "EM COMPONENT PARTS	INFOID:00000000815844
3. Check Is DTC de YES > NO > Diagnos 1.CHECK Check ret parts, and	k "Self-Diagnostic Result" <u>etected?</u> >> Go to <u>RF-181, "Diagno</u> >> INSPECTION END Sis Procedure K RETRACTABLE HARD tractable hard top compor I pinched foreign materials	of "RETRA sis Procedu TOP SYST nent parts a s.	CTABLE HARD TOP" using CONSUL ure". EM COMPONENT PARTS is bellow deformation, looseness, rattle	INFOID:00000000815844
3. Check Is DTC de YES > NO > Diagnos 1.CHECl Check ret parts, and • Parcel s	k "Self-Diagnostic Result" <u>etected?</u> >> Go to <u>RF-181, "Diagno</u> >> INSPECTION END Sis Procedure K RETRACTABLE HARD tractable hard top compor I pinched foreign materials shelf: Refer to <u>RF-276, "R</u>	of "RETRA sis Procedu TOP SYST nent parts a s.	CTABLE HARD TOP" using CONSUL Jre". "EM COMPONENT PARTS	INFOID:00000000815844
3. Check Is DTC de YES > NO > Diagnos 1.CHECH Check ret parts, and • Parcel s Is the insp	k "Self-Diagnostic Result" <u>etected?</u> >> Go to <u>RF-181, "Diagno</u> >> INSPECTION END Sis Procedure K RETRACTABLE HARD tractable hard top compor I pinched foreign materials	of "RETRA sis Procedu TOP SYST nent parts a s.	CTABLE HARD TOP" using CONSUL ure". EM COMPONENT PARTS is bellow deformation, looseness, rattle	INFOID:00000000815844
3. Check Is DTC de YES > NO > Diagnos 1.CHECl Check ret parts, and • Parcel s Is the insp YES > NO >	k "Self-Diagnostic Result" <u>etected?</u> >> Go to <u>RF-181, "Diagno</u> >> INSPECTION END Sis Procedure K RETRACTABLE HARD rractable hard top compor I pinched foreign materials shelf: Refer to <u>RF-276, "R</u> <u>pection result normal?</u> >> GO TO 2. >> Repair or replace malfu	of "RETRA sis Procedu TOP SYST nent parts a s. EAR PARCI	CTABLE HARD TOP" using CONSUL Ire". EM COMPONENT PARTS Is bellow deformation, looseness, rattle EL SHELF UNIT : Exploded View".	INFOID:00000000815844
3. Check Is DTC de YES > NO > Diagnos 1.CHECK Check ret parts, and • Parcel s Is the insp YES > NO > 2.CHECK	k "Self-Diagnostic Result" <u>etected?</u> >> Go to <u>RF-181, "Diagno</u> >> INSPECTION END Sis Procedure K RETRACTABLE HARD ractable hard top compor I pinched foreign materials shelf: Refer to <u>RF-276, "R</u> <u>pection result normal?</u> >> GO TO 2. >> Repair or replace malfu K PARCEL SHELF MOTO	of "RETRA sis Procedu TOP SYST nent parts a s. EAR PARCI unctioning p DR	CTABLE HARD TOP" using CONSUL <u>ure"</u> . <u>EM COMPONENT PARTS</u> is bellow deformation, looseness, rattle <u>EL SHELF UNIT : Exploded View"</u> . part.	INFOID:00000000815844
3. Check Is DTC de YES > NO > Diagnos 1.CHECK Check ret parts, and • Parcel s Is the insp YES > NO > 2.CHECK	k "Self-Diagnostic Result" <u>etected?</u> >> Go to <u>RF-181, "Diagno</u> >> INSPECTION END Sis Procedure K RETRACTABLE HARD ractable hard top comport pinched foreign materials shelf: Refer to <u>RF-276, "R</u> <u>pection result normal?</u> >> GO TO 2. >> Repair or replace malfunction K PARCEL SHELF MOTO rcel shelf motor (draw). R	of "RETRA sis Procedu TOP SYST nent parts a s. EAR PARCI unctioning p DR	CTABLE HARD TOP" using CONSUL Ire". EM COMPONENT PARTS Is bellow deformation, looseness, rattle EL SHELF UNIT : Exploded View".	INFOID:00000000815844
3. Check Is DTC de YES NO Diagnos 1.CHECH Check ret parts, and • Parcel s Is the insp YES NO 2.CHECH Check part Is the insp	k "Self-Diagnostic Result" <u>etected?</u> >> Go to <u>RF-181, "Diagno</u> >> INSPECTION END Sis Procedure K RETRACTABLE HARD ractable hard top compor I pinched foreign materials shelf: Refer to <u>RF-276, "R</u> <u>pection result normal?</u> >> GO TO 2. >> Repair or replace malfu K PARCEL SHELF MOTO rcel shelf motor (draw). R <u>pection result normal?</u>	of "RETRA sis Procedu TOP SYST nent parts a s. EAR PARCI unctioning p DR efer to <u>RF-2</u>	CTABLE HARD TOP" using CONSUL <u>ure"</u> . <u>EM COMPONENT PARTS</u> is bellow deformation, looseness, rattle <u>EL SHELF UNIT : Exploded View"</u> . part.	INFOID:00000000815844

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INFOID:000000008158446

B174A PARCEL SHELF (DRAW)-STATE 4

Description

INFOID:000000008158449

INEOID:000000008158450

There are 4 rotation operation states and 6 draw operation states in parcel shelf. Open and close operations of retractable hard tops are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-37</u>, "<u>PARCEL SHELF FUNCTION</u>: <u>System Description</u>".

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis na	ame	DTC detecting condition	Possible cause
B174A	P SHELF (DRAW) STATE 4	[TIMEOUT]	 Retractable hard top control unit does not detect changing from parcel shelf (draw) state 4 for the specified period of time, during an open and close opera- tion Down operation: Parcel shelf (draw) state 5 is not detected for 4 seconds Up operation: Parcel shelf (draw) state 3 is not detected for 4 seconds 	Parcel shelfParcel shelf motor (draw)

DTC CONFIRMATION PROCEDURE

1.PERFORM INITIALIZE

Perform initialization without CONSULT. Refer to <u>RF-76, "Description"</u>.

>> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open then fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Go to <u>RF-182</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158451

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

Parcel shelf: Refer to <u>RF-276, "REAR PARCEL SHELF UNIT : Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2. CHECK PARCEL SHELF MOTOR

Check parcel shelf motor (draw). Refer to RF-224, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Repair or replace malfunctioning part.

B174B PARCEL SHELF (DRAW)-STATE 5

Description

There are 4 rotation operation states and 6 draw operation states in parcel shelf. Open and close operations of retractable hard tops are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-37</u>, "<u>PARCEL SHELF FUNCTION</u>: <u>System Description</u>".

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis n	ame	DTC detecting condition	Possible cause
B174B	P SHELF (DRAW) STATE 5	[TIMEOUT]	 Retractable hard top control unit does not detect changing from parcel shelf (draw) state 5 for the specified period of time, during an open and close operation Down operation: Parcel shelf (draw) state 5 is not detected for 4 seconds Up operation: Parcel shelf (draw) state 4 is not detected for 6.5 seconds 	 Parcel shelf Parcel shelf motor (draw)
		URE		
	ORM INITIALIZE			
Perform ir	nitialization without CONS	ULT. Refer t	o <u>RF-76, "Description"</u> .	
	>> GO TO 2.			
•	ORM DTC CONFIRMATIC		NIRE	
	engine.	MIROOL		
2. Opera	ate retractable hard top to			
	U	of "RETRA	CTABLE HARD TOP" using CONSU	LT.
<u>Is DTC de</u> YES >	Sected ? So to <u>RF-188</u> , "Diagno."	sis Procedu	re"	
	> INSPECTION END	01011100000	<u></u> .	
Diagnos	sis Procedure			INFOID:00000008158454
1 OUE O				
			EM COMPONENT PARTS	
	ractable hard top compor		s bellow deformation, looseness, rat	tie, interference with other
			EL SHELF UNIT : Exploded View".	
	pection result normal?			
	>> GO TO 2. >> Repair or replace malfu	Inctioning n	art	
•	K PARCEL SHELF MOTO	0.	an.	
			24, "Diagnosis Procedure".	
•	pection result normal?	5161 to <u>111-2</u>	24, Diagnosis i locedure.	
•		lent. Refer t	o GI-42, "Intermittent Incident".	
NO >	> Repair or replace malful	Inctioning pa	art.	

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INFOID:000000008158452

B174C PARCEL SHELF (DRAW)-STATE 6

Description

INFOID:000000008158455

INEOID:000000008158456

There are 4 rotation operation states and 6 draw operation states in parcel shelf. Open and close operations of retractable hard tops are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-37</u>, "<u>PARCEL SHELF FUNCTION</u>: <u>System Description</u>".

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis n	ame	DTC detecting condition	Possible cause
B174C	P SHELF (DRAW) STATE 6	[TIMEOUT]	 Retractable hard top control unit does not detect changing from parcel shelf (draw) state 6 for the specified period of time, during an open and close operation Up operation: Parcel shelf (draw) state 5 is not detected for 1 seconds 	Parcel shelfParcel shelf motor (draw)

DTC CONFIRMATION PROCEDURE

1.PERFORM INITIALIZE

Perform initialization without CONSULT. Refer to <u>RF-76. "Description"</u>.

>> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

2. Operate retractable hard top to fully open then fully close.

3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Go to <u>RF-184, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158457

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

Parcel shelf: Refer to <u>RF-276, "REAR PARCEL SHELF UNIT : Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2. CHECK PARCEL SHELF MOTOR

Check parcel shelf motor (draw). Refer to RF-224, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Repair or replace malfunctioning part.

B174D PARCEL SHELF (ROTATE)-STATE 1

< DTC/CIRCUIT DIAGNOSIS >

B174D PARCEL SHELF (ROTATE)-STATE 1

Description

There are 4 rotation operation states and 6 draw operation states in parcel shelf. Open and close operations of retractable hard tops are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-37</u>, "<u>PARCEL SHELF FUNCTION</u>: <u>System Description</u>".

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B174D	P SHELF (ROT) STATE 1	[TIMEOUT]	 Retractable hard top control unit does not detect changing from parcel shelf (rotation) state 1 for the specified period of time, during an open and close operation Vertical operation: Parcel shelf (rotation) state 2 is not detected for 0.5 second 	Parcel shelfParcel shelf motor (rotation)
DTC CO	NFIRMATION PROCE	EDURE		
1.PERFC	ORM INITIALIZE			
Perform ir	nitialization without CON	SULT. Refe	r to <u>RF-76, "Description"</u> .	
•	-> GO TO 2. DRM DTC CONFIRMAT			
	engine.		EDORE	
2. Opera	ate retractable hard top	to fully open	then fully close.	_
3. Chec	k "Self-Diagnostic Resu	It" of "RETR	ACTABLE HARD TOP" using CONSUL	Т
	•			_1.
<u>Is DTC de</u>	etected?		-	_1.
Is DTC de YES >	•		-	_1.
Is DTC de YES > NO >	etected? -> Go to <u>RF-185, "Diag</u> i		-	- I . INFOID:00000008158460
Is DTC de YES > NO > Diagnos	etected? -> Go to <u>RF-185, "Diagr</u> -> INSPECTION END sis Procedure	nosis Proced	dure".	
Is DTC de YES > NO > Diagnos	etected? -> Go to <u>RF-185, "Diagr</u> -> INSPECTION END sis Procedure K RETRACTABLE HAR	nosis Procec D TOP SYS	-	INF0ID:00000008158460
Is DTC de YES > NO > Diagnos 1.CHECI Check ret parts, and	etected? >> Go to <u>RF-185, "Diagr</u> >> INSPECTION END sis Procedure K RETRACTABLE HAR ractable hard top comp pinched foreign materi	D TOP SYS onent parts als.	dure". TEM COMPONENT PARTS as bellow deformation, looseness, ratt	INF0ID:00000008158460
Is DTC de YES > NO > Diagnos 1.CHECI Check ret parts, and • Parcel s	etected? >> Go to <u>RF-185, "Diagr</u> >> INSPECTION END sis Procedure K RETRACTABLE HAR ractable hard top comp pinched foreign materi	D TOP SYS onent parts als.	dure".	INF0ID:00000008158460
Is DTC de YES > NO > Diagnos 1.CHECI Check ret parts, and • Parcel s Is the insp YES >	etected? >> Go to <u>RF-185, "Diagnetected?</u> >> INSPECTION END Sis Procedure K RETRACTABLE HAR ractable hard top comp pinched foreign materi helf: Refer to <u>RF-276, "</u> pection result normal? >> GO TO 2.	D TOP SYS onent parts als. REAR PAR(dure". TEM COMPONENT PARTS as bellow deformation, looseness, ratt CEL SHELF UNIT : Exploded View".	INF0ID:00000008158460
Is DTC de YES > NO > Diagnos 1.CHECI Check ret parts, and • Parcel s Is the insp YES > NO >	etected? >> Go to <u>RF-185, "Diagnetected?</u> >> INSPECTION END Sis Procedure K RETRACTABLE HAR ractable hard top comp pinched foreign materi helf: Refer to <u>RF-276, "</u> <u>pection result normal?</u> >> GO TO 2. >> Repair or replace ma	D TOP SYS onent parts als. REAR PAR(dure". TEM COMPONENT PARTS as bellow deformation, looseness, ratt CEL SHELF UNIT : Exploded View".	INF0ID:00000008158460
Is DTC de YES > NO > Diagnos 1.CHECI Check ret parts, and • Parcel s Is the insp YES > NO > 2.CHECI	etected? >> Go to <u>RF-185, "Diagnetected?</u> >> INSPECTION END Sis Procedure K RETRACTABLE HAR ractable hard top comp pinched foreign materi helf: Refer to <u>RF-276, "</u> <u>> CO TO 2.</u> >> Repair or replace mark K PARCEL SHELF MO	D TOP SYS onent parts als. REAR PAR(Ilfunctioning	Dure". TEM COMPONENT PARTS as bellow deformation, looseness, ratt CEL SHELF UNIT : Exploded View". part.	INF0ID:00000008158460
Is DTC de YES > NO > Diagnos 1.CHECH Check ret parts, and • Parcel s Is the insp YES > NO > 2.CHECH Check par	etected? >> Go to <u>RF-185, "Diagnetected?</u> >> INSPECTION END Sis Procedure K RETRACTABLE HAR ractable hard top comp pinched foreign materi helf: Refer to <u>RF-276, "</u> >> GO TO 2. >> GO TO 2. >> Repair or replace material K PARCEL SHELF MO rcel shelf motor (rotation	D TOP SYS onent parts als. REAR PAR(Ilfunctioning	dure". TEM COMPONENT PARTS as bellow deformation, looseness, ratt CEL SHELF UNIT : Exploded View".	INF0ID:00000008158460
Is DTC de YES > NO > Diagnos 1.CHECI Check ret parts, and • Parcel s Is the insp YES > NO > 2.CHECI Check part Is the insp	etected? >> Go to <u>RF-185, "Diagnetected?</u> >> INSPECTION END Sis Procedure K RETRACTABLE HAR ractable hard top comp pinched foreign materi helf: Refer to <u>RF-276, "</u> >> GO TO 2. >> Repair or replace mat K PARCEL SHELF MO rcel shelf motor (rotation pection result normal?	D TOP SYS onent parts als. REAR PARC Ilfunctioning TOR n). Refer to <u>F</u>	Dure". TEM COMPONENT PARTS as bellow deformation, looseness, ratt CEL SHELF UNIT : Exploded View". part.	INF0ID:00000008158460

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INFOID:000000008158458

B174E PARCEL SHELF (ROTATE)-STATE 2

< DTC/CIRCUIT DIAGNOSIS >

B174E PARCEL SHELF (ROTATE)-STATE 2

Description

INFOID:000000008158461

INEOID-000000008158462

There are 4 rotation operation states and 6 draw operation states in parcel shelf. Open and close operations of retractable hard tops are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-37</u>, "<u>PARCEL SHELF FUNCTION</u>: <u>System Description</u>".

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B174E	P SHELF (ROT) STATE 2	[TIMEOUT]	 Retractable hard top control unit does not detect changing from parcel shelf (rotation) state 2 for the specified period of time, during an open and close operation Vertical operation: Parcel shelf (rotation) state 3 is not detected for 0.5 second Horizontal operation: Parcel shelf (rotation) state 1 is not detected for 0.5 second 	Parcel shelfParcel shelf motor (rotation)

DTC CONFIRMATION PROCEDURE

1.PERFORM INITIALIZE

Perform initialization without CONSULT. Refer to <u>RF-76, "Description"</u>.

>> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open then fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

- YES >> Go to <u>RF-186, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158463

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

• Parcel shelf: Refer to <u>RF-276, "REAR PARCEL SHELF UNIT : Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2. CHECK PARCEL SHELF MOTOR

Check parcel shelf motor (rotation). Refer to RF-226. "Diagnosis Procedure".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Repair or replace malfunctioning part.

B174F PARCEL SHELF (ROTATE)-STATE 3

< DTC/CIRCUIT DIAGNOSIS >

B174F PARCEL SHELF (ROTATE)-STATE 3

Description

There are 4 rotation operation states and 6 draw operation states in parcel shelf. Open and close operations of retractable hard tops are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-37</u>, "<u>PARCEL SHELF FUNCTION</u>: <u>System Description</u>".

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B174F	P SHELF (ROT) STATE 3	[TIMEOUT]	 Retractable hard top control unit does not detect changing from parcel shelf (rotation) state 3 for the specified period of time, during an open and close operation Vertical operation: Parcel shelf (rotation) state 4 is not detected for 2 seconds Horizontal operation: Parcel shelf (rotation) state 2 is not detected for 2 seconds 	Parcel shelfParcel shelf motor (rotation)
DTC CO	NFIRMATION PROCI	EDURE		
1.PERF	ORM INITIALIZE			
Perform in	nitialization without CON	ISULT. Refe	r to <u>RF-76, "Description"</u> .	
-	>> GO TO 2. ORM DTC CONFIRMAT			
		ION PROCI	EDURE	
2. Opera	engine. ate retractable hard top			
	•	It" of "RETR	ACTABLE HARD TOP" using CONSUL	.Т.
Is DTC de YES	Sected ? So to <u>RF-187, "Diag</u>	nosis Proced	lure"	
	>> INSPECTION END		<u></u> .	
Diagnos	sis Procedure			INFOID:00000008158466
1				
I CHEC	K RETRACTABLE HAR	D TOP SYS	TEM COMPONENT PARTS	
	-		TEM COMPONENT PARTS as bellow deformation, looseness, ratt	le, interference with other
Check ret parts, and	ractable hard top comp I pinched foreign materi	onent parts als.	as bellow deformation, looseness, ratt	le, interference with other
Check ret parts, and • Parcel s	ractable hard top comp I pinched foreign materi shelf: Refer to <u>RF-276</u> , "	onent parts als.		le, interference with other
Check ret parts, and • Parcel s Is the insp	ractable hard top comp I pinched foreign materi	onent parts als.	as bellow deformation, looseness, ratt	le, interference with other
Check ret parts, and • Parcel s Is the insp YES	ractable hard top comp pinched foreign materi shelf: Refer to <u>RF-276, "</u> <u>pection result normal?</u> >> GO TO 2. >> Repair or replace ma	onent parts als. <u>REAR PARC</u> Ifunctioning	as bellow deformation, looseness, ratt	le, interference with other
Check ret parts, and • Parcel s Is the insp YES	ractable hard top comp l pinched foreign materi shelf: Refer to <u>RF-276, "</u> <u>pection result normal?</u> >> GO TO 2.	onent parts als. <u>REAR PARC</u> Ifunctioning	as bellow deformation, looseness, ratt	le, interference with other
Check ret parts, and • Parcel s Is the insp YES NO 2.CHEC Check pa	ractable hard top comp l pinched foreign materi shelf: Refer to <u>RF-276, "</u> <u>pection result normal?</u> >> GO TO 2. >> Repair or replace ma K PARCEL SHELF MO rcel shelf motor (rotation	onent parts als. <u>REAR PARC</u> Ifunctioning	as bellow deformation, looseness, ratt	le, interference with other
Check ref parts, and • Parcel s Is the insp YES NO 2.CHEC Check pa Is the insp	ractable hard top comp l pinched foreign materi shelf: Refer to <u>RF-276, "</u> <u>bection result normal?</u> >> GO TO 2. >> Repair or replace ma K PARCEL SHELF MO rcel shelf motor (rotation bection result normal?	onent parts als. <u>REAR PAR(</u> Ifunctioning FOR n). Refer to <u>F</u>	as bellow deformation, looseness, ratt CEL SHELF UNIT : Exploded View". part.	le, interference with other

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INFOID:000000008158464

B1750 PARCEL SHELF (ROTATE)-STATE 4

Description

INFOID:000000008158467

INFOID:00000008158468

There are 4 rotation operation states and 6 draw operation states in parcel shelf. Open and close operations of retractable hard tops are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-37</u>, "<u>PARCEL SHELF FUNCTION</u>: <u>System Description</u>".

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B1750	P SHELF (ROT) STATE 4	[TIMEOUT]	 Retractable hard top control unit does not detect changing from parcel shelf (rotation) state 4 for the specified period of time, during an open and close operation Horizontal operation: Parcel shelf (rotation) state 3 is not detected for 0.5 second 	Parcel shelfParcel shelf motor (rotation)

DTC CONFIRMATION PROCEDURE

1.PERFORM INITIALIZE

Perform initialization without CONSULT. Refer to <u>RF-76, "Description"</u>.

>> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

2. Operate retractable hard top to fully open then fully close.

3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Go to <u>RF-188</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158469

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

• Parcel shelf: Refer to <u>RF-276, "REAR PARCEL SHELF UNIT : Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2. CHECK PARCEL SHELF MOTOR

Check parcel shelf motor (rotation). Refer to RF-226, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Repair or replace malfunctioning part.

B1751 ROOF LATCH STATE 1

Description

There are 3 states in roof latch. Open and close operations of retractable hard tope system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-35</u>, "<u>ROOF LATCH</u> <u>FUNCTION : System Description</u>".

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis r	name	DTC detecting condition	Possible cause
B1751	ROOF LATCH STATE 1	[TIMEOUT]	 Retractable hard top control unit does not detect changing from roof latch state 1 for the specified period of time, during an open and close operation Unlock operation: roof latch state 2 is not detected for 0.5 second 	 Roof latch Roof latch motor Roof
DTC CO	NFIRMATION PROCED	URE		
1.PERFC	ORM DTC CONFIRMATIC	N PROCED	URE	
2. Opera 3. Check Is DTC der YES >	0	of "RETRAC	TABLE HARD TOP" using CONSULT.	
Diagnos	sis Procedure			INFOID:0000000815847
1. CHECK	K RETRACTABLE HARD	TOP SYSTE	M COMPONENT PARTS	
parts, andRoof: Re	l pinched foreign materials efer to <u>RF-273, "Exploded</u>	s. I View".	bellow deformation, looseness, rattle,	interference with other
YES > NO >	<u>pection result normal?</u> >> GO TO 2. >> Repair or replace malfu K ROOF LATCH MOTOR	inctioning pa	rt.	
	of latch motor. Refer to RF	-223, "Diagn	osis Procedure".	
	pection result normal?			
	 > Check intermittent incid >> Repair or replace malful 		<u>GI-42, "Intermittent Incident"</u> . rt.	

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INFOID:000000008158470

B1752 ROOF LATCH STATE 2

Description

INFOID:000000008158473

There are 3 states in roof latch. Open and close operations of retractable hard tope system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-35</u>, <u>"ROOF LATCH FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158474

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B1752	ROOF LATCH STATE 2	[TIMEOUT]	 Retractable hard top control unit does not detect changing from roof latch state 2 for the specified period of time, during an open and close operation Unlock operation: roof latch state 3 is not detected for 2 seconds Lock operation: roof latch state 1 is not detected for 2 seconds 	 Roof latch Roof latch motor Roof

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnosis Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

- YES >> Go to <u>RF-190, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158475

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

- Roof: Refer to <u>RF-273, "Exploded View"</u>
- Roof latch: Refer to <u>RF-255, "ROOF LOCK ASSEMBLY : Exploded View"</u>.
- Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2. CHECK ROOF LATCH MOTOR

Check roof latch motor. Refer to RF-223, "Diagnosis Procedure".

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.
- NO >> Repair or replace malfunctioning part.

B1753 ROOF LATCH STATE 3

Description

There are 3 states in roof latch. Open and close operations of retractable hard tope system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-35</u>, "<u>ROOF LATCH</u> <u>FUNCTION : System Description</u>".

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	sname	DTC detecting condition	Possible cause
B1753	ROOF LATCH STATE 3	[TIMEOUT]	 Retractable hard top control unit does not detect changing from roof latch state 3 for the specified period of time, during an open and close operation Lock operation: roof latch state 2 is not detected for 0.5 second 	 Roof latch Roof latch motor Roof
DTC CO	NFIRMATION PROCE	DURE		
1.PERFC	ORM DTC CONFIRMAT	ION PROCED	DURE	
2. Opera 3. Checl Is DTC de YES >	•	" of "RETRAC	CTABLÉ HARD TOP" using CONSULT.	
-	sis Procedure			INF0ID:0000000081584
			EM COMPONENT PARTS	WYF OLD.0000000081384
				interference with the
parts, andRoof: Re	pinched foreign materia efer to. <u>RF-273, "Explod</u> e	als. ed View".	s bellow deformation, looseness, rattle, SSEMBLY : Exploded View".	interference with othe
YES >	ection result normal? -> GO TO 2. -> Repair or replace ma	• ·	art.	
	K ROOF LATCH MOTO	R		
	of latch motor. Refer to F	RF-223, "Diag	nosis Procedure".	
	ection result normal?			
	 > Check intermittent ind > Repair or replace ma 		o <u>GI-42, "Intermittent Incident"</u> . art.	

