

GROUP 42A

BODY

CONTENTS

GENERAL INFORMATION.....	42A-2
MAIN BODY.....	42A-3
BODY PANELING.....	42A-3
BODY SHELL.....	42A-4
QUIETNESS.....	42A-8
BODY COLOR CHARTS.....	42A-8
HOOD.....	42A-9
FUEL FILLER DOOR.....	42A-10
STRUT TOWER BAR.....	42A-11
DOOR AND LIFTGATE.....	42A-12
DOOR AND LIFTGATE LOCK.....	42A-12
POWER WINDOW.....	42A-17
WEATHERSTRIP.....	42A-19
WINDOW GLASS.....	42A-20
SUNROOF.....	42A-21
CUSTOMIZATION FUNCTION.....	42A-23

GENERAL INFORMATION

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FEATURES**LIGHT WEIGHT, HIGH RIGIDITY, ANTI-CORROSIVE**

- The application ranges of high-tensile steel panels, and anti-corrosion steel panels have been expanded.
- The ring structure for the side structure reinforcement has been adopted.
- The 3-way support structure for the front frame has been adopted.
- The strut tower bar has been installed.
- The upper frame to front pillar brace has been installed.
- The aluminum roof panel has been adopted.

REDUCTION IN VIBRATION AND NOISE

- More sound absorption/insulator and styrene foam filler have been adopted.
- The closed section roof bow has been adopted.

IMPROVEMENT IN SAFETY

- The one-touch power window (operative after ignition switch is turned OFF) with safety mechanism has been installed. <Driver's seat only>
- The direct combination key cylinder and inside lock cables for the front doors have been adopted to improve door opening operation upon impact.
- RISE (Reinforced Impact Safety Evolution) has been adopted for the main body.
- The side door beam has been adopted.
- The crush box structure has been adopted to the side member front end.
- The shock absorbing hole has been adopted to the cowl top outer panel.
- The fender padding structure has been adopted.

IMPROVEMENTS IN OPERATION PERFORMANCE

- The central door locking system which can lock/unlock all the doors and liftgate has been adopted.
- The override function which allows to open the driver's door by pulling the driver's inside handle when all the doors are locked has been adopted.
- Electric liftgate lock release handle that requires only the slightest operating force has been adopted.

IMPROVEMENTS IN MARKETABILITY AND APPEARANCE

- By improving the clicking sound when the door latch and striker are engaged, the door locking sound quality has been enhanced.
- The high rigidity pressed door has been adopted to improve the rigidity of the door sash bottom section.
- The privacy glasses for the rear door window glass, quarter window glass, and liftgate window glass has been adopted. (Optional for LS, Standard for XLS)
- The headlight support upper panel cover has been installed to the hood latch front section to deter thieves.
- The upper/lower split type liftgate has been adopted.
- The sunroof with safety mechanism has been installed as an option.