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INFOID:000000008158476

B1754 FLIPPER DOOR STATE 1

Description

INFOID:000000008158479

INFOID:000000008158480

There are 4 states in flipper door. Open and close operations of retractable hard top system are performed interlocking with other retractable hard top components. For the detail, refer to <u>RF-39</u>, <u>"FLIPPER DOOR</u> <u>FUNCTION : System Description"</u>.

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis	name	DTC detecting condition	Possible cause
B1754	FLIPPER DOOR STATE 1	[TIMEOUT]	 Retractable hard top control unit does not detect changing from flipper door state 3 for the specified period of time, during an open and close operation Up operation: flipper door state 2 is not detected for 0.5 second 	 Flipper door Flipper door limit switch Flipper door motor

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Go to <u>RF-192</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158481

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

• Flipper door: Refer to <u>RF-281, "Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2.Check flipper door limit switch

Check flipper door limit switch. Refer to RF-217, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace malfunctioning part.

3.CHECK FLIPPER DOOR MOTOR

Check flipper door motor. Refer to <u>RF-221, "Diagnosis Procedure"</u>.

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.
- NO >> Repair or replace malfunctioning part.

B1755 FLIPPER DOOR STATE 2

Description

There are 4 states in flipper door. Open and close operations of retractable hard top system are performed interlocking with other retractable hard top components. For the detail, refer to <u>RF-39</u>, <u>"FLIPPER DOOR</u> <u>FUNCTION : System Description"</u>.

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis r	name	DTC detecting condition	Possible cause
B1755	FLIPPER DOOR STATE 2	[TIMEOUT]	 Retractable hard top control unit does not detect changing from flipper door state 2 for the specified period of time, during an open and close operation Up operation: flipper door state 4 is not detected for 5 seconds Down operation: flipper door state 1 is not detected for 5 seconds 	 Flipper door Flipper door limit switch Flipper door motor
DTC COM	NFIRMATION PROCE	DURE		
1.PERFC	ORM DTC CONFIRMATI	ON PROCE	DURE	
2. Opera 3. Check Is DTC de YES >	U	" of "RETRA	ACTABLE HARD TOP" using CONSUL	Т.
Diagnos	sis Procedure			INFOID:0000000815848
1. CHECK	K RETRACTABLE HARD		TEM COMPONENT PARTS	
Check retr parts, and • Flipper of Is the insp YES > NO >		nent parts a ls. Exploded Vie functioning p	as bellow deformation, looseness, rattl	e, interference with othe
			7, "Diagnosis Procedure".	
Is the insp YES > NO >	<u>ection result normal?</u> ⊳ GO TO 3. ⊳ Repair or replace malf	unctioning p		
	K FLIPPER DOOR MOT			
	per door motor. Refer to ection result normal?	<u>RF-221, "D</u>	iagnosis Procedure".	
-		dant Dafar	to GI-42, "Intermittent Incident".	

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INFOID:000000008158482

B1756 FLIPPER DOOR STATE 3

Description

INFOID:000000008158485

There are 4 states in flipper door. Open and close operations of retractable hard top system are performed interlocking with other retractable hard top components. For the detail, refer to <u>RF-39</u>, <u>"FLIPPER DOOR</u> <u>FUNCTION : System Description"</u>.

DTC Logic

INFOID:000000008158486

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible cause
B1756	FLIPPER DOOR STATE 3	[TIMEOUT]	 Retractable hard top control unit does not detect changing from flipper door state 2 for the specified period of time, during an open and close operation Up operation: Flipper door state 4 is not detected for 5 seconds Down operation: Flipper door state 1 is not detected for 5 seconds 	Flipper doorFlipper door limit switchFlipper door motor

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

- YES >> Go to <u>RF-194</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158487

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

Flipper door: Refer to <u>RF-281, "Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2.Check flipper door limit switch

Check flipper door limit switch. Refer to <u>RF-217, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace malfunctioning part.

3.CHECK FLIPPER DOOR MOTOR

Check flipper door motor. Refer to RF-221, "Diagnosis Procedure".

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.
- NO >> Repair or replace malfunctioning part.

B1757 FLIPPER DOOR STATE 4

Description

There are 4 states in flipper door. Open and close operations of retractable hard top system are performed interlocking with other retractable hard top components. For the detail, refer to <u>RF-39</u>, <u>"FLIPPER DOOR</u> <u>FUNCTION : System Description"</u>.

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

	Trouble diagnosis r	ame	DTC detecting condition	Possible cause
B1757	FLIPPER DOOR STATE 4	[TIMEOUT]	 Retractable hard top control unit does not detect changing from flipper door state 4 for the specified period of time, during an open and close operation Down operation: Flipper door state 3 is not detected for 1 second 	 Flipper door Flipper door limit switch Flipper door motor
DTC CON	NFIRMATION PROCE	DURE		
1.PERFC	ORM DTC CONFIRMATI	ON PROCE	DURE	
	engine.			
	ate retractable hard top to < "Self-Diagnostic Result		and fully close. \CTABLE HARD TOP" using CONSUL	T.
Is DTC de	0	••••		
	-> Go to <u>RF-195, "Diagno</u>	osis Proced	<u>ure"</u> .	
-	> INSPECTION END			
Diagnos	sis Procedure			INFOID:0000000815849
1.CHECH	K RETRACTABLE HARD	TOP SYST	EM COMPONENT PARTS	
			as bellow deformation, looseness, rattle	e, interference with othe
	pinched foreign materia door: Refer to <u>RF-281, "E</u>		ew".	
	pection result normal?		<u></u> .	
Is the insp	ection result normal?			
YES >	> GO TO 2.			
YES > NO >	> GO TO 2. > Repair or replace malf	• •	part.	
YES > NO > 2.CHECH	> GO TO 2. > Repair or replace malf < FLIPPER DOOR LIMIT	SWITCH		
YES > NO > 2.CHECH Check flip	 > GO TO 2. > Repair or replace malf < FLIPPER DOOR LIMIT per door limit switch. Ref 	SWITCH	oart. 7, "Diagnosis Procedure".	
YES > NO > 2.CHECH Check flip Is the insp YES >	 > GO TO 2. > Repair or replace malf < FLIPPER DOOR LIMIT per door limit switch. Replacement > GO TO 3. 	SWITCH	7, "Diagnosis Procedure".	
YES > NO > 2.CHECH Check flip Is the insp YES > NO >	 > GO TO 2. > Repair or replace malf < FLIPPER DOOR LIMIT per door limit switch. Repetion result normal? > GO TO 3. > Repair or replace malf 	SWITCH	7, "Diagnosis Procedure".	
YES > NO > 2.CHECH Check flip Is the insp YES > NO >	 > GO TO 2. > Repair or replace malf < FLIPPER DOOR LIMIT per door limit switch. Replacement > GO TO 3. 	SWITCH	7, "Diagnosis Procedure".	
YES > NO > 2.CHECH Check flip Is the insp YES > NO > 3.CHECH Check flip	 > GO TO 2. > Repair or replace malf < FLIPPER DOOR LIMIT per door limit switch. Repection result normal? > GO TO 3. > Repair or replace malf < FLIPPER DOOR MOT per door motor. Refer to 	SWITCH fer to <u>RF-21</u> functioning p	7, "Diagnosis Procedure". part.	
YES > NO > 2.CHECH Check flip Is the insp YES > NO > 3.CHECH Check flip Is the insp	 > GO TO 2. > Repair or replace malf < FLIPPER DOOR LIMIT per door limit switch. Repection result normal? > GO TO 3. > Repair or replace malf < FLIPPER DOOR MOT per door motor. Refer to pection result normal? 	SWITCH fer to <u>RF-21</u> unctioning p OR <u>RF-221, "D</u>	7, "Diagnosis Procedure". part.	

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INFOID:000000008158489

B1758 THERMO PROTECTION

Description

INFOID:000000008158491

Retractable hard top control unit calculates hydraulic pump temperature according to system operating time, prevents hydraulic system temperature from increasing excessively, and protects the system.

DTC Logic

INFOID:000000008158492

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible cause
B1758	THERMO PRO- TECTION	[ACTIVE]	Thermo protection is active. (Thermo protection: Refer to <u>RF-20, "RE-</u> <u>TRACTABLE HARD TOP SYSTEM : System</u> <u>Description"</u>)	Retractable hard top system is oper- ated continuously

DTC CONFIRMATION PROCEDURE

1.COOL DOWN HYDRAULIC SYSTEM

Wait 20 minutes without operation.

>> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

- YES >> Go to <u>RF-196</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158493

1.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure. Refer to <u>RF-83. "DTC Logic"</u>.

Is the DTC displayed again?

- YES >> Replace retractable hard top control unit. Refer to RF-192, "Diagnosis Procedure".
- NO >> INSPECTION END

B175C POWER SOURCE (ROOF)

Description

Power supply (roof) voltage for retractable hard top control unit is monitored. Retractable hard top system operation is inhibited when voltage outside the specified value is detected.

DTC Logic

INFOID:000000008158495

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DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagno	sis name	DTC detecting condition	Possible causes	Е
B175C	PWR SOURCE(ROOF)	[LOW VOLTAGE]	It is the detected that the battery volt- age is 10.6 V or less input to retractable hard top control unit power source (roof) terminal.	Power source circuitBattery conditionCharging system	F
DTC CO	NFIRMATION PROC	EDURE			
1.PERFC	ORM DTC CONFIRM	TION PROCED	URE		G
2. Opera 3. Check Is DTC de YES >	U U	sult" of "RETRAC	TABLE HARD TOP" using CONS	SULT.	F
-	sis Procedure			INFOID:00000008158496	
	K CHARGING SYSTE	М			,
Flow (With Is the insp	arging system. Refer nout EXP-800 NI or G pection result normal? -> GO TO 2.		<u>< Flow (With EXP-800 NI or GR8</u>	-1200 NI)" or CHG-7. "Work	Rł
-	Repair or replace m	alfunction parts.			L
2. CHECI	K POWER SUPPLY A	ND GROUND C	IRCUIT		
Check por cedure".	wer supply and groun	d circuit for retra	ctable hard top control unit. Refer	to <u>RF-212, "Diagnosis Pro-</u>	N
	pection result normal?		_		
	 > Check intermittent i > Repair or replace m 		GI-42, "Intermittent Incident".		Ν
					C
					C

B175D POWER SOURCE (ROOF)

Description

INFOID:000000008158497

Power supply (roof) voltage for retractable hard top control unit is monitored. Retractable hard top system operation is inhibited when voltage outside the specified value is detected.

DTC Logic

INFOID:000000008158498

INFOID:000000008158499

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible causes
B175D	PWR SOURCE(ROOF)	[HIGH VOLTAGE]	It is the detected that the battery volt- age is 15.0 V or more input to retract- able hard top control unit power source (roof) terminal.	Power source circuitBattery conditionCharging system

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Go to <u>RF-196, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK CHARGING SYSTEM

Check charging system. Refer to <u>CHG-3, "Work Flow (With EXP-800 NI or GR8-1200 NI)"</u> or <u>CHG-7, "Work Flow (Without EXP-800 NI or GR8-1200 NI)"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunction parts.

2.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit for retractable hard top control unit. Refer to <u>RF-212, "Diagnosis Pro-</u> cedure".

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Repair or replace malfunction parts.

B175E POWER SOURCE (POWER WINDOW)

< DTC/CIRCUIT DIAGNOSIS >

B175E POWER SOURCE (POWER WINDOW)

Description

Retractable hard top control unit watches power supply condition of power supply (power window) terminal.

DTC Logic

INFOID:000000008158501

INFOID:000000008158500

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagno	osis name	DTC detecting condition	Possible causes
B175E	PWR SOURCE(WIN- DOW)	[LOW VOLTAGE]	It is the detected that the battery volt- age is 9.0 V or less input to retractable hard top control unit power source (power window) terminal.	 Power source circuit (for power window) Battery condition Charging system BCM power supply and ground
DTC CO	NFIRMATION PROC	CEDURE		
1.PERF	ORM DTC CONFIRM	ATION PROCED	URE	
2. Opera 3. Chec Is DTC de YES	•	sult" of "RETRAC	TABLE HARD TOP" using CONS	SULT.
-	sis Procedure			INFOID:00000008158502
				NY 012.00000000000000
	K CHARGING SYSTE			
	arging system. Refer		<u>K Flow (With EXP-800 NI or GR8</u>	<u>-1200 NI)</u> or <u>CHG-7, "Work</u>
Is the insp	pection result normal?			
	> GO TO 2. > Repair or replace n	nolfunctioning no	rt	
~			ND POWER WINDOW SUB-SWI	TCH POWER SLIPPLY AND
GROUND				
Check po	wer window main sw		vindow sub-switch power supply	and ground circuit. Refer to
			<u>Diagnosis Procedure"</u> .	
	Dection result normal? >> GO TO 3.	-		
	> GO TO 3. > Repair or replace n	nalfunctioning pa	rt.	
3.CHEC	K BCM POWER SUP	PLY AND GROU	ND CIRCUIT	
Check BC	M power supply and	ground circuit. Re	efer to BCS-40, "Diagnosis Proce	dure".
Is the insp	pection result normal?			
-	>> GO TO 4.		<i>~</i> 4	
	> Repair or replace n K POWER SUPPLY C	• •	ΙΙ.	
	ignition switch OFF. Innect retractable hard	d top control unit	connector.	
0 T				

3. Turn ignition switch ON.

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B175E POWER SOURCE (POWER WINDOW)

< DTC/CIRCUIT DIAGNOSIS >

4. Check voltage between retractable hard top control unit harness connector and ground.

	(+) Retractable hard top control unit		Voltage (V) (Approx.)	
Connector	Terminal		(
	62	Ground	Pottory voltage	
D04	63	Ground	Battery voltage	

s the inspection result normal?

YES >> Replace retractable hard top control unit. Refer to <u>RF-295. "Removal and Installation"</u>.

NO >> GO TO 5.

${\bf 5.} {\sf check \ continuity \ power \ window \ power \ supply \ circuit}$

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector.
- 3. Check continuity between BCM harness connector and retractable hard top control unit harness connector.

E	BCM		Retractable hard top control unit	
Connector	Terminal	Connector	Terminal	Continuity
M118	2	B84	62	Existed
IVITIO	2	D04	63	Existed

4. Also check harness for short to ground.

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-79, "Removal and Installation"</u>.

NO >> Repair or replace harness.

B175F POWER SOURCE (POWER WINDOW)

< DTC/CIRCUIT DIAGNOSIS >

B175F POWER SOURCE (POWER WINDOW)

Description

Retractable hard top control unit watches power supply condition of power supply (power window) terminal.

DTC Logic

INFOID:000000008158504

INFOID:000000008158503

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagn	osis name	DTC detecting condition	Possible causes
B175F	PWR SOURCE(WINDOW)	[HIGH VOLTAGE]	It is the detect that the battery volt- age is 16.0 V or more input to re- tractable hard top control unit power source (power window) ter- minal.	 Power source circuit (for power window) Battery condition Charging system BCM power supply and ground
	NFIRMATION PROCE ORM DTC CONFIRMAT	-		
2. Oper 3. Chec Is DTC de YES	U	t" of "RETRACTABL	close. E HARD TOP" using CONSUI	LT.
Diagno	sis Procedure			INFOID:00000008158505
1. CHEC	K CHARGING SYSTEM			
Flow (With Is the ins YES NO CHEC GROUNE Check po	hout EXP-800 NI or GR8 pection result normal? >> GO TO 2. >> Repair or replace main K POWER WINDOW MA O CIRCUIT	3-1200 NI <u>)"</u> . Ifunctioning part. AIN SWITCH AND P h and power windov	<u>v (With EXP-800 NI or GR8-12</u> OWER WINDOW SUB-SWITC	CH POWER SUPPLY AND
	<u>"POWER WINDOW MA</u> pection result normal?	IN SWITCH : Diagn	osis Procedure".	
YES : NO :	>> GO TO 3. >> Repair or replace ma K BCM POWER SUPPL	• •	IRCUIT	
			BCS-40, "Diagnosis Procedu	re".
Is the ins YES NO	pection result normal? >> GO TO 4. >> Repair or replace ma K POWER SUPPLY CIR	functioning part.		
2. Disco	ignition switch OFF. onnect retractable hard to ignition switch ON.	op control unit conne	ector.	

4. Check voltage between retractable hard top control unit harness connector and ground.

RF-201

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B175F POWER SOURCE (POWER WINDOW)

< DTC/CIRCUIT DIAGNOSIS >

	+) d top control unit	()	Voltage (V) (Approx.)	
Connector	Terminal			
	62	Ground	Pottory voltage	
B04	63	Ground	Battery voltage	

s the inspection result normal?

YES >> Replace retractable hard top control unit. Refer to <u>RF-295</u>, "<u>Removal and Installation</u>". NO >> GO TO 5.

5. CHECK CONTINUITY POWER WINDOW POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector.
- 3. Check continuity between BCM harness connector and retractable hard top control unit harness connector.

E	BCM		Retractable hard top control unit	
Connector	Terminal	Connector	Terminal	Continuity
M118	2	B84	62	Existed
IVIIO	2	D04	63	Existed

4. Also check harness for short to ground.

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-79, "Removal and Installation"</u>.

NO >> Repair or replace harness.

B1760 RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B1760 RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
B1760	 ROOF CONTROL UNIT Retractable hard top control unit detects output to rear window defogger without output request. Retractable hard top control unit requests output to rear window defogger but cannot detect output. 		Retractable hard top control unit
DTC CONF	IRMATION PROCED	JRE	
1.PERFOR	M DTC CONFIRMATIO	N PROCEDURE	
2. Turn rea	•	of "RETRACTABLE HARD TOP" using CC	DNSULT.
	Refer to <u>RF-203, "Diagn</u> INSPECTION END	osis Procedure".	
Diagnosis	Procedure		INFOID:00000008158507
1.снеск в	SELF DIAGNOSTIC RE	SULT	
2. Replace		ntrol unit. Refer to <u>RF-295. "Removal and</u> edure. Refer to <u>RF-124, "DTC Logic"</u> .	Installation".
>>	INSPECTION END		

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B1761 RETRACTABLE HARD TOP CONTROL UNIT

< DTC/CIRCUIT DIAGNOSIS >

B1761 RETRACTABLE HARD TOP CONTROL UNIT

DTC Logic

INFOID:000000008158508

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC	Trouble diagnosis name	DTC detecting condition	Possible cause
B1761	ROOF CONTROL UNIT	 Retractable hard top control unit detects output to hydraulic pump power supply relay without output request. Retractable hard top control unit requests out- put to hydraulic pump power supply relay but cannot detect output. 	Retractable hard top control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine.

- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Refer to <u>RF-204, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158509

1. CHECK SELF DIAGNOSTIC RESULT

1. Turn ignition switch OFF.

- 2. Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>.
- 3. Perform DTC Confirmation Procedure. Refer to <u>RF-83, "DTC Logic"</u>.

>> INSPECTION END

B1762 ROOF STATE

Description

There are 42 states in retractable hard top, regardless of open and close operations. Retractable hard top system performs open and close operations using combination of these 42 states.

DTC Logic

INFOID:000000008158511

INFOID:000000008158510

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagno	sis name	DTC detecting condition	Possible cause
B1762	ROOF STATE	[INCORRECT]	Retractable hard top control unit does not recognize roof condition.	 Roof Roof latch Hydraulic unit Parcel shelf Flipper door LH/RH
DTC CON	IFIRMATION PROC	CEDURE		
1.PERFO	RM DTC CONFIRM	ATION PROCE	DURE	
	te retractable hard to "Self-diagnostic Res		and fully close. CTABLE HARD TOP" using CONSU	LT.
	> Go to <u>RF-208, "Dia</u> > INSPECTION END		<u>ıre"</u> .	
Diagnos	is Procedure			INFOID:00000008158512
	RETRACTABLE HA		EM COMPONENT PARTS	
parts, and • Hydraulio • Trunk lid: <u>Is the inspo</u> YES >: NO >: 2. PERFO	pinched foreign mate system: Refer to <u>RF</u> Refer to <u>DLK-235. " ection result normal?</u> > GO TO 2. > Repair or replace m RM INITIALIZATION	rials. 285, "Explode TRUNK LID AS	SEMBLY : Exploded View".	ttle, interference with other
2. Perfor	m initialization withou m DTC Confirmation action result normal?	t CONSULT (re Procedure. Re	efer to <u>RF-76, "Work Procedure"</u>). fer to <u>RF-205, "DTC Logic"</u> .	
	> INSPECTION END > GO TO 3.			
3.СНЕСК	TRUNK ROOM LAN	IP SWITCH		
Is the inspe	k room lamp switch. ection result normal? > GO TO 4.	Refer to <u>DLK-8</u>	31, "Component Function Check".	
4	Repair or replace m TRUNK ROOM LAN	• •		

Check "TR ROOM LAMP SW" in "DATA MONITOR" mode of "RETRACTABLE HARD TOP" using CONSULT.

RF-205

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B1762 ROOF STATE

< DTC/CIRCUIT DIAGNOSIS >

Monitor item	Condition		Status
TR ROOM LAMP SW	Trunk lid	Open	ON
		Closed	OFF

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 5.

5.CHECK TRUNK ROOM LAMP SWITCH CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect trunk room lamp switch connector, BCM connector, trunk closure control unit connector and retractable hard top control unit connector.
- Check continuity between retractable hard top control unit harness connector and trunk room lamp switch harness connector.

Retractable hard top control unit		Trunk room lamp switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B82	5	B306	2	Existed

4. Check continuity between BCM harness connector and ground.

Retractable ha	rd top control unit		Continuity	
Connector	Terminal	Ground	Continuity	
B82	5	*	Not existed	

Is the inspection result normal?

YES >> Check trunk lid auto closure system. Refer to <u>DLK-186, "OPEN/CLOSURE FUNCTION : Diagno-</u> sis Procedure".

NO >> Repair harness or connector.

6.CHECK ROOF LATCH LIMIT SWITCH SIGNAL

- 1. Connect retractable hard top control unit connector.
- 2. Check "LATCH LIMIT SW" in "Data Monitor" mode of "RETRACTABLE HARD TOP" using CONSULT.

Monitor item	Condition		Status
LATCH LIMIT SW	ROOF LATCH	Roof is fully closed and roof latch is locked	CLOSE
		Other than above	OPEN

Is the inspection result normal?

YES >> GO TO 9. NO >> GO TO 7.

7.CHECK ROOF LATCH LIMIT SWITCH CIRCUIT

1. Disconnect roof latch limit switch connector and retractable hard top control unit connector.

2. Check continuity between retractable hard top control unit harness connector and roof latch limit switch harness connector.

Retractable hard top control unit		Roof latch limit switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B82	6	R6	2	Existed

3. Check continuity between retractable hard top control harness connector and ground.

Retractable har	d top control unit		Continuity	
Connector	Terminal	Ground	Continuity	
B82	6	*	Not existed	

B1762 ROOF STATE

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tractable hard top control harn	ess connector and ground	d.	
h limit switch			-
Terminal	Ground	Continuity	С
3		Existed	_
al?			D
	r to <u>RF-295, "Removal an</u>	nd Installation".	
			E
MP POWER SUPPLY RELAY			
	"Diagnosis Procedure".		
			F
	iovar and installation.		0
			G
			Н
	h limit switch Terminal 3 al? able hard top control unit. Refe or connector. MP POWER SUPPLY RELAY or supply relay. Refer to <u>RF-228</u> al? ent incident. Refer to <u>GI-42. "In</u>	al? or connector. IMIT SWITCH CIRCUIT tractable hard top control harness connector and groun h limit switch Terminal Ground 3 al? able hard top control unit. Refer to <u>RF-295, "Removal ar</u> or connector. MP POWER SUPPLY RELAY or supply relay. Refer to <u>RF-228, "Diagnosis Procedure"</u> .	al? or connector. IMIT SWITCH CIRCUIT tractable hard top control harness connector and ground. h limit switch Terminal 3 2 al? able hard top control unit. Refer to RF-295, "Removal and Installation". or connector. MP POWER SUPPLY RELAY wr supply relay. Refer to RF-228, "Diagnosis Procedure". al? ent incident. Refer to GI-42, "Intermittent Incident".

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B1763 HYDRAULIC STATE

Description

INFOID:000000008158513

There are 22 states in hydraulic system. Hydraulic system is controlled using combination of these 22 states and, at the same time, open and close operations of retractable hard top system are performed interlocking with other retractable hard top system components. For the detail, refer to RF-31, "HYDRAULIC SYSTEM **CONTROL FUNCTION : System Description".**

DTC Logic

INFOID:000000008158514

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to RF-61, "DTC Inspection Priority Chart", and determine trouble diagnosis order.

DTC No.	Trouble diagnosis name		DTC detecting condition	Possible cause
B1763	HYDRAULIC STATE	[INCORRECT]	Retractable hard top control unit does not recognize hydraulic system condition.	 Trunk link sensor LH/RH Trunk status sensor Trunk room lamp switch Roof latch condition

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- Operate retractable hard top to fully open and fully close. 2.
- Check "Self-diagnostic Result" of "RETRACTABLE HARD TOP" using CONSULT. 3.

Is DTC detected?

- YES >> Go to RF-208, "Diagnosis Procedure".
- >> INSPECTION END NO

Diagnosis Procedure

INFOID:000000008158515

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

- Hydraulic system: Refer to <u>RF-285, "Exploded View"</u>.
 Trunk lid: Refer to <u>DLK-235, "TRUNK LID ASSEMBLY : Exploded View"</u>.

Is the inspection result normal?

- YES >> GO TO 2.
- >> Repair or replace malfunctioning part. NO

2. PERFORM INITIALIZATION

- Perform "RESET ROOF STATE" in "WORK SUPPORT" mode of "RETRACTABLE HARD TOP" using 1. CONSULT (refer to RF-45, "CONSULT Function").
- Perform initialization with CONSULT (refer to RF-76, "Work Procedure"). 2.
- Perform DTC Confirmation Procedure. Refer to RF-205, "DTC Logic". 3

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 3.

${f 3.}$ CHECK TRUNK LID OPENER ACTUATOR

Check trunk lid opener actuator. Refer to DLK-186, "OPEN/CLOSURE FUNCTION : Diagnosis Procedure".

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Repair or replace malfunctioning part.

RF-208

B1763 HYDRAULIC STATE

< DTC/CIRCUIT DIAGNOSIS >

Check trunk room lamp switch. Refer to DLK-81, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace malfunctioning part.

 ${f 5.}$ CHECK TRUNK ROOM LAMP SWITCH SIGNAL

С Check "TR ROOM LAMP SW" in "DATA MONITOR" mode of "RETRACTABLE HARD TOP" using CONSULT.

Monitor item	Condition		Status	
TR ROOM LAMP SW	Trunk lid	Open	ON	D
		Closed	OFF	

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 6.

 $\mathbf{6}$.CHECK TRUNK ROOM LAMP SWITCH CIRCUIT

- 1. Disconnect trunk room lamp switch connector, BCM connector trunk closure control unit connector and retractable hard top control unit connector.
- 2. Check continuity between retractable hard top control unit harness connector and trunk room lamp switch harness connector.

Retractable hard	d top control unit	Trunk room lamp switch		Continuity	Н
Connector	Terminal	Connector	Terminal	Continuity	
B82	5	B306	2	Existed	

3. Check continuity between BCM harness connector and ground.

	Retractable hard top control unit			Continuity	_
	Connector	Terminal	Ground	Continuity	J
	B82	5	_	Not existed	
ls th	e inspection result norma	?			RF

Is the inspection result normal?

- YES >> Check trunk lid auto closure system. Refer to DLK-186, "OPEN/CLOSURE FUNCTION : Diagnosis Procedure".
- NO >> Repair harness or connector.

I.CHECK HYDRAULIC PUMP POWER SUPPLY RELAY

Check I	nydraulic pump power supply relay. Refer to <u>RF-228, "Diagnosis Procedure"</u> .
<u>Is the ir</u>	spection result normal?
YES	>> Check intermittent incident. Refer to GI-42, "Intermittent Incident".

NO >> Replace hydraulic unit. Refer to <u>RF-285, "Removal and Installation"</u>.

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B1764 ROOF LATCH STATE

Description

INFOID:000000008158516

INFOID:000000008158517

There are 3 states in roof latch. Open and close operations of retractable hard tope system are performed interlocking with other retractable hard top system components. For the detail, refer to <u>RF-35</u>, <u>"ROOF LATCH FUNCTION : System Description"</u>.

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagno	sis name	DTC detecting condition	Possible cause
B1764	ROOF LATCH STATE	[INCORRECT]	Retractable hard top control unit does not rec- ognize roof latch condition.	 Roof latch motor Roof latch limit switch Roof latch lock sensor

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Operate retractable hard top to fully open and fully close.
- 3. Check "Self-Diagnosis Result" of "RETRACTABLE HARD TOP" using CONSULT.

Is DTC detected?

YES >> Go to <u>RF-210, "Diagnosis Procedure"</u>. NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000008158518

1.CHECK RETRACTABLE HARD TOP SYSTEM COMPONENT PARTS

Check retractable hard top component parts as bellow deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

- Roof: Refer to <u>RF-273, "Exploded View"</u>.
- Roof latch: Refer to <u>RF-255, "ROOF LOCK ASSEMBLY : Exploded View"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning part.

2. PERFORM INITIALIZATION

1. Perform initialization with roof open/close switch (refer to <u>RF-76, "Work Procedure"</u>).

2. Perform DTC Confirmation Procedure. Refer to RF-205, "DTC Logic".

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace retractable hard top control unit. Refer to <u>RF-15, "Component Parts Location"</u>.

B1765 FLIPPER DOOR STATE

Description

INFOID:000000008158519

INFOID:000000008158520

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There are 4 states in flipper door. Open and close operations of retractable hard top system are performed interlocking with other retractable hard top components. For the detail, refer to <u>RF-39</u>, <u>"FLIPPER DOOR</u> <u>FUNCTION : System Description"</u>.

DTC Logic

DTC DETECTION LOGIC

NOTE:

If two or more DTCs are detected, refer to <u>RF-61, "DTC Inspection Priority Chart"</u>, and determine trouble diagnosis order.

DTC No.	Trouble diagnos	is name	DTC detecting condition	Possible cause
B1765	FLIPPER DOOR STATE	[INCORRECT]	Retractable hard top control unit does not rec- ognize flipper door condition.	 Flipper door limit switch LH/RH (UP/DOWN) Flipper door motor LH/ RH (UP/DOWN)
DTC COM	FIRMATION PROC	EDURE		
1.PERFC	ORM DTC CONFIRMA	FION PROCED	URE	
2. Opera	engine. ate retractable hard top < DTC. toctod2	to fully open a	nd fully close.	
YES >	 > Go to <u>RF-211, "Diag</u> > INSPECTION END 	nosis Procedur	<u>e"</u> .	
Diagnos	is Procedure			INFOID:0000000815852
1. CHECK	K RETRACTABLE HAR	RD TOP SYSTE	EM COMPONENT PARTS	
Check retr parts, and • Flipper of		oonent parts as ials.	bellow deformation, looseness, rattle,	interference with other
-				
	> GO TO 2.			
NO >	> Repair or replace ma	• •	ırt.	
NO > 2.CHECH	> Repair or replace ma < FLIPPER DOOR LIM	IT SWITCH		
NO > 2.CHECK	> Repair or replace ma < FLIPPER DOOR LIM per door limit switch. R	IT SWITCH	rrt. , "Diagnosis Procedure".	
NO > 2.CHECH Check flipp Is the insp YES >	Repair or replace ma	IT SWITCH efer to <u>RF-217</u> cident. Refer to	<u>, "Diagnosis Procedure"</u> . o <u>GI-42, "Intermittent Incident"</u> .	

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000008158522

1.CHECK FUSE AND FUSIBLE LINK

Check that the following fuse and fusible link are not blown.

Signal name	Fuse and fusible link No.
Battery power supply	0

Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT-I

1. Turn ignition switch OFF.

2. Disconnect retractable hard top control unit connectors.

3. Check voltage between retractable hard top control unit harness connector and ground.

	(+)		
Retractable ha	Retractable hard top control unit		Voltage (Approx.)
Connector	Terminal	*	(. + +)
	57	Ground	
B84	58		Battery voltage
	59		

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK POWER SUPPLY CIRCUIT-II

1. Turn ignition switch ON.

2. Check voltage between retractable hard top control unit harness connector and ground.

(+)		(-)	
Retractable hard top control unit			Voltage (Approx.)
Connector	Terminal	Ground	
B82	11		Battery voltage

Is the measurement value normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

4.CHECK GROUND CIRCUIT

Check continuity between retractable hard top control unit harness connector and ground.

Retractable h	Retractable hard top control unit		Continuity
Connector	Terminal	Ground	Continuity
B84	60	Ground	Existed
B84	61	1	EXISTED

Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

ROOF OPEN/CLOSE SWITCH

Component Function Check

1.CHECK FUNCTION

Check "ROOF SW(OPEN)" or "ROOF SW(CLOSE)" in "Data Monitor" mode of "RETRACTABLE HARD TOP" using CONSULT.

				U	
Monitor item	C	Condition			
	Roof open/close switch	Open	ON		
ROOF SW(OPEN)		Closed	OFF	D	
ROOF SW(CLOSE)		DF SW(CLOSE) Roof open/close switch	Open	OFF	
		Closed	ON	E	

Is the inspection result normal?

YES >> Roof open/close switch is normal.

NO >> Refer to <u>RF-213, "Diagnosis Procedure"</u>.

Diagnosis Procedure

1.CHECK ROOF OPEN/CLOSE SWITCH POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect roof open/close switch connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between roof open/close switch harness connector and ground.

(+	(+)		Voltage (V) (Applox.)	
Roof open/c	Roof open/close switch			
Connector	Terminal		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
M28 (A/T models)	2			J
M179 (M/T models)	- J	Ground	Potton voltago	
M28 (A/T models)		Ground	Battery voltage	RF
M179 (M/T models)	- 4			

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK ROOF OPEN/CLOSE SWITCH POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect retractable hard top control unit connector.

3. Check the continuity between retractable hard top control unit harness connector and roof open/close switch harness connector.

Retractable har	d top control unit	Roof open/c	lose switch	Continuity	0
Connector	Terminal	Connector	Terminal	Continuity	0
	4	M28 (A/T models)	0	Friday	
DOO	I	M179 (M/T models)	3		Р
B82	0	M28 (A/T models)	4	Existed	
	2	M179 (M/T models)	4		

4. Check harness for short to ground.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

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INFOID:000000008158523

ROOF OPEN/CLOSE SWITCH

< DTC/CIRCUIT DIAGNOSIS >

$\mathbf{3}$.check roof open/close switch ground circuit

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit connector.
- 3. Check the continuity between roof open/close switch harness connector and ground.

Roof open/close s	switch		Continuity	
Connector	Terminal	Ground	Continuity	
M28 (A/T models)	1		Existed	
M179 (M/T models)				
4. Check harness for short to gro	und.			
Is the inspection result normal?				
YES >> GO TO 4.				
NO >> Repair or replace harn	ess.			
4.CHECK ROOF OPEN/CLOSE	SWITCH			
Refer to RF-94, "Component Inspe	ction".			

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace roof open/close switch. Refer to <u>RF-15. "Component Parts Location"</u>.

5.REPLACE RETRACTABLE HARD TOP CONTROL UNIT

1. Replace retractable hard top control unit. Refer to <u>RF-15, "Component Parts Location"</u>.

2. Refer to <u>RF-75, "Work Procedure"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 6.

Ó.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

TONNEAU BOARD SWITCH

Component Function Check

1.CHECK FUNCTION

Check "TONNEAU SW" in "Data Monitor" mode of "RETRACTABLE HARD TOP" using CONSULT.

Monitor item		Condition	Status
TONNEAU SW	Toppeou beend	Set	OK
	Tonneau board	Other than above	NG
s the inspection result no YES >> INSPECTION NO >> Refer to <u>RF-2</u> Diagnosis Procedur	NEND 224, "Diagnosis Proced	<u>ure"</u> .	INFOID:0000000
CHECK TONNEAU BO	DARD SWITCH POWE	R SUPPLY	
B. Turn ignition switch C	board switch connector. DN.	switch harness connector and grou	und.
	(+)		Voltage (V)
	au board switch	(-)	(Approx.)
Connector B352	Terminal 1	Ground	Battery voltage
s the inspection result no		Ground	Dattery voltage
YES >> GO TO 2. NO >> Repair or rep CHECK TONNEAU BO . Turn ignition switch C	DARD SWITCH GROU		round
NO >> Repair or rep CHECK TONNEAU BO . Turn ignition switch C . Check the continuity	DARD SWITCH GROU	ND CIRCUIT d switch harness connector and g	
NO >> Repair or rep CHECK TONNEAU BO . Turn ignition switch C . Check the continuity	DARD SWITCH GROU DFF. between tonneau board	d switch harness connector and g	round. Continuity
NO >> Repair or rep CHECK TONNEAU BC . Turn ignition switch C . Check the continuity Ton Connector B352	DARD SWITCH GROUN DFF. between tonneau board neau board switch Termin 3	d switch harness connector and g	
NO >> Repair or rep CHECK TONNEAU BC Turn ignition switch C Check the continuity Ton Connector B352 Check harness for sh s the inspection result no YES >> GO TO 3. NO >> Repair or rep CONNEAU	DARD SWITCH GROUN DFF. between tonneau board neau board switch Termin 3 nort to power. <u>ormal?</u> lace harness. BOARD SWITCH	d switch harness connector and g	Continuity
NO >> Repair or rep CHECK TONNEAU BC Turn ignition switch C Check the continuity Ton Connector B352 Check harness for sh <u>s the inspection result no</u> YES >> GO TO 3. NO >> Repair or rep	DARD SWITCH GROUN DFF. between tonneau board neau board switch Termin 3 nort to power. ormal? lace harness. BOARD SWITCH witch. ormal? N END	d switch harness connector and g	Continuity

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TONNEAU BOARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

 $5. {\sf check intermittent incident}$

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

FLIPPER DOOR LIMIT SWITCH

< DTC/CIRCUIT DIAGNOSIS >

FLIPPER DOOR LIMIT SWITCH

Diagnosis Procedure

1.CHECK FUNCTION

- 1. Turn ignition switch ON.
- 2. Check the voltage between retractable hard top control unit terminals and ground under the following conditions.

(+) Retractable hard top control unit						
		()	Condition		Voltage (V) (Approx.)	
Connector	Terminal				(, , , , , , , , , , , , , , , , , , ,	
	7			Тор	0	
B82	7	Ground		Other than above	Battery voltage	
DOZ	0	Ground	Ground Flipper door (LH & RH))	Bottom	0	
	8			Other than above	Battery voltage	

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2. CHECK FLIPPER DOOR LIMIT SWITCH POWER SUPPLY CIRCUIT-I

- 1. Turn ignition switch OFF.
- 2. Disconnect flipper door (LH) harness connector.
- 3. Turn ignition switch ON.
- 4. Check the voltage between flipper door (LH) harness connector and ground.

(+)			
Flipper	door (LH)	()	Voltage (V) (Approx.)	
Connector	Terminal			J
B307	2	Ground	Battery voltage	
6307	4	Ground	Dattery voltage	RF

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK FLIPPER DOOR LIMIT SWITCH POWER SUPPLY CIRCUIT-II

- 1. Turn ignition switch OFF.
- 2. Reconnect flipper door (LH) harness connector.
- 3. Disconnect flipper door (RH) harness connector.
- 4. Turn ignition switch ON.
- Check the voltage between flipper door (RH) harness connector and ground under the following conditions.

(+) Flipper door (RH)		(-)	Cor	Condition		0
Connector	Terminal				(Approx.)	
	1			Тор	Battery voltage	Р
B308	I	Ground	Elippor door (LH)	Other than above	0	
D300	0	Ground	Flipper door (LH)	Bottom	Battery voltage	
	2			Other than above	0	

Is the inspection result normal?

YES >> GO TO 5.

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FLIPPER DOOR LIMIT SWITCH

< DTC/CIRCUIT DIAGNOSIS >

NO >> GO TO 4.

4.CHECK FLIPPER DOOR LIMIT SWITCH POWER SUPPLY CIRCUIT-III

- 1. Turn ignition switch OFF.
- 2. Disconnect flipper door (LH) harness connector.
- Check the continuity between flipper door (LH) harness connector and flipper door (RH) harness connector.

Flipper	door (LH)	Flipper c	Flipper door (RH)		
Connector	Terminal	Connector Terminal		Continuity	
B307	1	B308	1	Existed	
B307	3	6300	2	Existed	

4. Check harness for short to ground and short to power.

Is the inspection result normal?

YES >> Replace flipper door (LH). Refer to <u>RF-15, "Component Parts Location"</u>.

NO >> Repair or replace harness.

5.CHECK FLIPPER DOOR LIMIT SWITCH GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect flipper door (RH) harness connector.
- 3. Disconnect retractable hard top control unit harness connector.
- 4. Check the continuity between flipper door (RH) harness connector and retractable hard top control unit harness connector.

Flipper	Flipper door (RH)		d top control unit	Continuity
Connector	Terminal	Connector	Terminal	Continuity
B308	3	B82	3	Existed

5. Check harness for short to short to power.

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

O.REPLACE FLIPPER DOOR (RH)

Replace flipper door (RH). Refer to <u>RF-15, "Component Parts Location"</u>.

Is the inspection result normal?

YES >> INSPECTION END

7.REPLACE RETRACTABLE HARD TOP CONTROL UNIT

1. Replace retractable hard top control unit. Refer to <u>RF-15. "Component Parts Location"</u>.

2. Refer to <u>RF-75, "Work Procedure"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 8.

8. CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

BACK-UP LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

BACK-UP LAMP CIRCUIT

Description

Retractable hard top control unit receives shift position R signal from back up lamp for the preconditions.

Component Function Check

1.CHECK FUNCTION

Check "SHIFT R SIG" in "Data Monitor" mode of "RETRACTABLE HARD TOP" using CONSULT.

	Monitor item	Condition		or item Condition		Monitor item Condition		Status	
			Other than R position	OK					
SHIF	T R SIG	Shift position	R position	NG	F				
s the in	nspection result norm	al?							
YES	>> INSPECTION E	ND							
NO	>> Go to <u>RF-224, "</u>	Diagnosis Procedure".			F				

>> Go to <u>RF-224, "Diagnosis Procedure"</u>. NO

Diagnosis Procedure

1.CHECK BACK-UP LAMP RELAY OR BACK-UP LAMP SWITCH POWER SUPPLY

- Turn ignition switch OFF. 1.
- Disconnect back-up lamp relay (A/T models) or back-up lamp switch (M/T models) harness connector. 2.
- Н Check the voltage between back-up lamp relay (A/T models) or back-up lamp switch (M/T models) har-3. ness connector and ground.

		(+) Back-up lamp relay	
Voltage (V) (Approx.)	()		
(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Terminal	Connector
Battery voltage	Ground	3	M69
			(1)
Voltage (V)			(+)
Voltage (V) (Approx.)	()	o switch	(+) Back-up lamp
Voltage (V) (Approx.)	(-)	o switch Terminal	

Is the inspection result normal?

YES >> GO TO 2.

NO-1 >> Check 10 A fuse [No. 4 located in the fuse block (J/B)].

NO-2 >> Check harness for open or short between back-up lamp relay (A/T models) or back-up lamp switch (M/T models) and fuse.

2.check back-up lamp relay or back-up lamp switch ground circuit

- Disconnect retractable hard top control unit connector. 1.
- Check the continuity between retractable hard top control unit harness connector and back-up lamp relay 2. (A/T models) or back-up lamp switch (M/T models) harness connector.

Continuity	hard top control unit Back-up lamp relay		Retractable hard	
- Continuity	Terminal	Connector	Terminal	Connector
Existed	5	M69	12	B82
		· · · · · · · · · · · · · · · · · · ·		
	amp switch	Back-up la	top control unit	Retractable hard
- Continuity	amp switch Terminal	Back-up la Connector	top control unit Terminal	Retractable hard Connector

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BACK-UP LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

3. Check harness for short to ground or short to power.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK BACK-UP LAMP RELAY OR BACK-UP LAMP SWITCH

Check back-up lamp relay (A/T models) (refer to <u>TM-102</u>, "<u>Diagnosis Flow</u>") or back-up lamp switch (M/T models) (refer to <u>TM-8</u>, "<u>Component Inspection</u>")

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace malfunctioning part.

4.REPLACE RETRACTABLE HARD TOP CONTROL UNIT

1. Replace retractable hard top control unit. Refer to <u>RF-15, "Component Parts Location"</u>.

2. Refer to <u>RF-75, "Work Procedure"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 5.

5.CHECK INTERMITTENT INCIDENT

Refer to GI-42, "Intermittent Incident".

>> INSPECTION END

FLIPPER DOOR MOTOR

< DTC/CIRCUIT DIAGNOSIS >

FLIPPER DOOR MOTOR

Diagnosis Procedure

1.CHECK FLIPPER DOOR MOTOR CIRCUIT-1

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit connector and hydraulic unit connector.
- 3. Check the continuity between retractable hard top control unit harness connector and hydraulic unit har- C ness connector.

Continuity	Hydraulic unit		d top control unit	Retractable har
Continuity	Terminal	Connector	Terminal	Connector
	16		28	B82
Existed	14	B80	46	B83
	15		47	DOJ

4. Check harness for short to ground.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK FLIPPER DOOR MOTOR CIRCUIT-2

- 1. Disconnect flipper door (LH/RH) connector.
- 2. Check the continuity between hydraulic unit harness connector and flipper door (LH/RH) connector.

Hydra	ulic unit	Flipper door		Flipper door		Continuity	
Connector	Terminal	Connector	Terminal	- Continuity			
	6						
DOZ	12	LH: B307	5	Eviated			
B27	13	RH: B308	0	Existed	,		
	17		6				

3. Check harness for short to ground.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

 ${
m 3.}$ Check flipper door power supply

1. Connect retractable hard top control unit connector and hydraulic unit connector.

2. Turn ignition switch ON.

- 3. Perform "FLIPPER DOOR" in "WORK SUPPORT" mode of "RETRACTABLE HARD TOP" using CON-SULT (refer to <u>RF-45, "CONSULT Function"</u>).
- 4. Check the voltage between flipper door harness connector and ground under the conditions.

(+	-)						
Flipper door		(—)	Work Support item			Voltage (V) (Approx.)	(
Connector	Terminal				(
	5			UP	Battery voltage		
LH: B307	5	Ground	Ground FLIPPER DOOR	DOWN	0		
RH: B308	6			UP	0		
	6			DOWN	Battery voltage		

CAUTION:

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FLIPPER DOOR MOTOR

< DTC/CIRCUIT DIAGNOSIS >

This operation may result in serious damage to components. Never operate the flipper door if the roof and trunk lid are in the closed position. Doing so may cause the roof to open inside the trunk. Check the roof and trunk lid position before proceeding.

Is the inspection result normal?

YES >> Replace flipper door (malfunctioning part). Refer to <u>RF-281, "Removal and Installation"</u>. NO >> GO TO 4.

4. CHECK RETRACTABLE HARD TOP CONTROL UNIT OUTPUT

- 1. Turn ignition switch OFF.
- 2. Connect flipper door (LH/RH) connector.
- 3. Turn ignition switch ON.
- Check "FLPD OUT(UP)" and "FLPD OUT(DWN)" in "Data Monitor" mode of "RETRACTABLE HARD TOP" using CONSULT.

Monitor item	Condition		Status
		Up operation	ON
FLPD OUT (UP)	Elippor door (LH and DH)	Down operation	OFF
FLPD OUT (DWN)	Flipper door (LH and RH)	Down operation	ON
		Up operation	OFF

Is the inspection result normal?

YES >> Replace hydraulic unit. Refer to <u>RF-285, "Removal and Installation"</u>.

NO >> Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>.

ROOF LATCH MOTOR

< DTC/CIRCUIT DIAGNOSIS >

ROOF LATCH MOTOR

Diagnosis Procedure

1.CHECK ROOF LATCH MOTOR POWER SUPPLY

- 1. Turn ignition switch ON.
- Perform "ROOF LATCH" in "WORK SUPPORT" mode of "RETRACTABLE HARD TOP" using CONSULT (refer to <u>RF-45, "CONSULT Function"</u>).
- Check the voltage between roof latch assembly harness connector and ground under the following conditions.

		Work Support item			-)	(+) Roof latch assembly	
	Voltage (V) (Approx.)			(—)	assembly		
	(Appios.)				Terminal	Connector	
	0	OPEN			5		
_	Battery voltage	OPEN	ROOF LATCH	Ground RO	6	B657	
_	Battery voltage	01.005	ROOFLATCH		5	B037	
_	0	CLOSE			6	+	

Is the inspection result normal?

YES >> GO TO 2.

```
NO >> Replace retractable hard top control unit. Refer to <u>RF-295</u>, "Removal and Installation".
```

2. CHECK ROOF LATCH MOTOR CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit connector and roof latch assembly connector.
- 3. Check the continuity between retractable hard top control unit harness connector and roof latch assembly harness connector.

_	Retractable ha	rd top control unit	Roof latch assembly		Continuity	J
	Connector	Terminal	Connector	Terminal	Continuity	
	B82	48	B657	6	Existed	
	DOZ	49	B037	5	Existed	RF

4. Check harness for short to ground.

Is the inspection result normal?

YES >> Replace roof latch motor. Refer to <u>RF-255</u>, "ROOF LOCK ASSEMBLY : Removal and Installation".

NO >> Repair or replace harness.

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PARCEL SHELF MOTOR (DRAW)

< DTC/CIRCUIT DIAGNOSIS >

PARCEL SHELF MOTOR (DRAW)

Diagnosis Procedure

INFOID:000000008158533

1.CHECK PARCEL SHELF MOTOR (DRAW) CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit connector and parcel shelf unit connector.
- 3. Check the continuity between retractable hard top control unit harness connector and parcel shelf unit harness connector.

Retractable har	d top control unit	Parcel shelf unit		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B83	41	B71	3	Existed
	42		2	Existed

4. Check harness for short to ground.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK PARCEL SHELF MOTOR (DRAW) GROUND CIRCUIT

1. Check the continuity between parcel shelf unit harness connector and ground.

Parcel sl	Parcel shelf unit		Continuity
Connector	Terminal		Continuity
B71	12	Ground	Existed
	14	*	Existed

2. Check harness for short to ground.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK PARCEL SHELF MOTOR (DRAW) POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Connect retractable hard top control unit connector.
- 3. Turn ignition switch ON.
- Perform "ROOF/TRUNK/PARCEL SHELF" in "WORK SUPPORT" mode of "RETRACTABLE HARD TOP" using CONSULT (refer to <u>RF-45, "CONSULT Function"</u>).
- 5. Check the voltage between parcel shelf unit harness connector and ground.