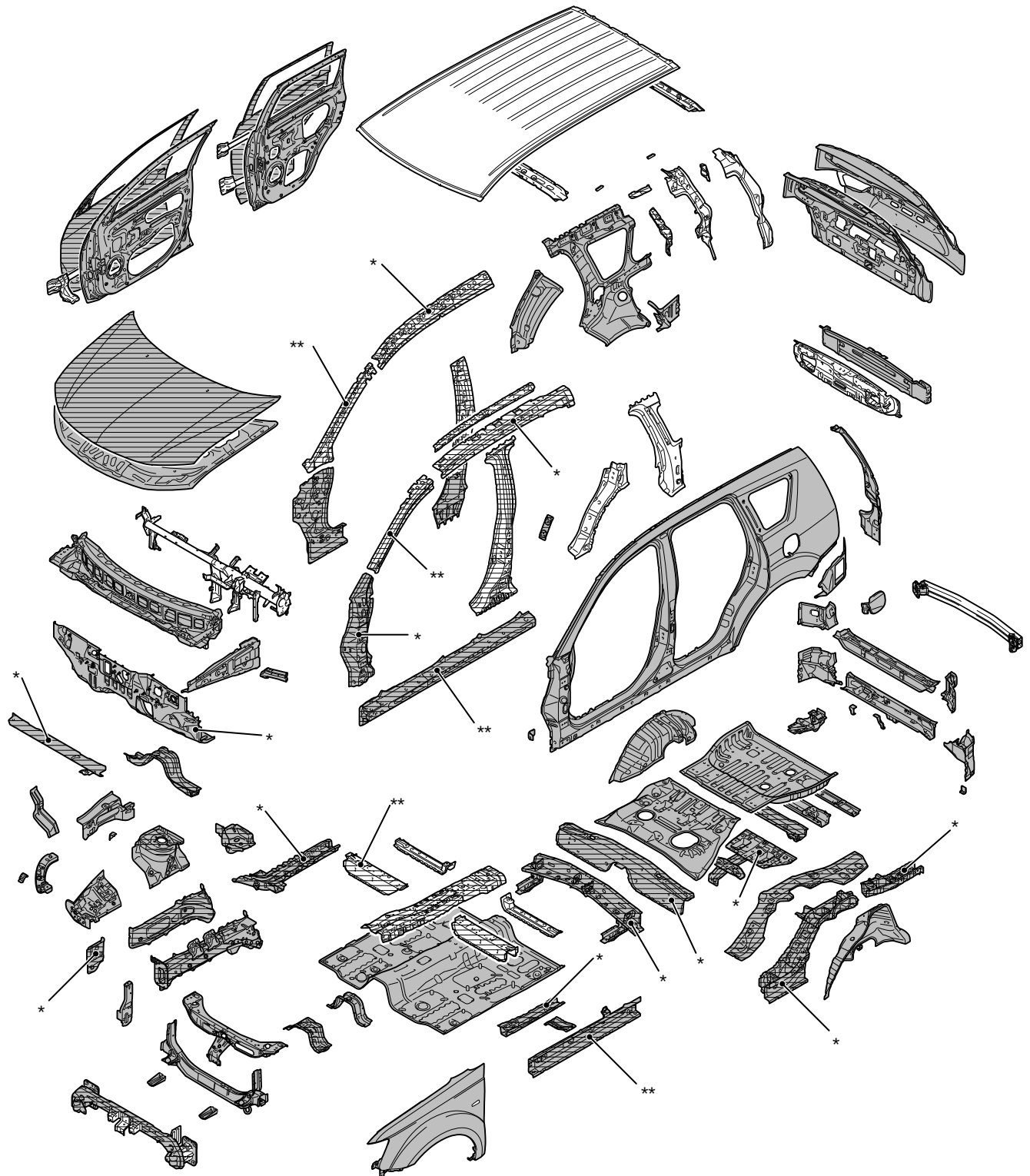
IMPROVEMENTS IN FUNCTIONALITY

- A fuel filler cap holder has been installed to the fuel door in order to prevent the fuel cap from being left open.
- The security alarm function has been introduced to the keyless entry system.
- The selector "P" position-linked door unlocking function has been introduced to the central door locking system.

MAIN BODY

BODY PANELING

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- : Anti-corrosion steel panels
▨ : High-tensile steel panels (*: Indicates 590MPa-high-tensile steel panels.)
(**: Indicates 980MPa-ultra-high-tensile steel panels.)