(+ Parcel s	-) helf unit	()	Work Support item		Voltage (V) (Approx.)
Connector	Terminal				()
	2			UP	0
B71	2	Ground	Ground PS (DRAW) DOWN UP		Battery voltage
B	2	Grouna			Battery voltage
	3			DOWN	0

CAUTION:

This operation may interfere with and damage parts. Always check the precautions. Refer to <u>RF-10, "Precautions for Retractable Hard Top Service"</u>.

- Before opening trunk lid, release trunk opener lock-up.
- Before operating roof, release roof opener lock-up.

Is the inspection result normal?

PARCEL SHELF MOTOR (DRAW)

< DTC/	/CIRCUIT DIAGNOSIS >	
YES	>> Replace parcel shelf unit. Refer to <u>RF-276, "REAR PARCEL SHELF UNIT : Removal and Install</u>	
NO	tion". >> Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u> .	А
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PARCEL SHELF MOTOR (ROTATION)

< DTC/CIRCUIT DIAGNOSIS >

PARCEL SHELF MOTOR (ROTATION)

Diagnosis Procedure

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1.CHECK PARCEL SHELF MOTOR (ROTATION) CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect retractable hard top control unit connector and parcel shelf unit connector.
- 3. Check the continuity between retractable hard top control unit harness connector and parcel shelf unit harness connector.

Retractable har	Retractable hard top control unit		Parcel shelf unit		
Connector	Terminal	Connector	Terminal	Continuity	
B83	44	B71	1	Existed	
605	45		16	Existed	

4. Check harness for short to ground.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK PARCEL SHELF MOTOR (ROTATION) POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Connect retractable hard top control unit connector.
- 3. Turn ignition switch ON.
- Perform "ROOF/TRUNK/PARCEL SHELF" in "WORK SUPPORT" mode of "RETRACTABLE HARD TOP" using CONSULT (refer to <u>RF-45. "CONSULT Function"</u>).
- 5. Check the voltage between parcel shelf unit harness connector and ground under.

	(+) Parcel shelf unit		(–) Work Suppor		Work Support item		Voltage (V) (Approx.)
Connector	Terminal						
	1			VERT	0		
D74	16	Ground	Ground PS (ROTA)	HORI	Battery voltage		
B71	1			VERT	Battery voltage		
	16			HORI	0		

CAUTION:

This operation may interfere with and damage parts. Always check the precautions. Refer to <u>RF-10, "Precautions for Retractable Hard Top Service"</u>.

• Before opening trunk lid, release trunk opener lock-up.

• Before operating roof, release roof opener lock-up.

Is the inspection result normal?

YES >> Replace parcel shelf unit. Refer to <u>RF-276, "REAR PARCEL SHELF UNIT : Removal and Installa-</u> tion".

NO >> Replace retractable hard top control unit. Refer to <u>RF-295</u>, "Removal and Installation".

ROOF WARNING BUZZER

agnosis Procedu	ire					INFOID:000000008158
-						
CHECK ROOF WAR		ER POWE	R SUPPLY			
Turn ignition switch Disconnect roof war Check voltage betw	rning buzzer			r and gro	ound.	
Roof	f warning buzzer	r				
	(+)		(-	—)		Voltage (V) (Approx.)
Connector		Terminal				(11 -)
B87		1	Gro	bund		Battery voltage
.CHECK ROOF WAR		control unit				
Disconnect retractal Check continuity be harness connector.		ctable hard		irness co	onnector and	d roof warning buzz
Check continuity be	etween retrac					
Check continuity be harness connector.	etween retrac	t	l top control unit ha	ing buzzei		d roof warning buzz
Check continuity be harness connector. Retractable hard	etween retrac	t	top control unit ha Roof warn	ing buzzei	r	
Check continuity be harness connector. Retractable hard Connector	etween retrac d top control uni Termir 35	t nal	top control unit ha Roof warn Connector B87	ing buzzei T	r erminal 2	- Continuity Existed
Check continuity be harness connector. Retractable hard Connector B82 Check continuity be	etween retrac d top control uni Termir 35	t nal table hard	top control unit ha Roof warn Connector B87	ing buzzei T	r erminal 2	Continuity Existed round.
Check continuity be harness connector. Retractable hard Connector B82 Check continuity be	etween retrac	t nal table hard	top control unit ha	ing buzzei T	r erminal 2	- Continuity Existed
Check continuity be harness connector. Retractable hard Connector B82 Check continuity be Retracta Connector B82	etween retrace d top control uni Termir 35 etween retrace ble hard top con	t hal table hard	top control unit ha	ing buzzel T ness con	r erminal 2	Continuity Existed round.
Check continuity be harness connector. Retractable hard Connector B82 Check continuity be Retracta Connector	etween retrace d top control uni Termin 35 etween retrace ble hard top con hormal? eplace harnes NING BUZZE hard top cor	t table hard trol unit Terminal 35 SS. ER SIGNA ntrol unit co	top control unit ha	ing buzzer T ness con Ground	r erminal 2 nector and g	Continuity Existed round. Continuity Not existed
Check continuity be harness connector. Retractable hard Connector B82 Check continuity be Retracta Connector B82 the inspection result r (ES >> GO TO 3. NO >> Repair or re .CHECK ROOF WAR Connect retractable	etween retrace d top control uni Termin 35 etween retrace ble hard top con hormal? eplace harnes NING BUZZE hard top cor reen retractate	t table hard trol unit Terminal 35 SS. ER SIGNA ntrol unit co	top control unit ha	ing buzzer T ness con Ground	r erminal 2 nector and g	Continuity Existed round. Continuity Not existed
Check continuity be harness connector. Retractable hard Connector B82 Check continuity be Retracta Connector B82 the inspection result r (ES >> GO TO 3. NO >> Repair or re .CHECK ROOF WAR Connect retractable Check voltage betw	etween retrace d top control uni Termin 35 etween retrace ble hard top con hormal? eplace harnes NING BUZZE hard top cor reen retractate	t table hard trol unit Terminal 35 SS. ER SIGNA ntrol unit co	top control unit ha	ing buzzer T ness con Ground	r erminal 2 nector and g	Continuity Existed round. Continuity Not existed
Check continuity be harness connector. Retractable hard Connector B82 Check continuity be Retractal Connector B82 the inspection result r (ES >> GO TO 3. NO >> Repair or re .CHECK ROOF WAR Connect retractable Check voltage betw Retractable hard top of	etween retrace d top control uni Termin 35 etween retrace ble hard top con hormal? eplace harnes NING BUZZE hard top cor reen retractate	t hal table hard htrol unit Terminal 35 SS. ER SIGNA htrol unit co ble hard top	top control unit ha	ing buzzel T ness con Ground	r erminal 2 nector and g	Continuity Existed round. Continuity Not existed
Check continuity be harness connector. Retractable hard Connector B82 Check continuity be Retracta Connector B82 the inspection result r YES >> GO TO 3. NO >> Repair or re .CHECK ROOF WAR Connect retractable Check voltage betw Retractable hard top of (+)	etween retrace d top control uni Termin 35 etween retrace ble hard top con ble hard top con normal? eplace harnes NING BUZZE hard top cor reen retractate	t hal table hard htrol unit Terminal 35 SS. ER SIGNA htrol unit co ble hard top	top control unit ha	ing buzzer T ness con Ground arning bu s conne ondition	r erminal 2 nector and g	Continuity Existed round. Continuity Not existed

HYDRAULIC PUMP MOTOR POWER SUPPLY RELAY

< DTC/CIRCUIT DIAGNOSIS >

HYDRAULIC PUMP MOTOR POWER SUPPLY RELAY

Diagnosis Procedure

INFOID:000000008158536

1.CHECK FUSIBLE LINK

Check 50 A fusible link [letter M, located in the fuse, fusible link and relay box].

Is the fusible link blown?

YES >> Replace the blown fusible link after repairing the affected circuit if a fusible link is blown.

NO >> GO TO 2.

2. CHECK HYDRAULIC UNIT POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect hydraulic unit connector.

3. Check the voltage between hydraulic unit harness connector and ground.

(-	+)			
Hydraulic unit		(-)	Voltage (V) (Approx.)	
Connector	Terminal			
B81	7	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

 $\mathbf{3.}$ check hydraulic unit ground circuit

- 1. Disconnect retractable hard top control unit connector.
- 2. Check the continuity between retractable hard top control unit harness connector and hydraulic unit harness connector.

Retractable hard top control unit		Hydraulic unit		Continuity
Connector	Terminal	minal Connector Terminal		Continuity
B82	38	B80	3	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK RETRACTABLE HARD TOP CONTROL UNIT OUTPUT

1. Connect retractable hard top control unit connector and hydraulic unit connector.

2. Check the voltage between hydraulic unit harness connector and ground.

•	+) Ilic unit	()	Condition		Voltage (V) (Approx.)
Connector	Terminal				(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
B80	10	Cround	Batrastable bard tap	Operate	Battery voltage
DOU	18	Ground	Retractable hard top Stop		0

Is the inspection result normal?

NO >> Replace retractable hard top control unit. Refer to RF-295, "Removal and Installation"

YES >> Replace hydraulic unit. Refer to <u>RF-285, "Removal and Installation"</u>

RETRACTABLE HARD TOP DOES NOT OPERATE USING DOOR REQUEST SWITCH

et in en	
< SYMPTOM DIAGNOSIS >	
SYMPTOM DIAGNOSIS	А
RETRACTABLE HARD TOP DOES NOT OPERATE USING DOOR RE- QUEST SWITCH	
Diagnosis Procedure	В
1. CHECK DOOR LOCK FUNCTION	С
Check door lock function (with door request switch LH/RH).	
Does door lock/unlock with with door request switch (LH/RH)?	D
YES >> GO TO 2. NO >> Refer to <u>DLK-179, "ALL DOOR : Diagnosis Procedure"</u> .	
2.CONFIRM THE OPERATION	Е
Confirm the operation again.	
Is the result normal?	
 YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>. NO >> Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>. 	F
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< SYMPTOM DIAGNOSIS >

ROOF WARNING BUZZER DOES NOT SOUND

Diagnosis Procedure

INFOID:000000008158538

1.CHECK ROOF WARNING BUZZER

Check roof warning buzzer.

Refer to <u>RF-227, "Diagnosis Procedure"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CONFIRM THE OPERATION

Confirm the operation again.

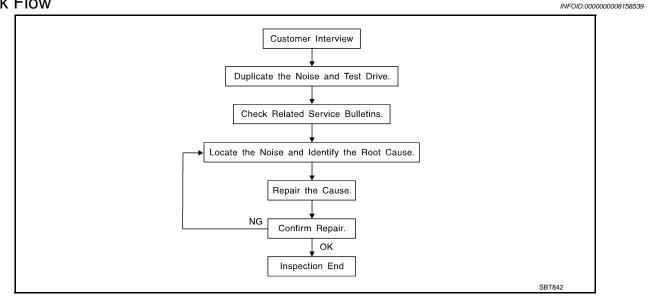
Is the result normal?

- YES >> Check intermittent incident. Refer to <u>GI-42, "Intermittent Incident"</u>.
- NO >> Replace retractable hard top control unit. Refer to <u>RF-295, "Removal and Installation"</u>.

< SYMPTOM DIAGNOSIS >

SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow



CUSTOMER INTERVIEW

Interview the customer if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any of the customer's comments; refer to <u>RF-235</u>, "<u>Diagnostic Worksheet</u>". This information is necessary to duplicate the conditions that exist when the noise occurs.

- The customer may not be able to provide a detailed description or the location of the noise. Attempt to obtain all the facts and conditions that exist when the noise occurs (or does not occur).
- If there is more than one noise in the vehicle, be sure to diagnose and repair the noise that the customer is concerned about. This can be accomplished by a test drive with the customer.
- After identifying the type of noise, isolate the noise in terms of its characteristics. The noise characteristics are provided so the customer, service adviser and technician are all speaking the same language when defining the noise.
- Squeak (Like tennis shoes on a clean floor)
 Squeak characteristics include the light contact/fast movement/brought on by road conditions/hard surfaces
 higher pitch noise/softer surfaces = lower pitch noises/edge to surface = chirping
- Creak (Like walking on an old wooden floor)
 Creak characteristics include firm contact/slow movement/twisting with a rotational movement/pitch dependent on materials/often brought on by activity.
- Rattle (Like shaking a baby rattle) Rattle characteristics include the fast repeated contact/vibration or similar movement/loose parts/missing clip or fastener/incorrect clearance.
- Knock (Like a knock on a door)
 Knock characteristics include hollow sounding/sometimes repeating/often brought on by driver action.
- Tick (Like a clock second hand)
 Tick characteristics include gentle contacting of light materials/loose components/can be caused by driver action or road conditions.
- Thump (Heavy, muffled knock noise) Thump characteristics include softer knock/dead sound often brought on by activity.
- Buzz (Like a bumble bee) Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending upon the person. A noise that a technician may judge as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

DUPLICATE THE NOISE AND TEST DRIVE

If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when the repair is reconfirmed.

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< SYMPTOM DIAGNOSIS >

If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

- 1) Close a door.
- 2) Tap or push/pull around the area where the noise appears to be coming from.
- 3) Rev the engine.
- 4) Use a floor jack to recreate vehicle "twist".
- 5) At idle, apply engine load (electrical load, half-clutch on M/T model, drive position on A/T model).
- 6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.
- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
- If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

- 1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Engine Ear or mechanics stethoscope).
- 2. Narrow down the noise to a more specific area and identify the cause of the noise by:
- Removing the components in the area that is are suspected to be the cause of the noise.
 Do not use too much force when removing clips and fasteners, otherwise clips and fastener can be broken or lost during the repair, resulting in the creation of new noise.
- Tapping or pushing/pulling the component that is are suspected to be the cause of the noise. Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
- Feeling for a vibration by hand by touching the component(s) that is are suspected to be the cause of the noise.
- Placing a piece of paper between components that is are suspected to be the cause of the noise.
- Looking for loose components and contact marks. Refer to <u>RF-233</u>, "Inspection Procedure".

REPAIR THE CAUSE

- If the cause is a loose component, tighten the component securely.
- If the cause is insufficient clearance between components:
- Separate components by repositioning or loosening and retightening the component, if possible.
- Insulate components with a suitable insulator such as urethane pads, foam blocks, felt cloth tape or urethane tape. These insulators are available through the authorized Nissan Parts Department.

CAUTION:

Never use excessive force as many components are constructed of plastic and may be damaged. NOTE:

URETHANE PADS

Insulates connectors, harness, etc.

- INSULATOR (Foam blocks) Insulates components from contact. Can be used to fill space behind a panel.
- INSULATOR (Light foam block)
- FELT CLOTHTAPE

Used to insulate where movement does not occur. Ideal for instrument panel applications.

The following materials, not available through NISSAN Parts Department, can also be used to repair squeaks and rattles.

• UHMW(TEFLON) TAPE

Insulates where slight movement is present. Ideal for instrument panel applications.

- SILICONE GREASE Used in place of UHMW tape that is be visible or does not fit. Note: Will only last a few months.
- SILICONE SPRAY
- Used when grease cannot be applied.
- DUCT TAPE

Used to eliminate movement.

CONFIRM THE REPAIR

Confirm that the cause of a noise is repaired by test driving the vehicle. Operate the vehicle under the same conditions as when the noise originally occurred. Refer to the notes on the Diagnostic Worksheet.

< SYMPTOM DIAGNOSIS >

Inspection Procedure
Refer to Table of Contents for specific component removal and installation information.
INSTRUMENT PANEL
Most incidents are caused by contact and movement between:
1. Cluster lid A and instrument panel
2. Acrylic lens and combination meter housing
3. Instrument panel to front pillar garnish
4. Instrument panel to windshield
5. Instrument panel mounting pins
6. Wiring harnesses behind the combination meter
7. A/C defroster duct and duct joint
These incidents can usually be located by tapping or moving the components to duplicate the noise or by pressing on the components while driving to stop the noise. Most of these incidents can be repaired by applying felt cloth tape or silicon spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.
CAUTION:
Never use silicone spray to isolate a squeak or rattle. If the area is saturated with silicone, the recheck of repair becomes impossible.
CENTER CONSOLE
Components to pay attention to include:
1. Shifter assembly cover to finisher
2. A/C control unit and cluster lid C
3. Wiring harnesses behind audio and A/C control unit
The instrument panel repair and isolation procedures also apply to the center console.
DOORS
Pay attention to the following:
1. Finisher and inner panel making a slapping noise
2. Inside handle escutcheon to door finisher
3. Wiring harnesses tapping
4. Door striker out of alignment causing a popping noise on starts and stops
Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. The areas can usually be insulated with felt cloth tape or insulator foam blocks to repair the noise.
TRUNK
Trunk noises are often caused by a loose jack or loose items put into the trunk by the customer. In addition look for the following:
1. Trunk lid dumpers out of adjustment
2. Trunk lid striker out of adjustment
3. Trunk lid torsion bars knocking together
4. A loose license plate or bracket
Most of these incidents can be repaired by adjusting, securing or insulating the item(s) or component(s) causing the noise.
SUNROOF/HEADLINING
Noises in the sunroof/headlining area can often be traced to one of the following:
1. Sunroof lid, rail, linkage or seals making a rattle or light knocking noise
2. Sunvisor shaft shaking in the holder
3. Front or rear windshield touching headlining and squeaking
Again, pressing on the components to stop the noise while duplicating the conditions can isolate most of these incidents. Repairs usually consist of insulating with felt cloth tape.

< SYMPTOM DIAGNOSIS >

SEATS

When isolating seat noise it is important to note the position the seat is in and the load placed on the seat when the noise occurs. These conditions should be duplicated when verifying and isolating the cause of the noise.

Cause of seat noise include:

- 1. Headrest rods and holder
- 2. A squeak between the seat pad cushion and frame
- 3. Rear seatback lock and bracket

These noises can be isolated by moving or pressing on the suspected components while duplicating the conditions under which the noise occurs. Most of these incidents can be repaired by repositioning the component or applying urethane tape to the contact area.

UNDERHOOD

Some interior noise may be caused by components under the hood or on the engine wall. The noise is then transmitted into the passenger compartment.

Causes of transmitted underhood noise include:

- 1. Any component mounted to the engine wall
- 2. Components that pass through the engine wall
- 3. Engine wall mounts and connectors
- 4. Loose radiator mounting pins
- 5. Hood bumpers out of adjustment
- 6. Hood striker out of adjustment

These noises can be difficult to isolate since they cannot be reached from the interior of the vehicle. The best method is to secure, move or insulate one component at a time and test drive the vehicle. Also, engine RPM or load can be changed to isolate the noise. Repairs can usually be made by moving, adjusting, securing, or insulating the component causing the noise.

< SYMPTOM DIAGNOSIS >

Diagnostic Worksheet



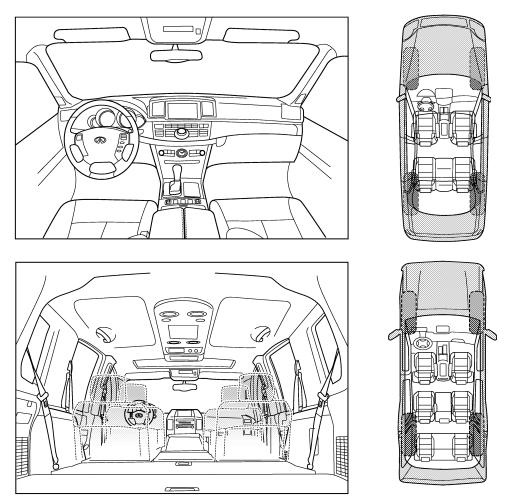
SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

Dear Infiniti Customer:

We are concerned about your satisfaction with your Infiniti vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your Infiniti right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions. You may be asked to take a test drive with a service consultant or technician to ensure we confirm the noise you are hearing.

I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)

The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.



Continue to page 2 of the worksheet and briefly describe the location of the noise or rattle. In addition, please indicate the conditions which are present when the noise occurs.

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< SYMPTOM DIAGNOSIS >

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET - page 2

Briefly describe the location where the noise occurs:

II. WHEN DOES IT OCCUR? (please check the boxes that apply)							
 anytime 1st time in the morning only when it is cold outside only when it is hot outside 	 after sitting out in the rain when it is raining or wet dry or dusty conditions other: 						
III. WHEN DRIVING:	IV. WHAT TYPE OF NOISE						
 through driveways over rough roads over speed bumps only about mph on acceleration coming to a stop on turns: left, right or either (circle) with passengers or cargo other: after driving miles or minu 	 squeak (like tennis shoes on a clean floor) creak (like walking on an old wooden floor) rattle (like shaking a baby rattle) knock (like a knock at the door) tick (like a clock second hand) thump (heavy, muffled knock noise) buzz (like a bumble bee) 						

TO BE COMPLETED BY DEALERSHIP PERSONNEL

Test Drive Notes:

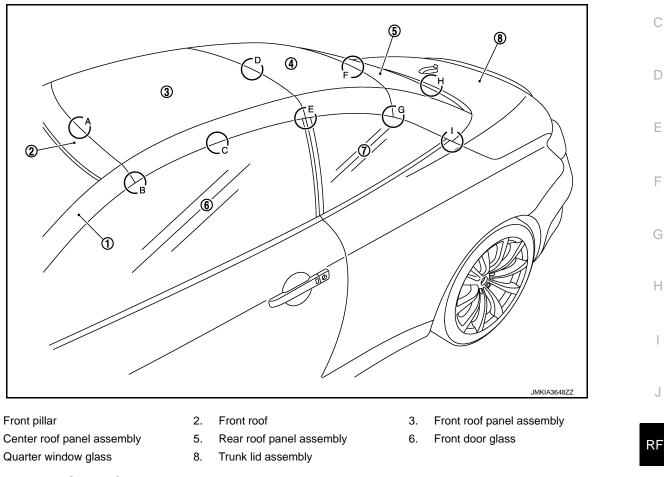
	YES	NO	Initials of person performing
Vehicle test driven with customer - Noise verified on test drive - Noise source located and repaired - Follow up test drive performed to confirm repair			
	tomer Na	me:	
W.O.# Date	۰.		

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE

WATER LEAKAGE TROUBLE DIAGNOSIS

Repairing Method for Water Leakage Around Retractable Hard Top



WATER LEAKAGE FROM A

The cause of water leakage may be from poor contact between the front roof and the body side weather-strip.

Repair Procedure 1

weather-strip.

1.

4.

7.

Check that front roof and the front roof panel are flush and adjust if necessary.	Μ
Refer to <u>RF-260, "Adjustment"</u> .	
Check and adjust the gap between the front roof and the front roof panel if necessary.	
Refer to <u>RF-260, "Adjustment"</u> .	Ν
WATER LEAKAGE FROM B	
The cause of water leakage may be from poor contact between the front pillar upper portion and body side	

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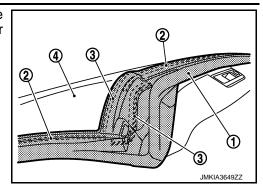
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< PERIODIC MAINTENANCE >

Cause: Double-sided tape (2) and EPT seal (3) on body side weather-strip (1) backside does not securely contact front pillar upper portion (4).

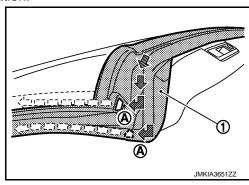


Repair procedure 2

- Fill the clearance with butyl if clearance is detected between front roof panel and weather-strip. Replace the part if water leakeage is still detected.
- Replace body side weather-strip with new one and check that double-sided tape and EPT seal securely contacts front pillar upper portion and front roof.

The cause of water leakage may be from inefficiency of water evacuation.

Cause: The body side weather-strip (1) drain hole (Å) is plugged.



Repair Procedure 3

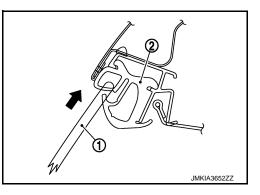
Cleanse the drain holes of body side weather-strip.

Unplug the drain hole (A) on both sides of front body side weather-strip.

WATER LEAKAGE FROM C

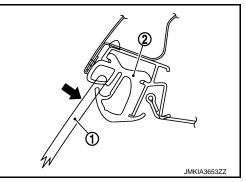
The cause of water leakage may be from poor contact between the door glass (1) and front roof panel weather-strip (2) in vertical direction.

Cause: The power window cannot apply enough vertical pressure to the front roof panel weather-strip via the door glass.



The cause of water leakage may be from poor contact between the door glass (1) and front roof panel weather-strip in (2) lateral direction.

Cause: The power window cannot apply enough lateral pressure to the front roof panel weather-strip via the door glass.



Repair Procedure 4 Adjust the door glass and quarter window glass. Refer to <u>GW-18, "Inspection and Adjustment"</u>.

RF-238

< PERIODIC MAINTENANCE >

WATER LEAKAGE FROM D

The cause of water leakage may be from poor contact between front roof panel and center roof panel. Cause: There may be incorrect adjustment between front roof panel and center roof panel.

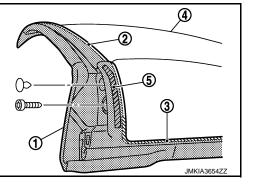
Repair Procedure 5

Check and adjust the flatness deviation between the front roof panel and the center roof panel if necessary. Refer to <u>RF-265, "Adjustment"</u>.

Check and adjust the gap between the front roof panel and the center roof panel if necessary. Refer to <u>RF-265</u>, "Adjustment".

The cause of water leakage may be from poor contact or gap between the front roof panel and center roof panel weather-strip top.

Cause: Double-sided tape (2), EPT seal (3) and butyl (5) on center roof panel weather-strip (1) backside does not securely contact center roof panel (4).



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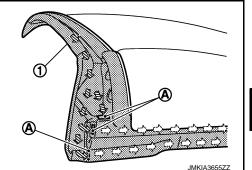
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Repair Procedure 6

- Fill the clearance with butyl if clearance is detected between center roof panel and weather-strip. Replace the part if water leakeage is still detected.
- Replace center roof panel weather-strip with new one and check that double-sided tape and EPT seal securely contacts center roof panel.

The cause of water leakage may be from inefficiency of water evacuation. Cause: The center roof panel weather-strip front (1) drains holes (A) are plugged.



Repair Procedure7

Cleanse the drain holes of center roof panel weather-strip front. Unplug the drain holes (A) (A) on both sides of center roof panel weather-strip front.

WATER LEAKAGE FROM E

The cause of water leakage may be between the top edges of door glass and quarter window glasses. Cause: The flatness between door glass and quarter window glasses is incorrect.

Repair Procedure 8

Check the flatness between the door glass and quarter window glass using a thin plastic card. The resistance must be same at each point.

- If the flatness is incorrect.
- Adjust the door glass and quarter window glass. Refer to GW-18, "Inspection and Adjustment".

WATER LEAKAGE FROM F

The cause of water leakage may be from poor contact between the center roof panel and the rear roof panel. Cause: There may be incorrect adjustment between the center roof panel and the rear roof panel.

Repair Procedure 9

Check that center roof panel and the rear roof panel are flush and adjust if necessary. Refer to <u>RF-269</u>, "Adjustment".

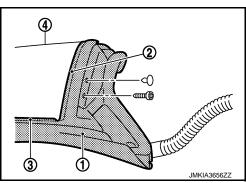
RF-239

< PERIODIC MAINTENANCE >

WATER LEAKAGE FROM G

The cause of water leakage may be from poor contact or gap between the center roof panel weather-strip and rear roof panel.

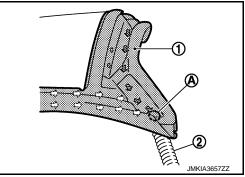
Cause: Double-sided tape (2) and EPT seal (3) on center roof panel weather-strip (1) back side does not securely contact center roof panel (4).



Repair Procedure 10

- Fill the clearance with butyl if clearance is detected between rear roof panel and weather-strip. Replace the part if water leakeage is still detected.
- Replace center roof panel weather-strip with new one and check that double-sided tape and EPT seal securely contacts center roof panel.
- The cause of water leakage may be from inefficiency of water evacuation.

Cause: Center roof panel weather-strip (1) drain holes (A) are plugged.



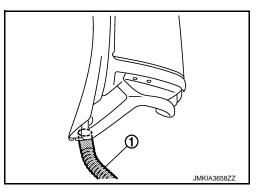
Repair Procedure 11

Cleanse the drain holes of center roof panel weather-strip.

- Unplug the drain holes (A) on both sides of center roof panel weather-strip rear.
- Check the connection between the center roof panel weather-strip and drain tube.

Repair Procedure 12

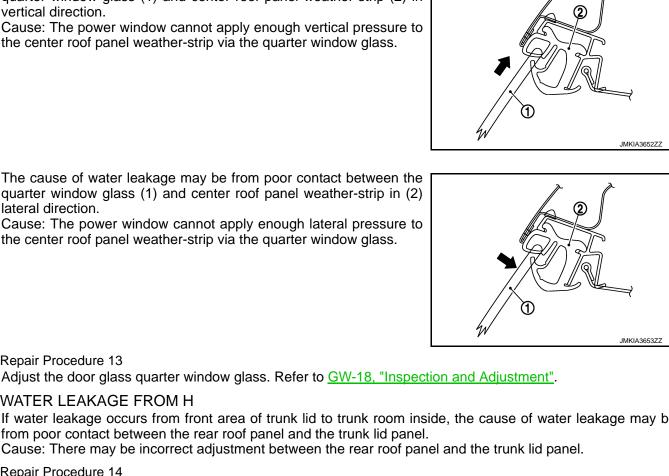
Align the connection claw position of drain tube (1) and insert.



< PERIODIC MAINTENANCE >

The cause of water leakage may be from poor contact between the quarter window glass (1) and center roof panel weather-strip (2) in vertical direction.

Cause: The power window cannot apply enough vertical pressure to the center roof panel weather-strip via the guarter window glass.



Repair Procedure 13

lateral direction.

Adjust the door glass quarter window glass. Refer to GW-18, "Inspection and Adjustment".

WATER LEAKAGE FROM H

If water leakage occurs from front area of trunk lid to trunk room inside, the cause of water leakage may be from poor contact between the rear roof panel and the trunk lid panel.

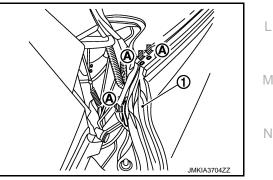
Cause: There may be incorrect adjustment between the rear roof panel and the trunk lid panel.

Repair Procedure 14

Check and adjust the contact deviation between the rear roof panel and the trunk lid panel if necessary. Refer to RF-269, "Adjustment".

WATER LEAKAGE FROM I

The cause of water leakage may be from inefficiency of water evacuation. Cause: The body side weather-strip (1) drains holes (A) are plugged.



Repair Procedure 15 Cleanse the drain holes of the body side weather-strip. Unplug the drain holes (A) on both sides of the body side weather-strip.

Water Leakage Test

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- Visually check for water leakage after repairing.
- If complaint or claim for water leakage come from owner although hose test goes well, shower test is needed.

NOTE:

It is considered normal if level of water flow on center pillar upper end is kept at a level that water flows along with passenger room side glass.

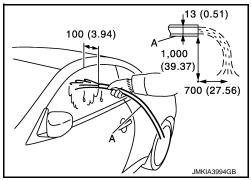
Revision: 2012 July



< PERIODIC MAINTENANCE >

HOW TO CHECK BY HOSE

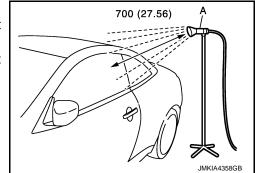
- 1. 2 workers are required. One worker checks inside the vehicle, and the other one washes with water.
- Use 13 mm (0.51 in) diameter hose (A). Adjust water pressure by following method. Hold the hose horizontally, and release water at 1000 mm (39.37 in) height from ground. Adjust the distance, between the ground point just below the hose and the water dropping point, to reach 700 mm (27.56 in). (See the figure.)



- 3. Keeping the distance between the hose and the testing area by 100 mm (3.94 in), apply water along the area 3 times. During applying water, move the hose by 100 mm (3.94 in)/sec speed.
- 4. Visually check for water leakage.

HOW TO CHECK BY SHOWER

- 1. Adjust water flow as the same as hose test.
- 2. Shower by hose with shower head (A) keeping distance about 700 mm (27.56 in) far from vehicle.
- 3. Keep showering 30min against each weather-strip which might cause water leakage.



4. Visually check for water leakage.

< REMOVAL AND INSTALLATION > **REMOVAL AND INSTALLATION** FRONT LATCH ASSEMBLY

Exploded View

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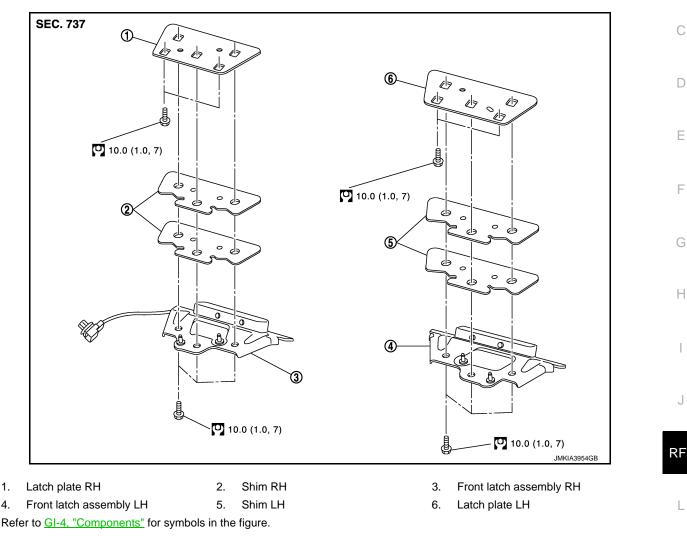
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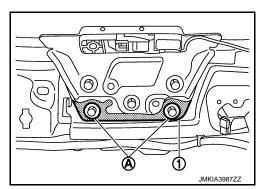
Removal and Installation

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- 1. Remove roof front finisher. Refer to RF-246, "Removal and Installation".
- 2. Disconnect roof latch limit switch harness connector.
- 3. Remove mounting bolts, and then remove front latch assembly. **CAUTION:**
 - Never loosen mounting bolts (A).
 - Never remove latch plate (LH/RH) (1).



FRONT LATCH ASSEMBLY

< REMOVAL AND INSTALLATION >

INSTALLATION

Install in the reverse order of removal.

- NOTE:
- Perform initialization according to the work after installing front lach assembly. Refer to RF-74, "Description".
- Adjust door glass and quarter window glass. Refer to <u>GW-18, "Inspection and Adjustment"</u>.
 Perform water leakage test. Refer to <u>RF-241, "Water Leakage Test"</u>.

< REMOVAL AND INSTALLATION > HEADLINING

Exploded View

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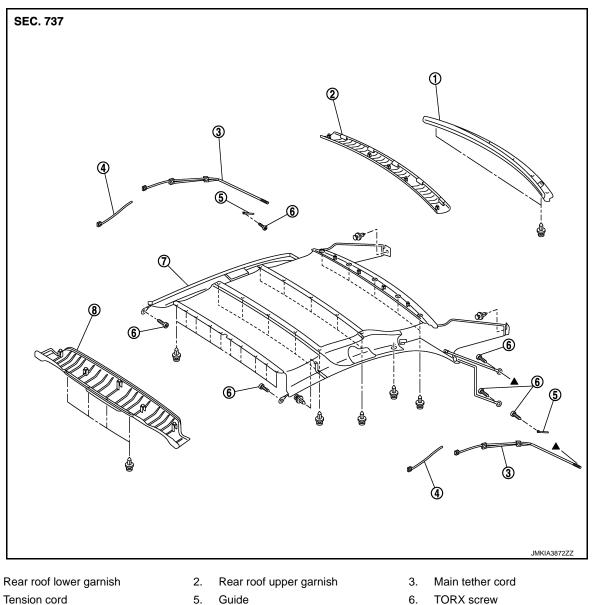
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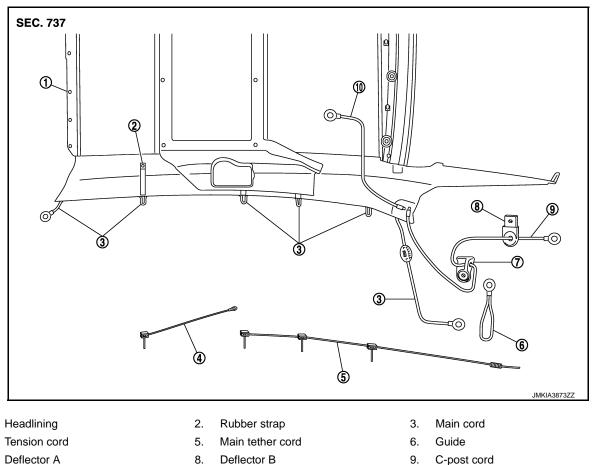
- Tension cord 4.
- 7. Headlining
- CORD

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- Guide
- 8. Front roof garnish
- 6. TORX screw

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Deflector A
 Rubber cord

Removal and Installation

REMOVAL

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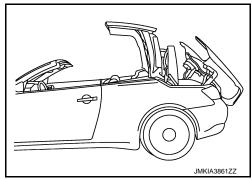
4.

CAUTION:

Protect the rear fender with a fender protectoer. NOTE:

- Operate roof manually if it does not operate electrically. Refer to RF-298, "Manual Operation".
- All graphics are on the LH roof link side.
- 1. Stop roof as shown in the figure (during open operation). CAUTION:

Be careful of the roof and rear parcel shelf unit positions when operating, because roof may drop little by little and may interfere with rear parcel shelf unit when roof is in the middle position for a long period of time.

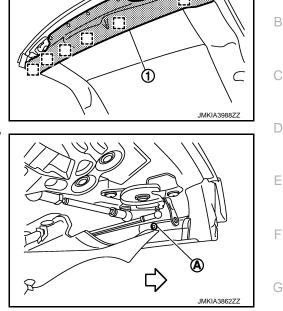


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< REMOVAL AND INSTALLATION >

- 2. Remove clips and metal clips, and then remove front roof garnish (1).
 - : Metal clip

- Remove headlining and main cord mounting TORX screw (LH/ RH) (A) from front roof panel front side.



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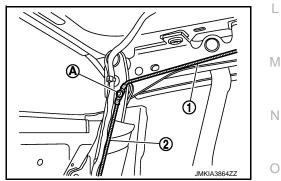
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- 4. Remove front side clips of front roof panel.
- 5. Remove clip (LH/RH) (A), and then rubber strap (1) from front roof panel.

- 6. Remove rear side clips of front roof panel.
- Remove TORX screw (A), and then tension cord (1) and rubber cord (2) through clearance between front roof panel and center roof panel.



- 8. Remove tension cord from front roof panel support rail.
- 9. Remove front side clips and intermediate clips of center roof panel.
- 10. Remove main tether cord stopper from center roof panel support rail. (3spot)
- 11. Remove deflector B mounting TORX screws.

< REMOVAL AND INSTALLATION >

12. Remove retainer from center roof panel.

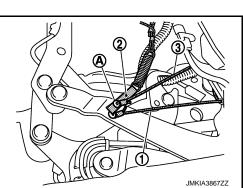
- 13. Remove rear side clips of center roof panel.
- 14. Remove metal clips, and then remove headlining from center roof panel.
 - [] : Metal clip

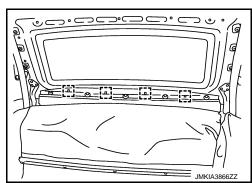
- 15. Remove clips and metal clips, and then remove rear roof lower garnish.
 - [] : Metal clip

16. Remove clip (LH/RH) (A), and then remove headlining from rear roof panel.

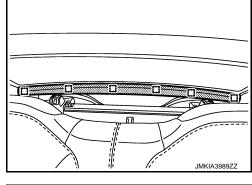
17. Remove main cord (1), main tether cord (2), and C-post cord (3) mounting TORX screws (A) from roof link.

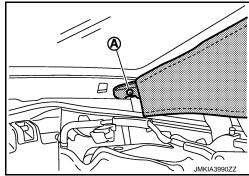
RF-248





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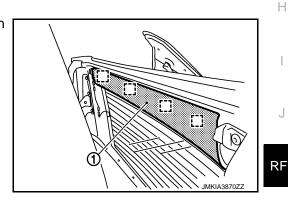


< REMOVAL AND INSTALLATION >

18. Stop roof as shown in the figure (roof is closed and trunk is open).

19. Remove deflector A (1) and guide (2) mounting TORX screws (A) from roof link.

- 20. Remove the headlining from vehicle.
- 21. Remove metal clips, and then remove rear roof upper garnish (1).
 - [] : Metal clip



INSTALLATION

CAUTION:

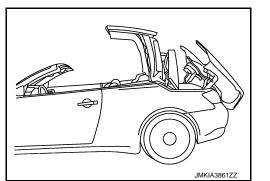
Use TORX srews that is larger by a size when re-installing headlining. NOTE:

All graphics are on the LH roof link side.

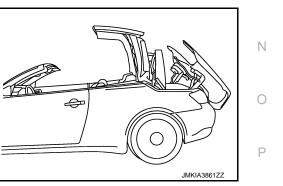
1. Stop roof as shown in the figure (in the middle of open operation).

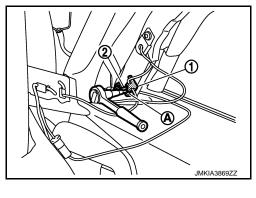
CAUTION:

Be careful of the roof and rear parcel shelf unit positions when operating, because roof may drop little by little and may interfere with rear parcel shelf unit when roof is in the middle position for a long period of time.



2. Install rear roof upper garnish.





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Revision: 2012 July

2013 G Convertible

< REMOVAL AND INSTALLATION >

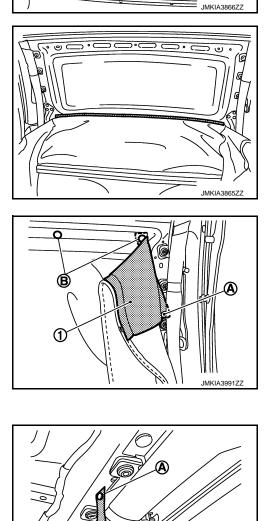
- 3. Install headlining metal clips and clips to center roof panel rear side.
 - [] : Metal clip

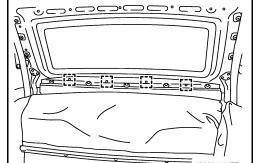
4. Install headlining retainer to center roof panel.

- Install intermediate clips (A) to center roof panel.
 Fix back side of flap portion (1) of headlining cloth using clips
- 6. Install front side clips (B) to center roof panel.

- 7. Install front side and rear side clips to front roof panel.
- 8. Install rubber strap (1) using clip (LH/RH) (A).

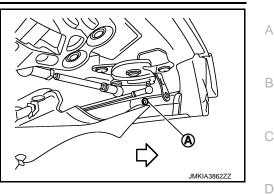
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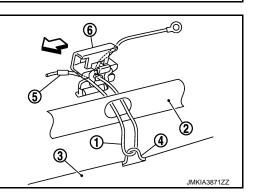


< REMOVAL AND INSTALLATION >

- Install headlining and main cord mounting TORX screw (LH/RH) (A) to front roof panel front side.
 - <□ : Vehicle front



10. As shown in the figure, pass tension code (1) through front roof panel support rail (2) and main code (4) of headlining (3), and then hook tension code crimping portion (5) to stopper groove. Hook stopper (6) claws to roof panel support rail and engage stopper to front roof panel support rail.



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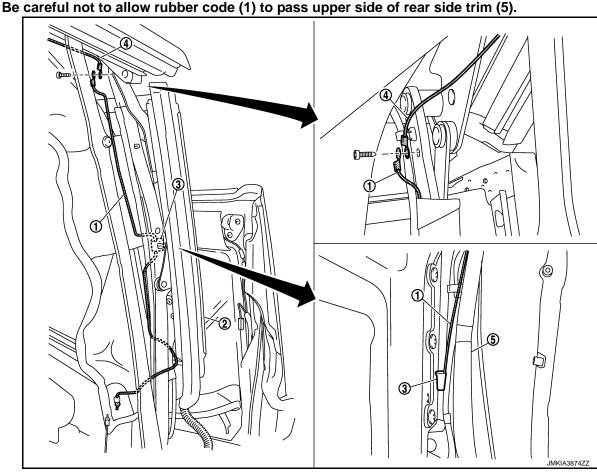
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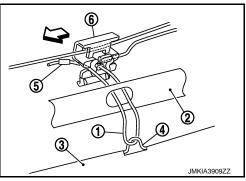
- 11. Pass rubber code (1) through clearance between roof link and center roof panel (2), and then pass it through trim sleeve (3).
- 12. Install tension code (4) and rubber code (1) together using TORX screws. CAUTION:



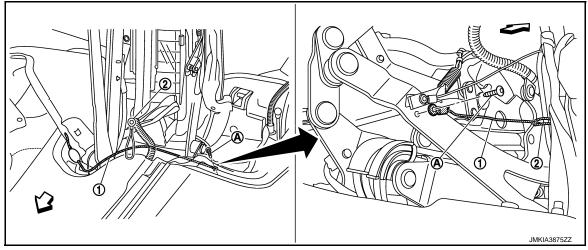
< REMOVAL AND INSTALLATION >

13. As shown in the figure, pass main tether code (1) through center roof panel support rail (2) and main code (4) of headlining (3), and then hook tension code crimping portion (5) to stopper groove.

Hook stopper (6) claws to roof panel support rail and engage stopper to center roof panel support rail. (3 spot)



- 14. Pull strongly main tether code.
- 15. As shown in the figure, set main code (1), pass it through guide (2), and fix to rear and lower side of roof link using TORX screws (A).

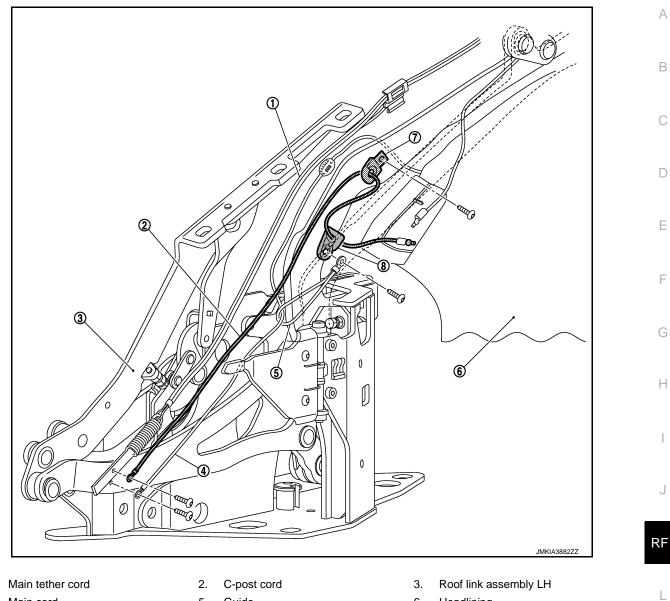


16. As shown in the figure, set C-post code (2) and install deflector B (7) to roof link using TORX screws. CAUTION:

Pass C-post cord (2) to deflector B (1) from inner side to outer side and fix to roof link assembly (3).

HEADLINING

< REMOVAL AND INSTALLATION >



Main cord 4.

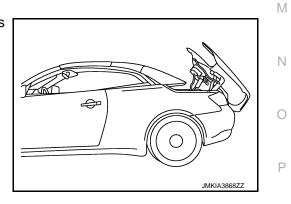
1.

- Deflector B 7.

- 5. Guide
- 8. Deflector A

6. Headlining

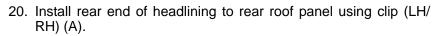
- 17. Hang main tether code and C-post code to trunk side.
- 18. Stop roof as shown in the figure (roof is closed and trunk is open).

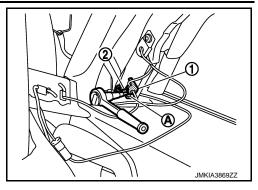


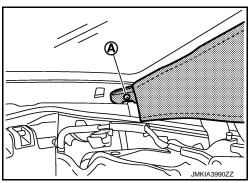
HEADLINING

< REMOVAL AND INSTALLATION >

19. From passenger room side, fix guide (2) and deflector A (1) together using TORX screws (A).



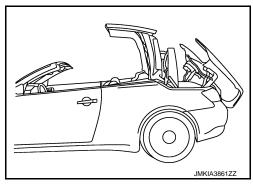




- 21. Install rear roof lower garnish.
- 22. Stop roof as shown in the figure (in the middle of roof open operation).

CAUTION:

Be careful of the roof and rear parcel shelf unit positions when operating, because roof may drop little by little and may interfere with rear parcel shelf unit when roof is in the middle position for a long period of time.



- 23. Pull main tether code and C-post code and fix to roof link together using TORX screws.
- 24. Install front roof garnish.
- 25. Fully close roof.

< REMOVAL AND INSTALLATION >

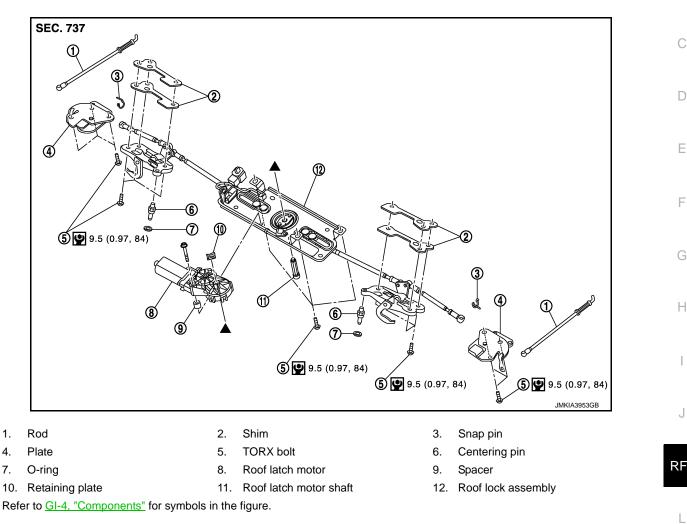
ROOF LOCK ASSEMBLY ROOF LOCK ASSEMBLY

ROOF LOCK ASSEMBLY : Exploded View

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ROOF LOCK ASSEMBLY : Removal and Installation

REMVAL

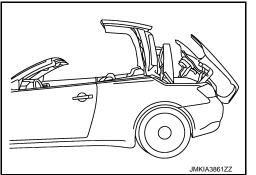
CAUTION:

Protect the rear fender with a fender protectoer. NOTE:

Operate roof manually if it does not operate electrically. Refer to RF-298, "Manual Operation".

1. Stop roof as shown in the figure (during open operation). CAUTION:

Be careful of the roof and rear parcel shelf unit positions when operating, because roof may drop little by little and may interfere with rear parcel shelf unit when roof is in the middle position for a long period of time.



2. Remove front roof garnish. Refer to RF-246, "Removal and Installation".

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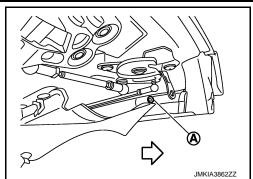
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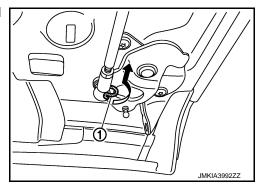
ROOF LOCK ASSEMBLY

< REMOVAL AND INSTALLATION >

- 3. Remove headlining and main cord mounting TORX screw (LH/ RH) (A) from front roof panel front side.



- 4. Pull ball joint side downward and remove rod.
- 5. Remove snap pin (1), and then remove roof lock assembly lod from plate.



- 6. Remove mounting bolts, and then remove plate.
- 7. Remove mounting bolts, and then remove roof lock assembly and shims.

INSTALLATION

Install in the reverse order of removal.

NOTE:

- Perform initialization according to the work after installing roof lock assembly. Refer to <u>RF-74, "Description"</u>.
- Adjust door glass and quarter window glass. Refer to <u>GW-18, "Inspection and Adjustment"</u>.
- Perform water leakage test. Refer to RF-241, "Water Leakage Test".

ROOF LATCH MOTOR

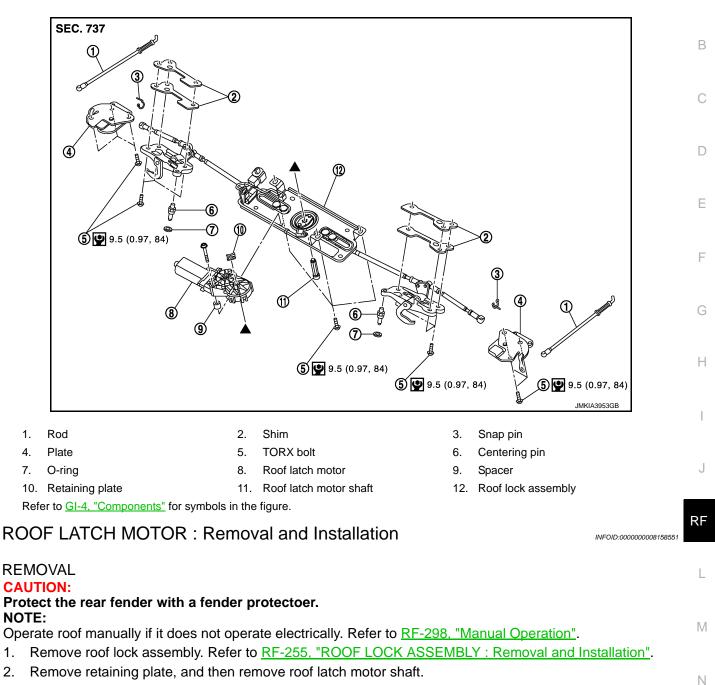
ROOF LOCK ASSEMBLY

< REMOVAL AND INSTALLATION >

ROOF LATCH MOTOR : Exploded View

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- 3. Disconnect roof latch motor harness connector.
- Remove mounting bolt, and then remove roof latch motor. 4.

INSTALLATION

Install in the reverse order of removal.

NOTE:

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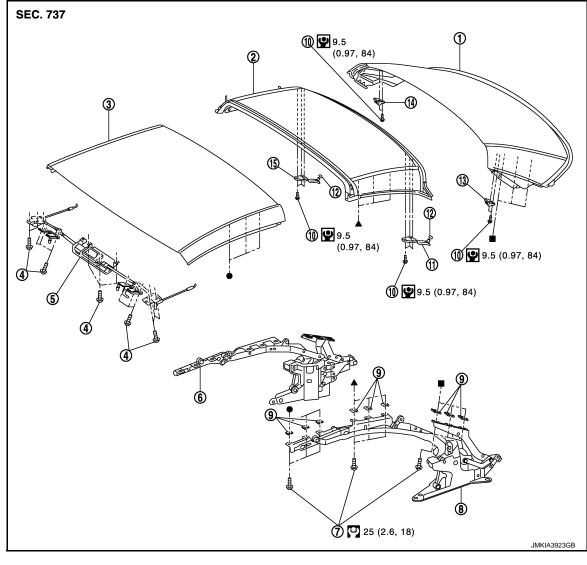
- Perform initialization according to the work after installing roof latch motor. Refer to <u>RF-74, "Description"</u>. Ρ
- Adjust door glass and quarter window glass. Refer to <u>GW-18, "Inspection and Adjustment"</u>.
- Perform water leakage test. Refer to <u>RF-241</u>, "Water Leakage Test".

< REMOVAL AND INSTALLATION >

FRONT ROOF PANEL

Exploded View

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- 1. Rear roof panel
- 4. TORX bolt
- 7 TORX bolt
- 10. TORX bolt

- 2. Center roof panel
- 5. Roof lock assembly
- 8. Roof link assembly LH
- 11. Center roof panel pin LH
- 14. Center roof panel retainer RH
- Refer to <u>GI-4, "Components"</u> for symbols in the figure.

Removal and Installation

13. Center roof panel retainer LH

REMVAL

CAUTION:

Protect the rear fender with a fender protector.

NOTE:

Operate roof manually if it does not operate electrically. Refer to RF-298, "Manual Operation".

- 1. Remove headlining. Refer to <u>RF-246, "Removal and Installation"</u>.
- 2. Remove trunk room trim. Refer to INT-24, "Removal and Installation".

- 3. Front roof panel
- 6. Roof link assembly RH
- 9. Shim
- 12. O-ring
- 15. Center roof panel pin RH

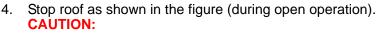
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RF-258

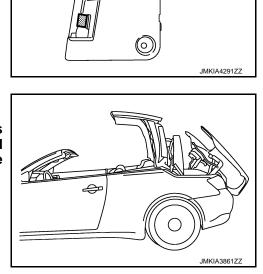
FRONT ROOF PANEL

< REMOVAL AND INSTALLATION >

3. Put small piece to the tonneau board switch, connect harness connector to vehicle.



Be careful of the roof and rear parcel shelf unit positions when operating, because roof may drop little by little and may interfere with rear parcel shelf unit when roof is in the middle position for a long period of time.



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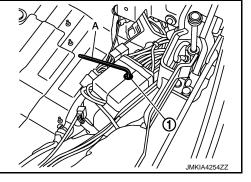
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Remove roof lock assembly. Refer to <u>RF-255, "ROOF LOCK ASSEMBLY : Removal and Installation"</u>. Н Remove harness clamp. 7. Remove front side trim. Refer to <u>RF-273, "Exploded View"</u>. Put matching mark on front roof panel. 9. Loosen front roof panel mounting TORX bolts, record shim quantity, and remove shims. 10. Remove front roof panel mounting TORX bolts and remove front roof panel **INSTALLATION** 1. Temporarily fix front roof panel to roof link. Insert shims between front roof panel and roof link according to recorded shim quantity. RF Align matching mark and tighten TORX bolts. 4. Install front side trim. Refer to <u>RF-273, "Exploded View"</u>. Install harness clamp. 6. Install roof lock assembly. Refer to RF-255, "ROOF LOCK ASSEMBLY : Removal and Installation". 7. Open hydraulic unit valve (1) slowly while supporting roof. Using)) Μ a hexagon wrench (A). Opening torque: Max 2.0 N·m (0.2 kg-m, 18 in-lb) 9 Ν CAUTION: Check that valve opening torgue is always with in the spec-

ified value for preventing oil leakage.



- Open and close roof manually and check that interference is not detected. CAUTION:
 - This operation requires two people.
 - Keep hands away from the moving parts.
- Close hydraulic unit valve.

< REMOVAL AND INSTALLATION >

Closing torque: 1.8 – 2.2 N·m (0.18 – 0.22 kg-m, 16 – 19 in-lb)

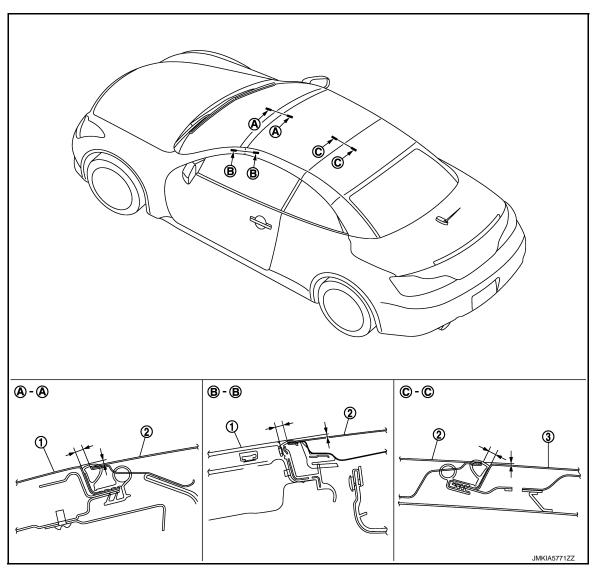
CAUTION:

Check that valve closing torque is always with in the specified value for preventing oil leakage.

- 10. Install trunk room trim. Refer to INT-24, "Removal and Installation".
- 11. Perform front roof panel adjustment. Refer to <u>RF-260, "Adjustment"</u>.
- 12. Install headlining. Refer to RF-246, "Removal and Installation".

Adjustment

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1. Roof panel2. Front roof panel3. Center roof panel

Check the clearance and the surface height between front roof panel and each part by visually and touching. If the clearance and the surface height are out of specification, adjust them according to the procedures shown below.

CAUTION:

Fully close roof. Check that front and rear lock is locked.

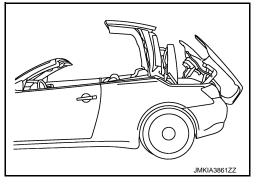
FRONT ROOF PANEL

< REMOVAL AND INSTALLATION >

Portion		Clearance	Surface height (Front side is to be high- er than rear side)	/
Roof panel – Front roof panel (center)	A – A	4.9 – 7.9 mm (0.193 – 0.311 in)	0.5 – 2.5 mm (0.020 – 0.098 in)	I
Roof panel – Front roof panel (side)	B – B	4.9 – 7.9 mm (0.193 – 0.311 in)	0.0 – 1.5 mm (0.000 – 0.059 in)	(
Front roof panel – Center roof panel	C – C	4.9 – 7.9 mm (0.193 – 0.311 in)	0.0 – 2.0 mm (0.000 – 0.079 in)	

- 1. Remove headlining. Refer to <u>RF-246. "Removal and Installation"</u>.
- 2. Stop roof as shown in the figure (during open operation). CAUTION:

Be careful of the roof and rear parcel shelf unit positions when operating, because roof may drop little by little and may interfere with rear parcel shelf unit when roof is in the middle position for a long period of time.



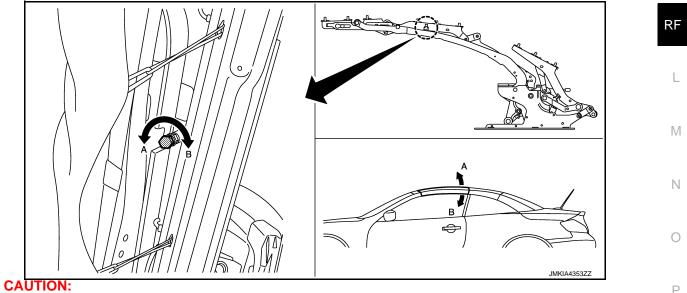
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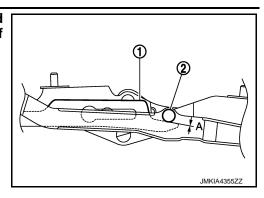
- 3. Loosen front roof panel mounting TORX bolt.
- 4. Adjust front roof panel.
 - If surface height difference is out of the specified value, and then adjust using shims.
 - If clearance is out of the specified value, and slide front roof panel to front or rear direction.
- 5. Tighten each TORX bolt to the specified torque. Refer to <u>RF-258, "Exploded View"</u>.
- If shim adjustment is not completed normally, rotate the adjusting bolt of roof link assembly and adjust front roof panel inclination.



FRONT ROOF PANEL

< REMOVAL AND INSTALLATION >

Adjust the adjusting bolt so that no clearance (A) and looseness are left between slider (1) and pin (2) when roof is fully closed.



- 7. If C C is out of the specified value, adjust center roof panel. Refer to <u>RF-265</u>, "Adjustment".
- 8. Open and close roof. Check that lock and unlock operation is normal several times.
- 9. Perform initialization according to the work after adjusting front roof panel. Refer to <u>RF-74, "Description"</u>.
- 10. Adjust door glass and quarter window glass. Refer to GW-18, "Inspection and Adjustment".
- 11. Perform water leakage test. Refer to RF-241, "Water Leakage Test".
- 12. Install headlining. Refer to <u>RF-246, "Removal and Installation"</u>.

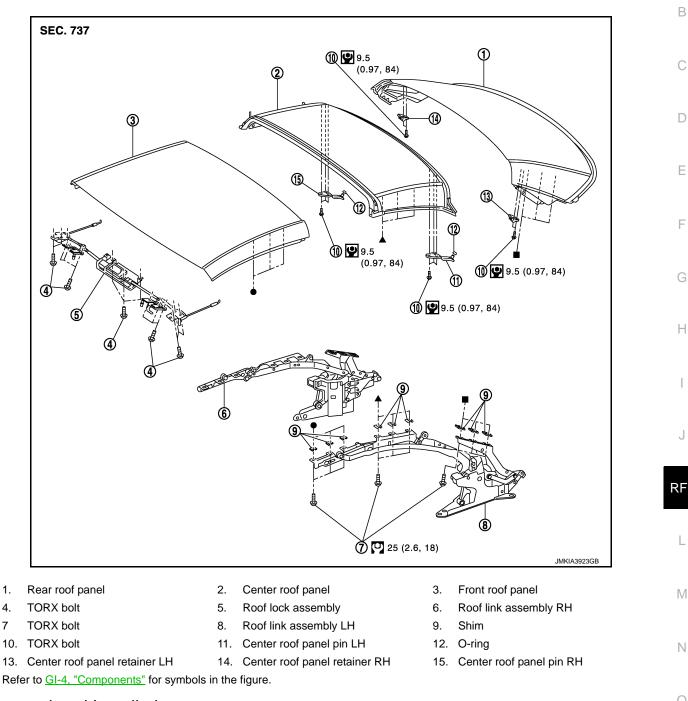
< REMOVAL AND INSTALLATION >

CENTER ROOF PANEL

Exploded View

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Removal and Installation

REMVAL

CAUTION:

Protect the rear fender with a fender protector.

NOTE:

Operate roof manually if it does not operate electrically. Refer to RF-298. "Manual Operation".

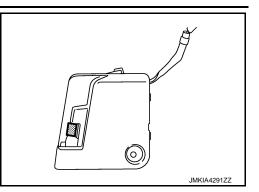
- 1. Remove headlining. Refer to <u>RF-246, "Removal and Installation"</u>.
- 2. Remove trunk room trim. Refer to INT-24. "Removal and Installation".

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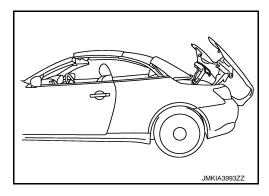
Ρ

< REMOVAL AND INSTALLATION >

3. Put small piece to the tonneau board switch, connect harness connector to vehicle.



4. Stop roof as shown in the figure (during open operation).



- 5. Remove rear side trim. Refer to <u>RF-273, "Exploded View"</u>.
- 6. Put matching mark on center roof panel.
- 7. Loosen center roof panel mounting TORX bolts, record shim quantity, and remove shims.
- 8. Remove center roof panel mounting TORX bolts and remove center roof panel.

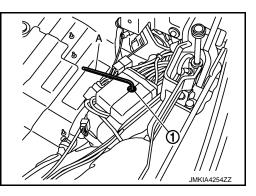
INSTALLATON

- 1. Temporarily fix center roof panel to roof link.
- 2. Insert shims between center roof panel and roof link according to recorded shim quantity.
- 3. Align matching mark and tighten TORX bolts.
- 4. Install rear side trim. Refer to <u>RF-273, "Exploded View"</u>.
- 5. Open hydraulic unit valve (1) slowly while supporting roof. Using a hexagon wrench (A).

Opening torque: Max 2.0 N·m (0.2 kg-m, 18 in-lb)

CAUTION:

Check that valve opening torque is always with in the specified value for preventing oil leakage.



- 6. Open and close roof manually and check that interference is not detected. **CAUTION:**
 - This operation requires two people.
 - Keep hands away from the moving parts.
- 7. Close hydraulic unit valve.

Closing torque: 1.8 – 2.2 N·m (0.18 – 0.22 kg-m, 16 – 19 in-lb)

CAUTION:

Check that valve closing torque is always with in the specified value for preventing oil leakage.

- 8. Install trunk room trim. Refer to INT-24, "Removal and Installation".
- 9. Perform center roof panel adjustment. Refer to <u>RF-265, "Adjustment"</u>.

RF-264

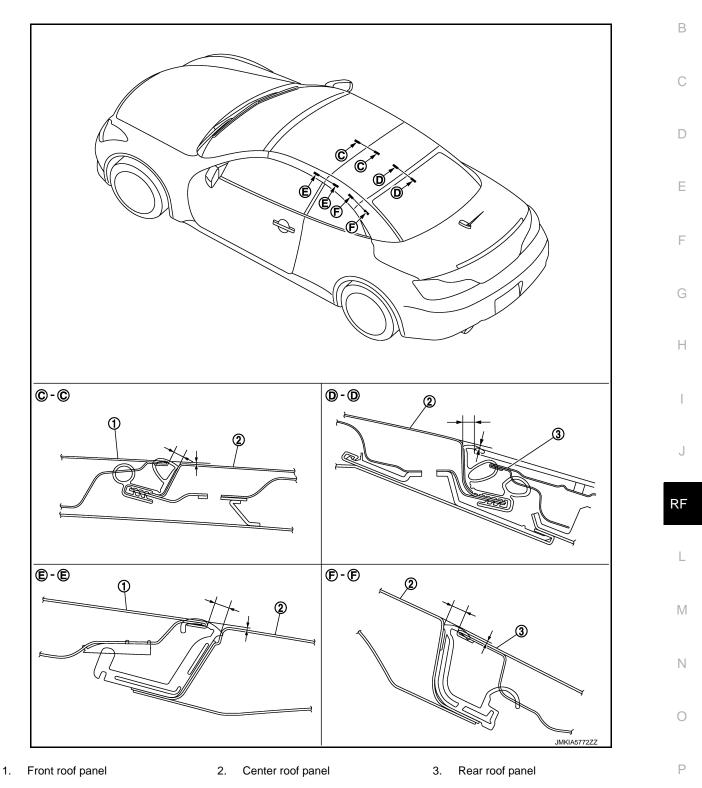
< REMOVAL AND INSTALLATION >

10. Install headlining. Refer to RF-246, "Removal and Installation".

Adjustment

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Check the clearance and the surface height between center roof panel and each part by visually and touching. If the clearance and the surface height are out of specification, adjust them according to the procedures shown below.

CAUTION:

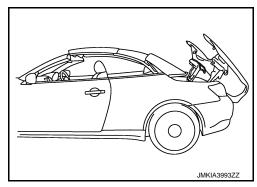
Fully close roof. Check that front and rear lock is locked.

< REMOVAL AND INSTALLATION >

Portion		Clearance	Surface height (Front side is to be high- er than rear side)
Front roof panel – Center roof panel	C – C	4.9 – 7.9 mm (0.193 – 0.311 in)	0.0 – 2.0 mm (0.000 – 0.079 in)
Center roof panel – Rear roof panel	D – D	4.9 – 7.9 mm (0.193 – 0.311 in)	0.4 – 3.4 mm (0.016 – 0.134 in)
Front roof panel – Center roof panel	E-E	4.9 – 7.9 mm (0.193 – 0.311 in)	0.0 – 1.5 mm (0.000 – 0.059 in)
Center roof panel – Rear roof panel	F-F	4.9 – 7.9 mm (0.193 – 0.311 in)	0.0 – 1.5 mm (0.000 – 0.059 in)

1. Remove headlining. Refer to <u>RF-246. "Removal and Installation"</u>.

2. Stop roof as shown in the figure (during open operation).



- 3. Loosen center roof panel mounting TORX bolt.
- 4. Adjust center roof panel.
 - If surface height difference is out of the specified value, and then adjust using shims.
 - If clearance is out of the specified value, and slide center roof panel to front or rear direction.
- 5. Tighten each TORX bolt to the specified torque. Refer to <u>RF-263, "Exploded View"</u>.
- 6. If D D is out of the specified value, adjust rear roof panel. Refer to <u>RF-269</u>, "Adjustment".
- 7. Open and close roof. Check that lock and unlock operation is normal several times.
- 8. Perform initialization according to the work after adjusting center roof panel. Refer to <u>RF-74, "Description"</u>.
- 9. Adjust door glass and quarter window glass. Refer to <u>GW-18, "Inspection and Adjustment"</u>.
- 10. Perform water leakage test. Refer to RF-241, "Water Leakage Test".
- 11. Install headlining. Refer to <u>RF-246, "Removal and Installation"</u>.

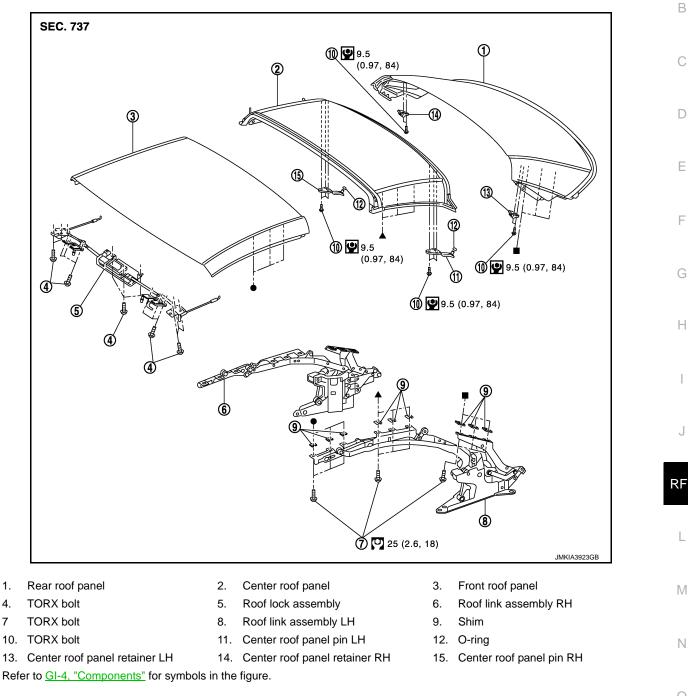
< REMOVAL AND INSTALLATION >

REAR ROOF PANEL

Exploded View

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Removal and Installation

REMVAL

CAUTION:

Protect the rear fender with a fender protector.

NOTE:

Operate roof manually if it does not operate electrically. Refer to RF-298. "Manual Operation".

- 1. Remove headlining. Refer to <u>RF-246, "Removal and Installation"</u>.
- 2. Remove trunk room trim. Refer to INT-24, "Removal and Installation".

RF-267

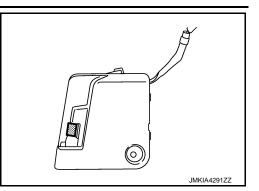
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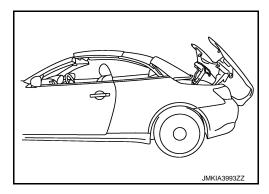
REAR ROOF PANEL

< REMOVAL AND INSTALLATION >

3. Put small piece to the tonneau board switch, connect harness connector to vehicle.



4. Stop roof as shown in the figure (during open operation).



- 5. Remove harness clamp.
- 6. Put matching mark on rear roof panel.
- 7. Loosen rear roof panel mounting TORX bolts, record shim quantity, and remove shims.
- 8. Remove rear roof panel mounting TORX bolts and remove rear roof panel.

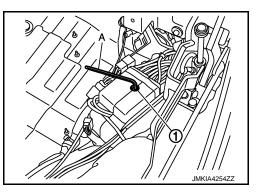
INSTALLATION

- 1. Temporarily fix rear roof panel to roof link.
- 2. Insert shims between rear roof panel and roof link according to recorded them quantity.
- 3. Align matching mark and tighten TORX bolts.
- 4. Install harness clamp.
- 5. Open hydraulic unit valve (1) slowly while supporting roof. Using a hexagon wrench (A).

Opening torque: Max 2.0 N·m (0.2 kg-m, 18 in-lb)

CAUTION:

Check that valve opening torque is always with in the specified value for preventing oil leakage.



- 6. Open and close roof manually and check that interference is not detected. **CAUTION:**
 - This operation requires two people.
 - Keep hands away from the moving parts.
- 7. Close hydraulic unit valve.

Closing torque: 1.8 – 2.2 N·m (0.18 – 0.22 kg-m, 16 – 19 in-lb)

CAUTION:

Check that valve closing torque is always with in the specified value for preventing oil leakage.

- 8. Install trunk room trim. Refer to <u>INT-24, "Removal and Installation"</u>.
- 9. Perform front roof panel adjustment. Refer to <u>RF-269, "Adjustment"</u>.

RF-268

REAR ROOF PANEL

< REMOVAL AND INSTALLATION >

10. Install headlining. Refer to RF-246, "Removal and Installation".

Adjustment

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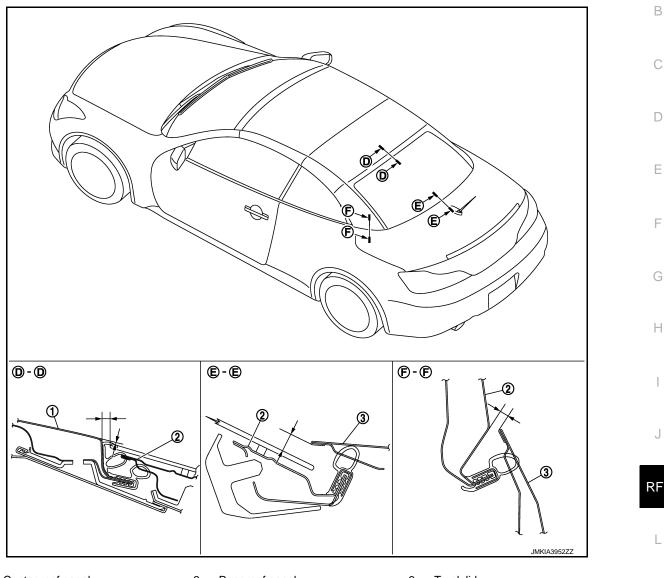
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Center roof panel 1.

Rear roof panel 2.

3. Trunk lid

Check the clearance and the surface height between rear roof panel and each part by visually and touching. If the clearance and the surface height are out of specification, adjust them according to the procedures shown below.

CAUTION:

Fully close roof. Check that front and rear lock is locked.

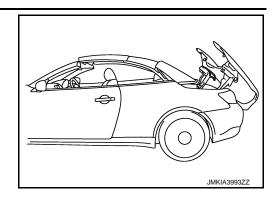
Portion		Clearance	Surface height	_
Center roof panel – Rear roof panel	D – D	4.9 – 7.9 mm (0.193 – 0.311 in)	0.4 – 3.4 mm (0.016 – 0.134 in)	
Rear roof panel – Trunk lid	E-E	_	7.7 – 15.7 mm (0.303 – 0.618 in)	
Rear roof panel – Trunk lid	F – F	6.8 – 10.8 mm (0.268 – 0.425 in)	_	

Remove headlining. Refer to RF-246, "Removal and Installation". 1.

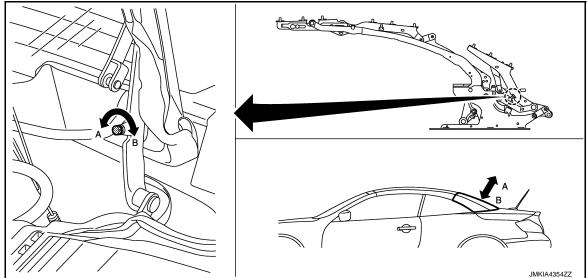
REAR ROOF PANEL

< REMOVAL AND INSTALLATION >

2. Stop roof as shown in the figure (during open operation).



- 3. Loosen rear roof panel mounting TORX bolt.
- 4. Adjust rear roof panel.
 - If surface height difference is out of the specified value, and then adjust using shims.
 - If clearance is out of the specified value, and slide rear roof panel to front or rear direction.
- 5. Tighten each TORX bolt to the specified torque. Refer to <u>RF-267, "Exploded View"</u>.
- 6. If shim adjustment is not completed normally, rotate the adjusting bolt of roof link assembly and adjust rear roof panel height.



- 7. Open and close roof. Check that lock and unlock operation is normal several times.
- 8. Perform initialization according to the work after adjusting rear roof panel. Refer to <u>RF-74, "Description"</u>.
- 9. Adjust door glass and quarter window glass. Refer to <u>GW-18. "Inspection and Adjustment"</u>.
- 10. Perform water leakage test. Refer to <u>RF-241, "Water Leakage Test"</u>.
- 11. Install headlining. Refer to RF-246, "Removal and Installation".

< REMOVAL AND INSTALLATION >

ROOF SEALING

Exploded View

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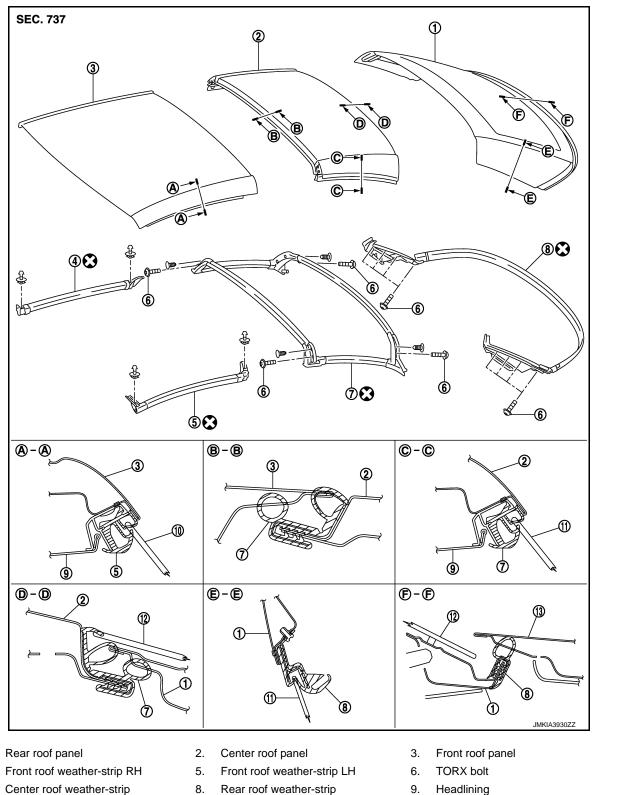
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- 10. Door glass
- 13. Trunk lid

1.

4.

7.

Refer to GI-4, "Components" for symbols in the figure.

- Headlining
- 12. Rear window glass

11. Quarter window glass

ROOF SEALING

< REMOVAL AND INSTALLATION >

Removal and Installation

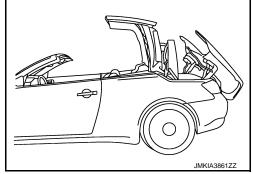
REMOVAL

CAUTION:

Protect the rear fender with a fender protector. NOTE:

Operate roof manually if it does not operate electrically. Refer to RF-298. "Manual Operation".

- 1. Stop roof as shown in the figure (during open operation).
 - **CAUTION:** Be careful of the roof and rear parcel shelf unit positions when operating, because roof may drop little by little and may interfere with rear parcel shelf unit when roof is in the middle position for a long period of time.



- 2. Remove clips, and then front roof weather-strip.
- 3. Remove TORX bolts and clips, and then center roof weather-strip.
- 4. Remove TORX bolts, and then rear roof weather-strip.

INSTALLATION

Install in the reverse order of removal.

NOTE:

- Rerform initialization according to the work after installing roof sealing. Refer to RF-74, "Description".
- Adjust door glass and quarter window glass. Refer to <u>GW-18, "Inspection and Adjustment"</u>.
- Perform water leakage test. Refer to <u>RF-241, "Water Leakage Test"</u>.

< REMOVAL AND INSTALLATION >

ROOF LINK ASSEMBLY

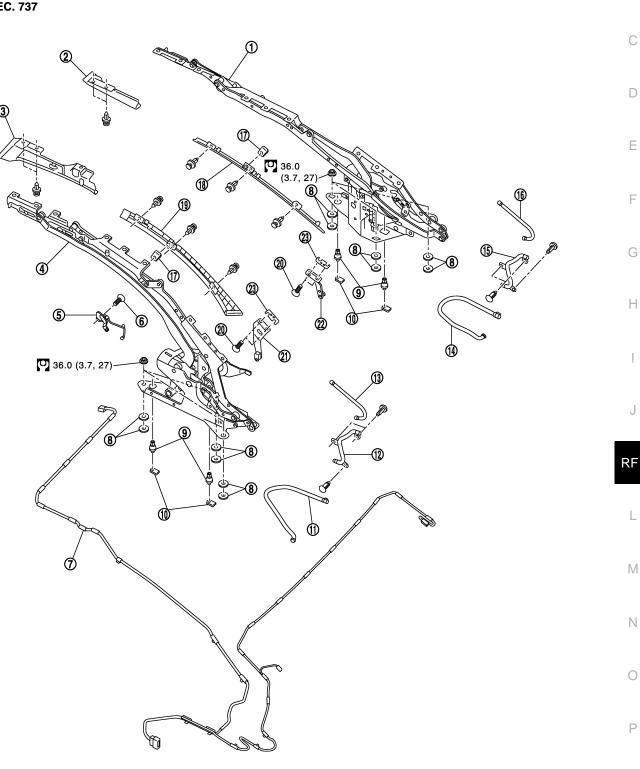
Exploded View

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- JMKIA3967GB
- Front side trim LH 3.
- 6. TORX bolt
- 9. Centering bolt

- Roof link assembly RH 1.
- 4. Roof link assembly LH
- Roof harness 7.

RF-273

Front side trim RH

Roof status sensor

2.

5.

8.

Shim

ROOF LINK ASSEMBLY

< REMOVAL AND INSTALLATION >

10. Centering plate

- 11. Drain tube lower LH
- 14. Drain tube lower RH
- 17. Trim sleeve
 - 20. TORX bolt 23. Shim
- Rear side trim LH
 Bolt receiver RH

13. Drain tube upper LH

16. Drain tube upper RH

Refer to <u>GI-4, "Components"</u> for symbols in the figure.

Removal and Installation

REMOVAL

CAUTION:

- Protect the rear fender with a fender protector.
- This work requires two people.

• Keep hands away from the moving parts.

NOTE:

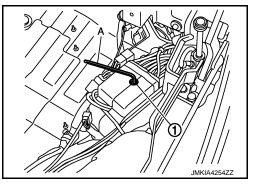
Operate roof manually if it does not operate electrically. Refer to RF-298, "Manual Operation".

- 1. Remove rear seat cushion and seatback. Refer to SE-222, "Removal and Installation".
- 2. Remove rear side finisher. Refer to <u>INT-15, "Removal and Installation"</u>.
- 3. Remove headlining. Refer to <u>RF-246, "Removal and Installation"</u>.
- 4. Remove trunk room trim. Refer to INT-24, "Removal and Installation".
- 5. Remove front roof panel. Refer to <u>RF-258, "Removal and Installation"</u>.
- Remove center roof panel. Refer to <u>RF-263, "Removal and Installation"</u>.
- 7. Remove rear roof panel. Refer to <u>RF-267, "Removal and Installation"</u>.
- 8. Open hydraulic unit valve (1). Using a hexagon wrench (A).

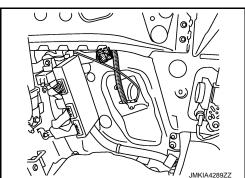
Opening torque: Max 2.0 N·m (0.2 kg-m, 18 in-lb)

CAUTION:

Check that valve opening torque is always with in the specified value for preventing oil leakage.



- 9. Remove roof drive cylinder and roof lock cylinder from roof link assembly. Refer to <u>RF-285</u>, "<u>Removal and</u> <u>Installation</u>".
- 10. From passenger room side, disconnect harness connector. (LH side only)



- 11. Remove mounting nuts, and then reomve roof link assembly. **CAUTION:**
 - Never loosen centering bolts.
 - Never change shims.

INSTALLATION

1. Install roof link assembly. CAUTION:

- 15. Drain tube center RH 18. Rear side trim RH
 - 21. Bolt receiver LH

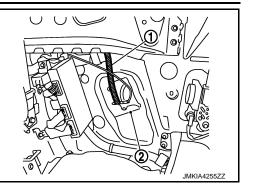
12. Drain tube center LH

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ROOF LINK ASSEMBLY

< REMOVAL AND INSTALLATION >

Inseret lower end drain tube (1) to the hole of sealing screen (2) through the vehicle.



- 2. From passenger room side connect harness connector. (LH side only)
- 3. Install roof drive cylinder and roof lock cylinder for roof link assembly. Refer to <u>RF-285</u>, "<u>Removal and</u> <u>Installation</u>".
- 4. Close hydraulic unit valve. Using a hexagon wrench.

Closing torque: 1.8 – 2.2 N·m (0.18 – 0.22 kg-m, 16 – 19 in-lb)

CAUTION:

Check that valve closing torque is always with in the specified value for preventing oil leakage.

- 5. Install rear roof panel. Refer to <u>RF-267, "Removal and Installation"</u>.
- 6. Install center roof panel. Refer to <u>RF-263, "Removal and Installation"</u>.
- 7. Install front roof panel. Refer to <u>RF-258, "Removal and Installation"</u>.
- 8. Perform front roof panel adjustment. Refer to <u>RF-260, "Adjustment"</u>.
- 9. Perform center roof panel adjustment. Refer to RF-265, "Adjustment".
- 10. Perform rear roof panel adjustment. Refer to RF-269, "Adjustment".
- 11. Install trunk room trim. Refer to INT-24, "Removal and Installation".
- 12. Install headlining. Refer to RF-246, "Removal and Installation".
- 13. Install rear side finisher. Refer to INT-15, "Removal and Installation".
- 14. Install rear seat cushion and seatback. Refer to SE-222, "Removal and Installation".

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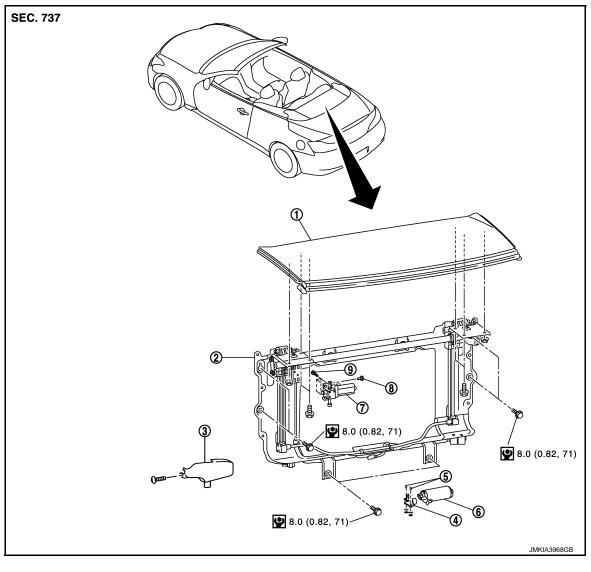
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< REMOVAL AND INSTALLATION >

REAR PARCEL SHELF FINISHER REAR PARCEL SHELF UNIT

REAR PARCEL SHELF UNIT : Exploded View

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- 1. Rear parcel shelf finisher board
- 4. Parcel shelf motor (draw) bracket
- 7. Parcel shelf motor (rotate)
- 2. Rear parcel shelf unit 5. Pin
- 8. Special bolt
- Refer to GI-4, "Components" for symbols in the figure.

REAR PARCEL SHELF UNIT : Removal and Installation

REMOVAL

CAUTION:

Protect the rear fender with a fender protector. NOTE:

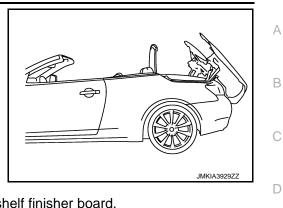
Operate roof manually if it does not operate electrically. Refer to RF-298, "Manual Operation".

- 3. Parcel shelf motor (rotate) cover
- 6. Parcel shelf motor (draw)
- TORX bolt 9.

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< REMOVAL AND INSTALLATION >

1. Stop roof as shown in the figure (during open operation).



2.	Remove mounting bolts and nuts, and then remove rear parcel shelf finisher board.
3.	Open trunk while roof is fully close.
4.	Remove trunk trim. Refer to INT-24, "Removal and Installation".
5.	Put matching mark on rear parcel shelf unit.
6.	Disconnect rear parcel shelf unit harness connector.
7.	Remove mounting bolts, and then remove rear parcel shelf unit.
INS	STALLATION
Ins	tall in the reverse order of removal.
NO)TE:
	rform initialization according to the work after installing rear parcel shelf unit. Refer to . <u>RF-74, "Description"</u>

PARCEL SHELF MOTOR (ROTATE)

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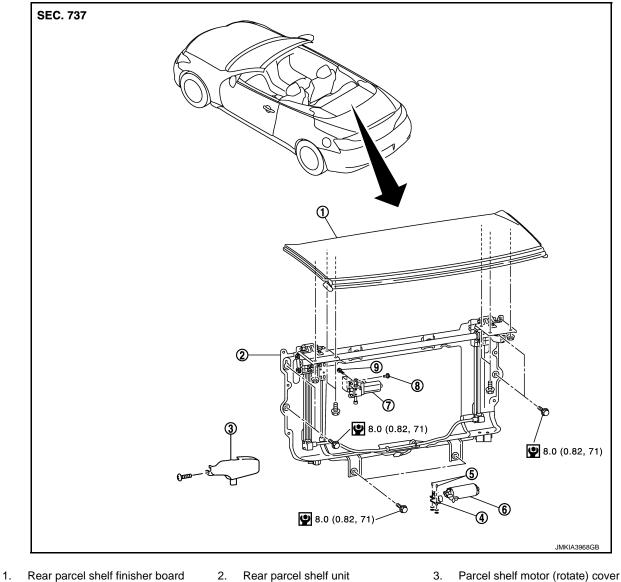
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< REMOVAL AND INSTALLATION >

PARCEL SHELF MOTOR (ROTATE) : Exploded View

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6. Parcel shelf motor (draw)

9. TORX bolt

Refer to <u>GI-4, "Components"</u> for symbols in the figure.

Parcel shelf motor (draw) bracket

Parcel shelf motor (rotate)

PARCEL SHELF MOTOR (ROTATE) : Removal and Installation

5.

8.

Pin

Special bolt

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REMOVAL

4.

7.

CAUTION:

Protect the rear fender with a fender protector. NOTE:

Operate roof manually if it does not operate electrically. Refer to <u>RF-298</u>, "Manual Operation".

- 1. Remover rear parcel shelf unit. Refer to <u>RF-276, "REAR PARCEL SHELF UNIT : Removal and Installa-</u> tion".
- 2. Disconnect parcel shelf motor (rotate) harness connector.
- 3. Remove special bolt and TORX bolts, and then remove parcel shelf motor (rotate).

INSTALLATION

Install in the reverse order of removal. **NOTE:**

Revision: 2012 July

RF-278

2013 G Convertible

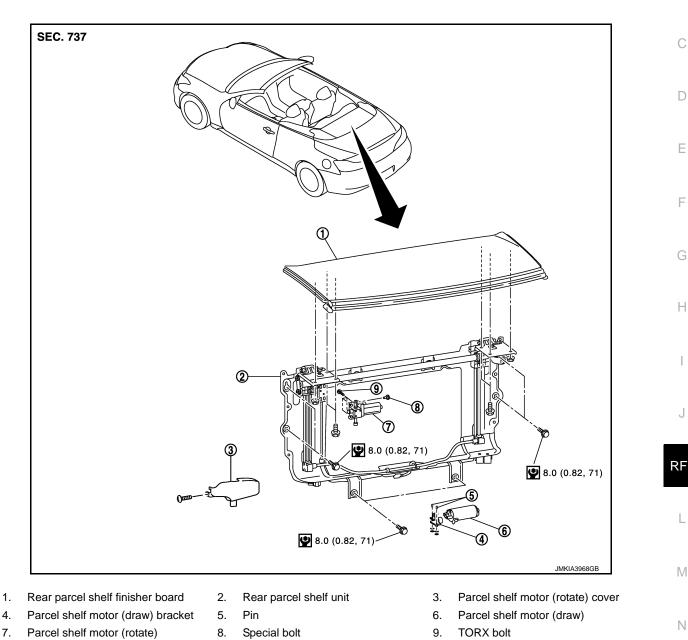
< REMOVAL AND INSTALLATION >

Perform initialization according to the work after installing parcel shelf motor (rotate). Refer to <u>RF-74, "Descrip-</u> tion". PARCEL SHELF MOTOR (DRAW)

PARCEL SHELF MOTOR (DRAW) : Exploded View

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Refer to <u>GI-4, "Components"</u> for symbols in the figure.

PARCEL SHELF MOTOR (DRAW) : Removal and Installation

REMOVAL

CAUTION:

Protect the rear fender with a fender protector. NOTE:

Operate roof manually if it does not operate electrically. Refer to RF-298, "Manual Operation".

- 1. Remove rear parcel shelf unit. Refer to <u>RF-276. "REAR PARCEL SHELF UNIT : Removal and Installa-</u> tion".
- 2. Disconnect parcel shelf motor (draw) harness connector.

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< REMOVAL AND INSTALLATION >

3. Remove wire from parcel shelf motor (draw).

4. Remove pin and washer, and parcel shelf motor (draw) bracket.

INSTALLATION

Install in the reverse order of removal.

NOTE:

Perform initialization according to the work after installing parcel shelf motor (draw). Refer to <u>RF-74, "Description"</u>.

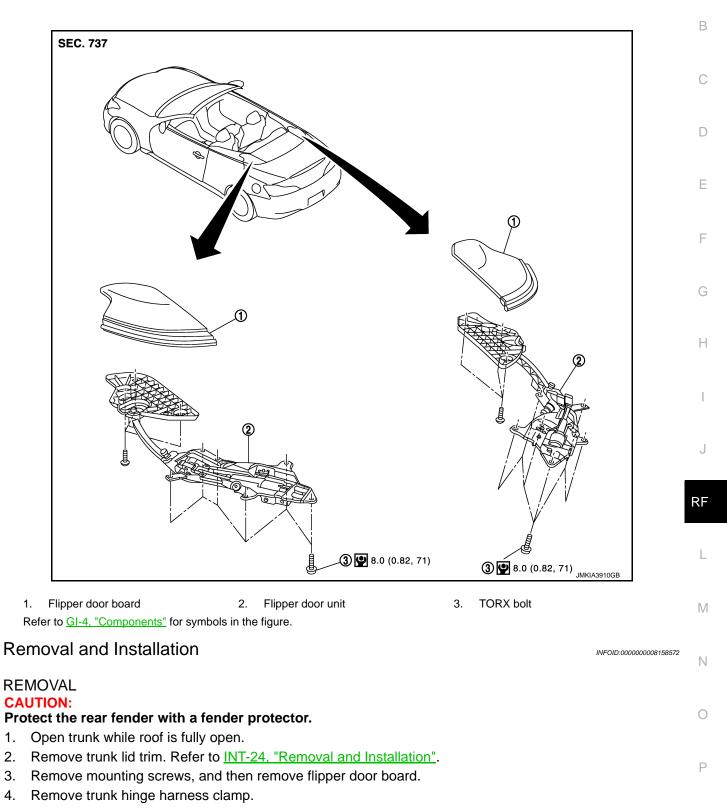
< REMOVAL AND INSTALLATION >

FLIPPER DOOR

Exploded View

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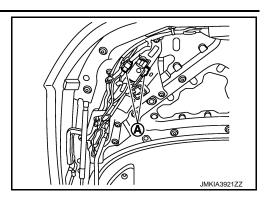
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FLIPPER DOOR

< REMOVAL AND INSTALLATION >

5. Disconnect flipper door harness connector (A).



6. Remove TORX bolt, and then remove flipper door unit.

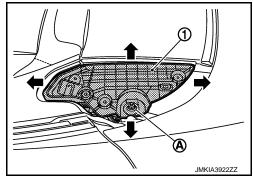
INSTALLATION

Install in the reverse order of removal.

Adjustment

- 1. Check offset volume of flipper door board (outside).
- 2. Remove flipper door board (outside).
- 3. Loosen flipper door unit adjustment nuts (A), slide flipper door board (inside) (1) back, forth, right, left or tilting for the equivalent offset volume of flipper door board (outside).

4. Install flipper door board (outside).



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ROOF SUPPORT BUMPER

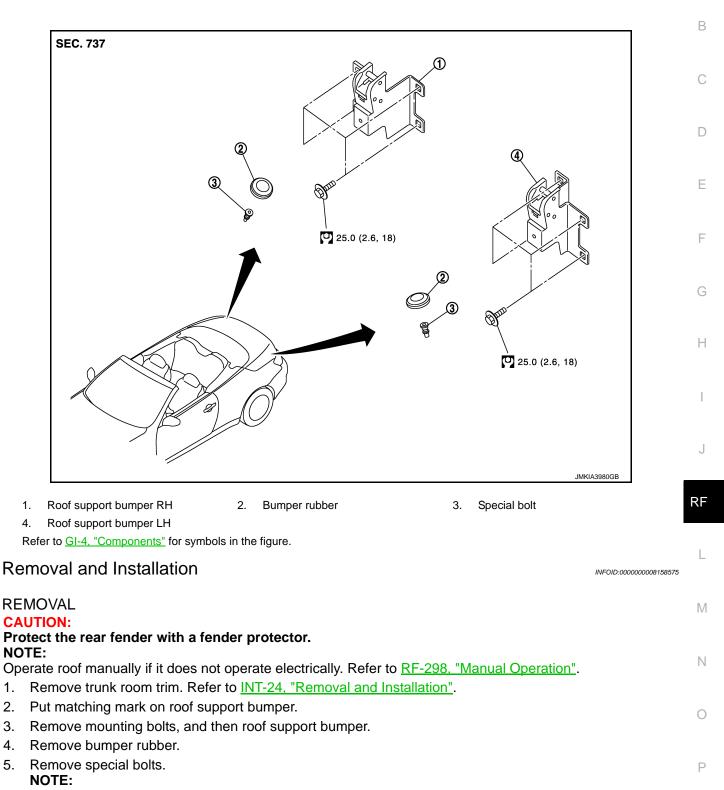
< REMOVAL AND INSTALLATION >

ROOF SUPPORT BUMPER

Exploded View

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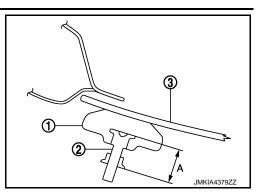
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ROOF SUPPORT BUMPER

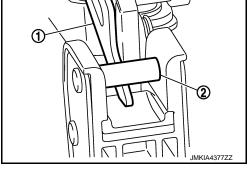
< REMOVAL AND INSTALLATION >

- Measure the dimension (A) as shown in the figure, before removing special bolt (2).
- Check that no clearance is left between bumper rubber (1) and glass (3) while roof is open.

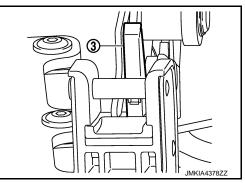


INSTALLATION

- Install special bolts.
 CAUTION: When installing bolts, adjust the dimension to a value that is measured before removal.
- 2. Install bumper rubber.
- 3. Install roof support bumper.
 - CAUTION:
 - Check that slider (1) and pin (2) never contact each other while roof is open, after the installation.



• Check that no clearance is left between plastic parts (3) and roof support bumper.



- Check that no clearance is left between bumper rubber and glass while roof is open.
- Drive the vehicle while roof is open and check that low level noise is not detected.

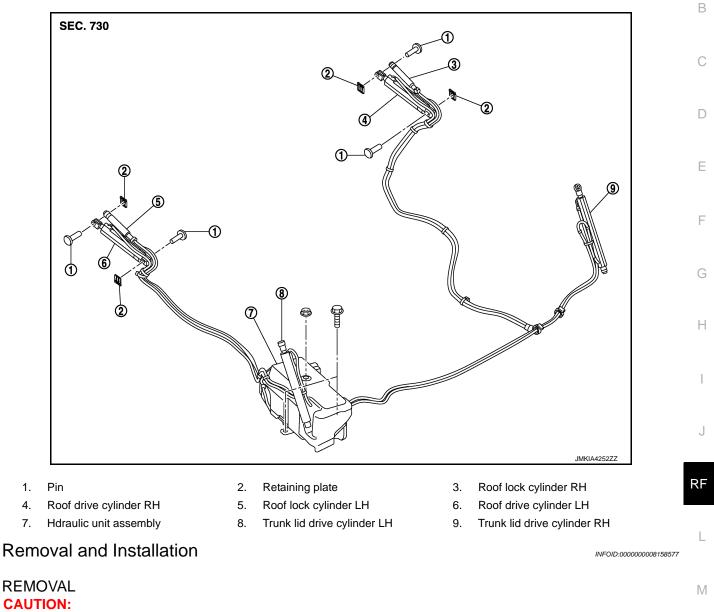
< REMOVAL AND INSTALLATION >

HYDRAULIC SYSTEM

Exploded View

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- Protect the rear fender with a fender protector.
- Never bend or twist hydraulic hoses sharply, or strongly pull them.
- After installation, hydraulic hoses must not move towards self- locking bands.
- Never let the ends of self-locking bands touch hydraulic hoses. NOTE:

Operate roof manually if it does not operate electrically. Refer to <u>RF-298. "Manual Operation"</u>.

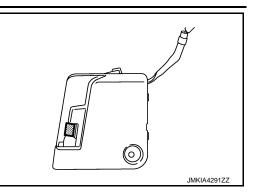
1. Remove trunk room trim. Refer to INT-24, "Removal and Installation".

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< REMOVAL AND INSTALLATION >

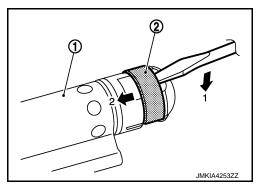
2. Put small piece to the tonneau board switch, connect harness connector to vehicle.



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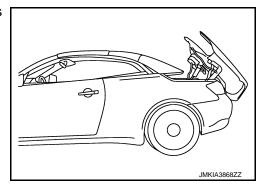
3. Stop roof as shown in the figure (during open operation).

- 4. Remove rear seat cushion and seatback. Refer to SE-222, "Removal and Installation".
- 5. Remove rear side finisher. Refer to <u>INT-15, "Removal and Installation"</u>.
- 6. Remove metal clip (2) from roof lock cylinder (1) front side.



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7. Stop roof as shown in the figure (roof is closed and trunk is open).



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< REMOVAL AND INSTALLATION >

8. Open hydraulic unit valve (1). Using a hexagon wrench (A).

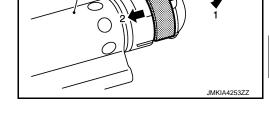
Opening torque: Max 2.0 N·m (0.2 kg-m, 18 in-lb)

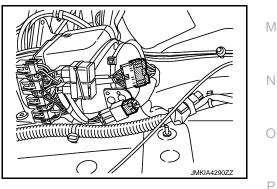
CAUTION:

Check that valve opening torque is always with in the specified value for preventing oil leakage.

9. Remove metal clip (2) from roof lock cylinder (1) rear side.

- 10. Remove retaining plate, and then remove pin from roof drive cylinder front side and rear side.
- 11. Remove roof drive cylinder and roof lock cylinder from roof link assembly.
- 12. remove metal clip (2) from trunk lid drive cylinder (1), front side and rear side.





15. Remove mounting bolts and nut, and then remove hydraulic unit assembly.

INSTALLATION

13. Remove hose clamp.

14. Disconnect hydraulic unit harness connectors.

Install in the reverse order of removal.

CAUTION:

- Never bend or twist hydraulic hoses sharply, or strongly pull them.
- After installation, hydraulic hoses must not move towards self- locking bands.



< REMOVAL AND INSTALLATION >

Never let the ends of self-locking bands touch hydraulic hoses.

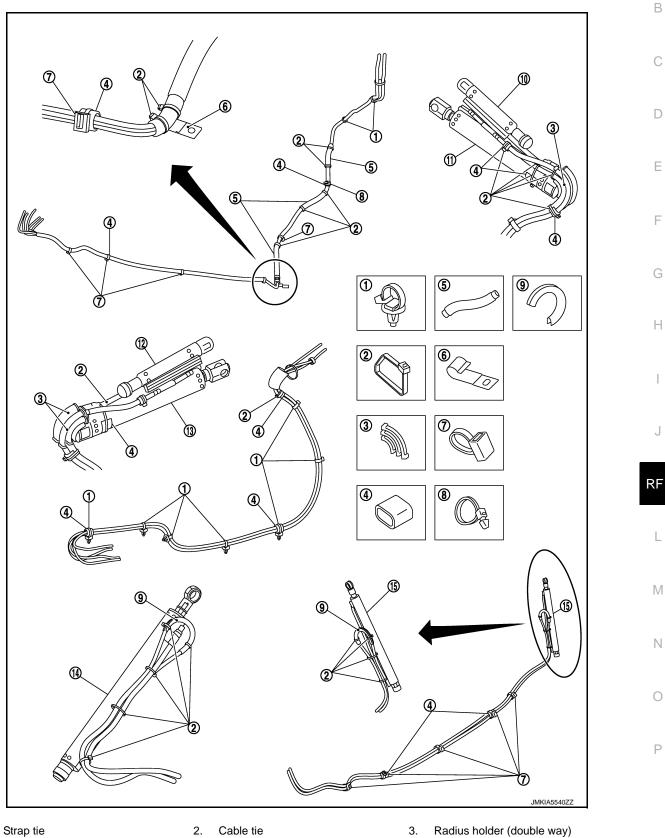
< REMOVAL AND INSTALLATION >

HYDRAULIC CYLINDER

Exploded View

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4. Felt

1.

7. Strap tie (with clip)

Corrugated hose

5.

8.

RF-289

6.

9.

Steel clip

Radius holder (single way)

< REMOVAL AND INSTALLATION >

- Roof lock cylinder (RH)
 Roof drive cylinder (LH)
- Roof drive cylinder (RH)
 Trunk lid drive cylinder (LH)
- 12. Roof lock cylinder (LH)
- 15. Trunk lid drive cylinder (RH)

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Removal and Installation

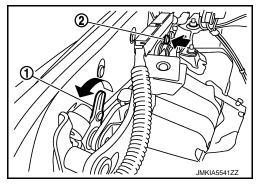
HYDRAULIC CYLINDER ASSEMBLY

Removal

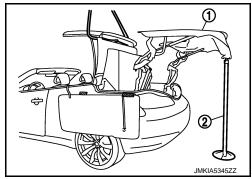
CAUTION:

- Protect the rear fender with a fender protector.
- Never bend or twist hydraulic hoses sharply, or strongly pull them.
- After installation, hydraulic hoses must not move towards self- locking bands.
- Never let the ends of self-locking bands touch hydraulic hoses.
- Remove rear parcel board and set bracket to the straight up position for preventing interference from rear parcel board roof.
- 1. Remove trunk room trim. Refer to INT-24, "Removal and Installation".
- 2. Remove rear cushion and seatback. Refer to SE-222, "Removal and Installation".
- 3. Remove rear side finisher. Refer to INT-15, "Removal and Installation".
- 4. Open relief valve of oil pump.
- 5. Set trunk lid to the backdrop status.
 - Open trunk lid manually.
 - Release trunk lid lock (1), (2) toward vehicle rear. **CAUTION:**

Never move roof manually faster than with automatic operation to prevent hydraulic system from a damage.

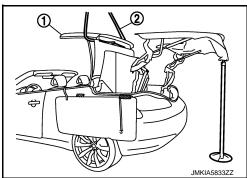


- Lift trunk lid to the backdrop status.
- Support trunk lid (1) using a stand (2) as shown in the figure. CAUTION:
 - Always hold trunk lid, because trunk lid moves according to change in hydraulic pressure after removing cylinders.
 - Two workers are required for manual operation.



 Manually set retractable hard top (1) to the straight up position and hold using a lashing belt (2) as shown in the figure. Release front lock on "Work Support" using CONSULT-III. CAUTION:

Always hold retractable hard top using lashing belt, because retractable hard top moves according to change in hydraulic pressure after removing cylinders.



< REMOVAL AND INSTALLATION >

- 7. Remove roof lock cylinder upper portion from roof link assembly (5).
 - Remove clip (3) of roof lock cylinder.
 - Remove roof lock cylinder (1).
- 8. Remove roof drive cylinder upper portion from roof link assembly (5).
 - Remove retaining plate (4) of roof drive cylinder.
 - Remove roof drive cylinder (2).

<□ : Vehicle front

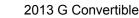
- 9. Remove roof lock cylinder lower portion from roof link assembly. • Remove clip (2) of roof lock cylinder.
 - Remove roof lock cylinder (1).
- 10. Remove roof drive cylinder lower portion from roof link assembly.
 - Remove retaining plate (4) of roof drive cylinder.
 - Remove roof drive cylinder (3).

: Vehicle front

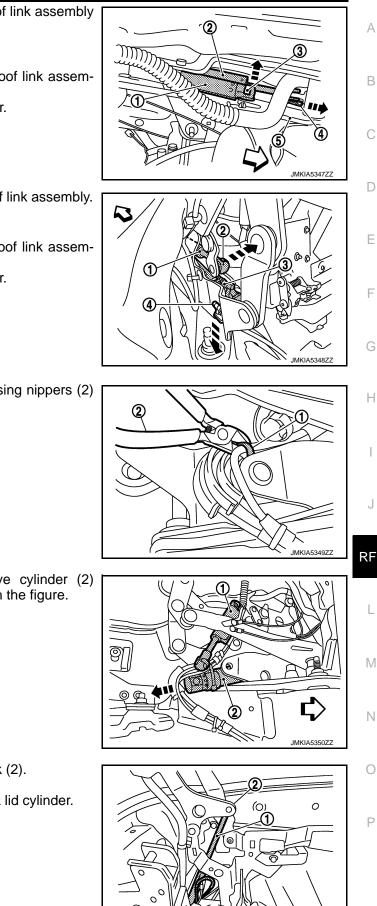
11. Cut clip (1) of roof drive cylinder lower portion using nippers (2) as shown in the figure.

12. Take out roof lock cylinder (1) and roof drive cylinder (2) together in the direction as shown by the arrow in the figure.

- 13. Remove trunk lid drive cylinder (1) from trunk link (2).
 - · Remove hydraulic pump assembly.
 - Remove clip of trunk lid cylinder. Remove trunk lid cylinder.



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< REMOVAL AND INSTALLATION >

- 14. Remove hydraulic hose from hydraulic cylinder.
 - Record the installation position of hydraulic cylinder and hydraulic hose.
 - Put a paint mark showing the clip band position of hydraulic hose.
 - Cut clip band using nippers.
 - Remove hydraulic hose.

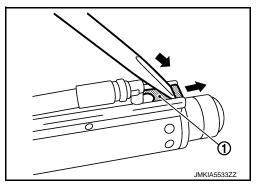
CAUTION:

Never damage hydraulic hose.

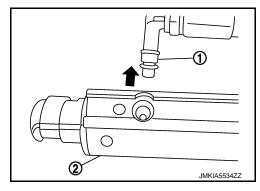
HYDRAULIC HOSE ASSEMBLY

Removal

- 1. Remove the hydraulic hose retaining clip (1) using a flat-bladed screwdriver as show in the figure.
 - CAUTION:
 - Disengage the clip slowly and carefully.
 - Place shop paper under the cylinder to catch any hydraulic fluid that may spill.



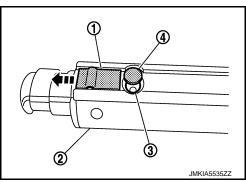
2. Remove the hydraulic hose (1) from cylinder (2).



INSTALLATION

Install in the reverse order of removal. **CAUTION:**

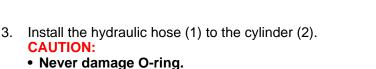
- Prepare the service cylinder for fitting. Remove retaining clips and remove blind plugs.
- Check the connection bore profile if the O-rings are removed from the blind plugs.
- Remove O-ring, if not removed, using a pin that is not sharp.
- Normally, O-ring is attached to blind plugs.
- Check connections including O-ring for damage and cleanliness.
- 1. Slide retaining clip (1) of new hydraulic cylinder (2) toward outside as shown in the figure, remove blind plugs (4), and remove O-ring (3).



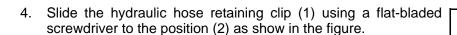
< REMOVAL AND INSTALLATION >

Apply hydraulic oil to O-ring (1), and install it to hydraulic hose body.
 CAUTION:

Never damage O-ring.



Install hydraulic hose slowly and carefully.



- 5. Install hydraulic hose to the paint mark position and fix using the specified clip band.
- 6. Install the hydraulic cylinder to the roof mechanism.
- 7. Work Support.
 - Open relief valve of oil pump.
 - Select roof open and close function on "Work Support" using CONSULT-III.
 - Operate oil pump toward roof open for 5 seconds, and then toward roof close for 5 seconds.
 - Close relief valve of oil pump.

CAUTION:

- Full open and fully close the roof 3 times and check for leakage from hydraulic cylinder.
- Always install component parts like clips and hoses to the original installed positions.
- Check oil level before and after each cycle. A lower level due to oil leakage may cause hydraulic pump's damage.
- 8. Install all of the removed component parts.

REFILLING

Fill and bleed of hydraulic system Checking oil level

- 1. Close the roof completely.
- Remove the trunk room trim. Refer to <u>INT-24, "Removal and Installation"</u>.
- 3. Lift the hydraulic unit pump carefully from the hydraulic unit assembly position.
- 4. Remove the foam cover.

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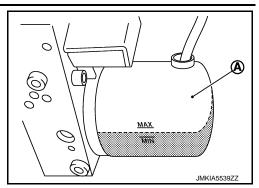
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5. Put the hydraulic unit pump in the horizontal position and check that the oil level is between "MIN" and "MAX" (A).



Filling oil

- 1. Remove the filling plug.
- 2. Fill with hydraulic oil to the max mark on the reservoir using a suitable and clean funnel.
- 3. Tighten filling plug to the specified torque. Torque: 2.0 N·m (0.2 kg-m, 18 in-lb)

NOTE:

- Approximately 250ml of 560ml of oil is drained from the system during removal and installation procedure.
- Be sure to refill oil to the specified level.

CAUTION:

- Never overtighten torque.
- Fully open and fully close the roof 3 times. Check for leakage and check oil level.
- Filler plug must be tightened to the specified torque for preventing oil leakage.

RETRACTABLE HARD TOP CONTROL UNIT

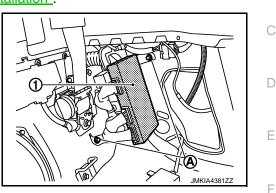
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RETRACTABLE HARD TOP CONTROL UNIT

Removal and Installation

REMOVAL

- 1. Remove rear side finisher LH. Refer to INT-15, "Removal and Installation".
- 2. Remove bolts (A).
- 3. Remove retractable hard top control unit (1) and disconnect the connector.



INSTALLATION

Install in the reverse order of removal.

NOTE:

After installing the retractable hard top control unit, perform additional service when replacing control unit. Refer to <u>RF-74, "Work Procedure"</u>.

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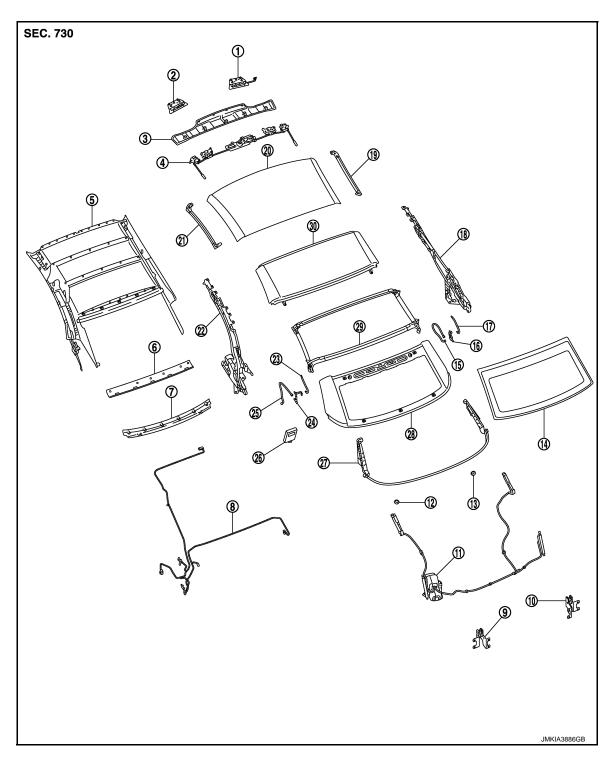
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Exploded View

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- 1. Front latch assembly RH
- 4. Roof lock assembly
- 7. Rear roof lower garnish
- 10. Roof support bumper RH
- 13. Bumper rubber RH

- 2. Front latch assembly LH
- 5. Headlining
- 8. Roof harness
- 11. Hydraulic unit assembly
- 14. Rear glass

- 3. Front roof garnish
- 6. Rear roof upper garnish
- 9. Roof support bumper LH
- 12. Bumper rubber LH
- 15. Drain tube upper RH

RF-296

RETRACTABLE HARD ROOF ASSEMBLY

< UNIT REMOVAL AND INSTALLATION >

16. Drain tube center RH

22. Roof link assembly LH

25. Drain tube upper LH

28. Rear roof panel

- 19. Front roof weather-strip RH
- Drain tube lower RH
 Front roof panel
 - 23. Drain tube lower LH
 - 26. Control unit
 - 29. Center roof weather-strip
- Roof link assembly RH
 Front roof weather-strip LH
 - 24. Drain tube center LH
 - 27. Rear roof weather-strip
 - 30. Center roof panel

Removal and Installation

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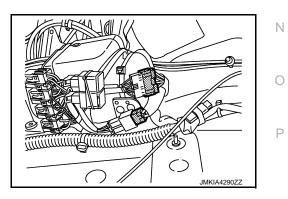
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RE	MOVAL	
СА	NUTION:	
	Protect the rear fender with a fender protector.	
	ake all precaution to avoid any interference between the retractable hard top and the body.	
	lever bend or twist hydraulic hoses sharply, or strongly pull them.	
	After installation, hydraulic hoses must not move towards self- locking bands. Never let the ends of self-locking bands touch hydraulic hoses.	E
	TE:	
	perate roof manually if it does not operate electrically. Refer to <u>RF-298, "Manual Operation"</u> .	
1.	Roof is fully open.	F
2.	Remove rear seat cushion and seatback. Refer to SE-222, "Removal and Installation".	
3.	Remove rear side finisher. Refer to INT-15, "Removal and Installation".	
4.	Remove trunk lid trim. Refer to INT-24, "Removal and Installation".	C
5.	Remove rear parcel shelf finisher board. Refer to RF-276, "REAR PARCEL SHELF UNIT : Removal and	
	Installation".	L
6.	Roof is fully close.	Γ
7.	Remove trunk lid assembly. Refer to DLK-235, "TRUNK LID ASSEMBLY : Removal and Installation".	

8. Remove trunk room trim. Refer to INT-24, "Removal and Installation".

12. Disconnect hydraulic unit harness connector.

- Perform unlock opration of roof lock assembly in WORK SUPPORT of CONSULT-III.<u>RF-45</u>, "CONSULT <u>Function"</u>
- 10. Remove hydraulic unit, hose clamp and trunk drive cylinder. Refer to <u>RF-285</u>, "Removal and Installation".
- 11. From passenger roof side, disconnect harness connector. (LH



- 13. Remove roof link assembly mounting nuts. Refer to RF-274, "Removal and Installation"
- 14. Lift roof assembly and hydraulic unit assembly simultaneously, and then remove them from the vehicle in the rear direction.



RETRACTABLE HARD ROOF ASSEMBLY

< UNIT REMOVAL AND INSTALLATION >

CAUTION:

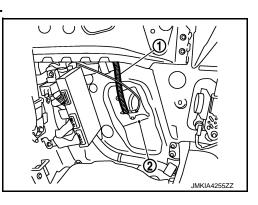
This operation requires five people.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

- Never bend or twist hydraulic hoses sharply, or strongly pull them.
- After installation, hydraulic hoses must not move towards self- locking bands.
- Never let the ends of self-locking bands touch hydraulic hoses.
- Insert lower end of drain tube (1) to the hole of sealing screen
 (2) through the vehicle body.



NOTE:

- Perform initialization according to the work after installing retractable hard roof assembly. Refer to <u>RF-74</u>, <u>"Description"</u>.
- Adjust door glass and quarter window glass. Refer to <u>GW-18, "Inspection and Adjustment"</u>.
- Perform water leakage test. Refer to <u>RF-241, "Water Leakage Test"</u>.

Manual Operation

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CAUTION:

- Protect the rear fender with a fender protector.
- Take all precaution to avoid any interference between the retractable hard top and the body.

CLOSE STATE TO OPEN STATE

 Remove metal clip from front roof garnish rear end. Insert a hexagon wrench through clearance between headlining. Rotate roof latch motor shaft using the hexagon wrench and then unlock roof lock assembly. CAUTION:

Be careful not to deform front roof garnish.

- 2. Remove rear parcel shelf finisher board from trunk room side. Refer to <u>RF-276, "REAR PARCEL SHELF</u> <u>UNIT : Removal and Installation"</u>.
- 3. Remove TORX bolt from rear parcel shelf unit linkage. Check that rear parcel shelf board mounting bracket moves freely while not interfering with other components.
- 4. Remove trunk room trim, and then open hydraulic unit valve.

Opening torque: Max 2.0 N·m (0.2 kg-m, 18 in-lb)

CAUTION:

Check that valve opening torque is always with in the specified value for preventing oil leakage.

- 5. Remove trunk lid assembly. Refer to <u>DLK-235, "TRUNK LID ASSEMBLY : Removal and Installation"</u>.
- 6. Pry roof link and unlock roof lock.
- 7. Open roof by manually.

CAUTION:

- This operation requires two people.
- Keep hands away from the moving parts.

OPEN STATE TO CLOSE STATE

- 1. Remove seat cushion and seatback. Refer to SE-222, "Removal and Installation".
- 2. Remove rear side finisher. Refer to INT-15, "Removal and Installation".

RF-298

RETRACTABLE HARD ROOF ASSEMBLY

< UNIT REMOVAL AND INSTALLATION >

3.	emove TORX bolt from rear parcel shelf unit linkage. Check that rear parcel shelf board mounting acket moves freely while not interfering with other components.		
4.	Remove rear parcel shelf finisher board. Refer to <u>RF-276, "REAR PARCEL SHELF UNIT : Removal and Installation"</u> .		
5.	Remove trunk lid assembly. Refer to DLK-235, "TRUNK LID ASSEMBLY : Removal and Installation".	В	
6.	Remove trunk lid drive cylinder upper side pin. Refer to <u>RF-285, "Removal and Installation"</u> .		
7.	Lift up trunk hinge.		
8.	Remove front roof garnish. Rotate roof latch motor shaft using the hexagon wrench and then unlock roof lock assembly.	С	
9.	Remove roof drive cylinder front side pin. Refer to <u>RF-285, "Removal and Installation"</u> . CAUTION:	D	
	Wait until tension on roof drive cylinder after roof operation is released.		
10.	Close roof by manually. CAUTION:	Е	
	 This operation requires two people. Keep hands away from the moving parts. 		
11.	Remove trunk room trim, and then open hydraulic unit valve.	F	
	Opening torque: Max 2.0 N·m (0.2 kg-m, 18 in-lb)		
	CAUTION: Check that valve opening torque is always with in the specified value for preventing oil leakage.	G	

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