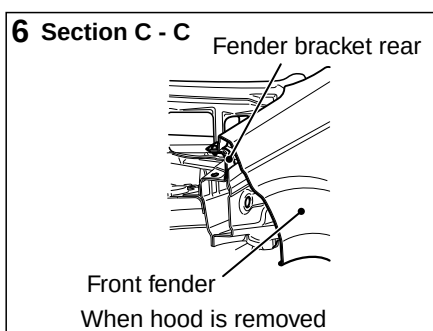
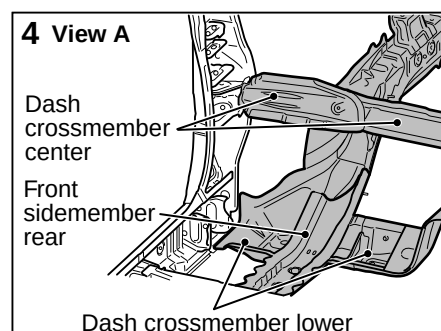
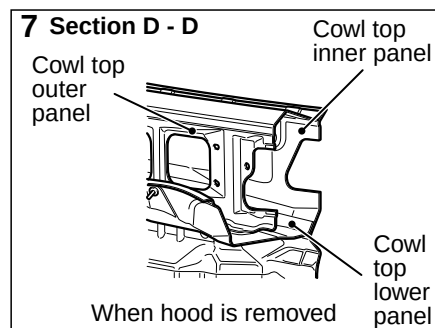
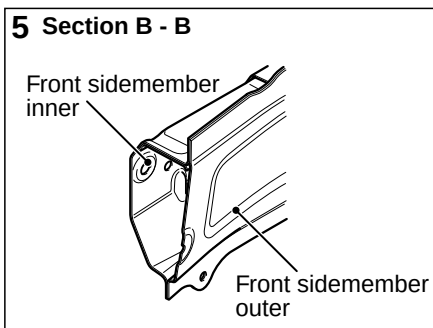
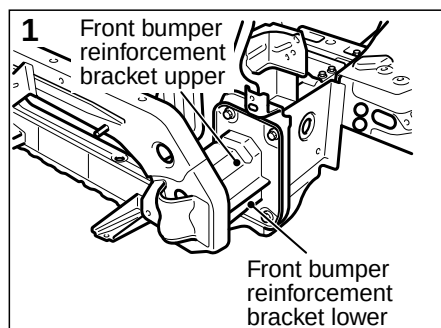
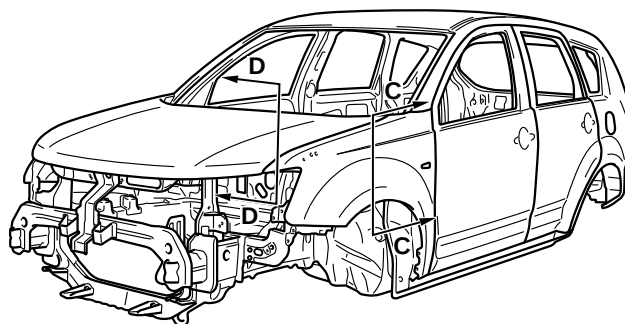
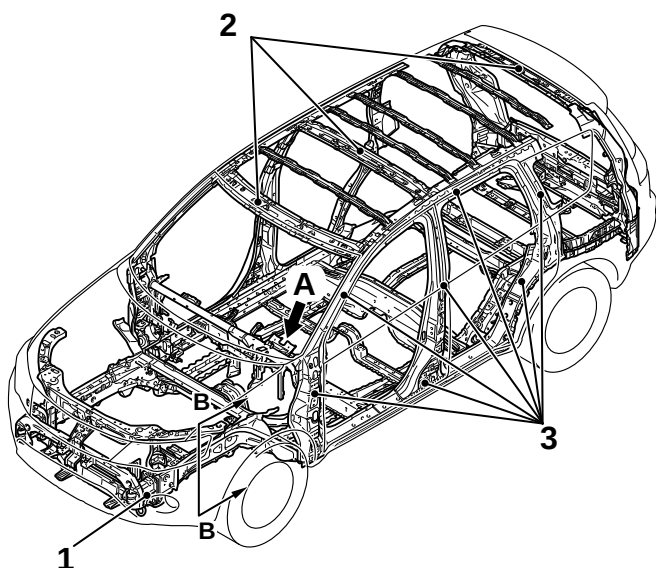
- RISE (Reinforced Impact Safety Evolution) has been adopted for the main body in order to improve all-round impact safety at high level.
- The applications of anti-corrosion steel plates have been expanded to the hood, doors, inner panel of the liftgate and reinforcements to improve the anti-corrosive properties of the main body.

- High-tensile steel panels of 590MPa-grade and 980MPa-grade have been used for some panels to improve collision safety and reduce weight.
- The sealer application area has been extended to the entire flange folded edge of the doors, hood, and liftgate, and the panel joints at the bottom of the front floor and the rear floor, in order to improve rust resistance.

BODY SHELL

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IMPACT SAFETY BODY RISE(REINFORCED IMPACT SAFETY EVOLUTION)

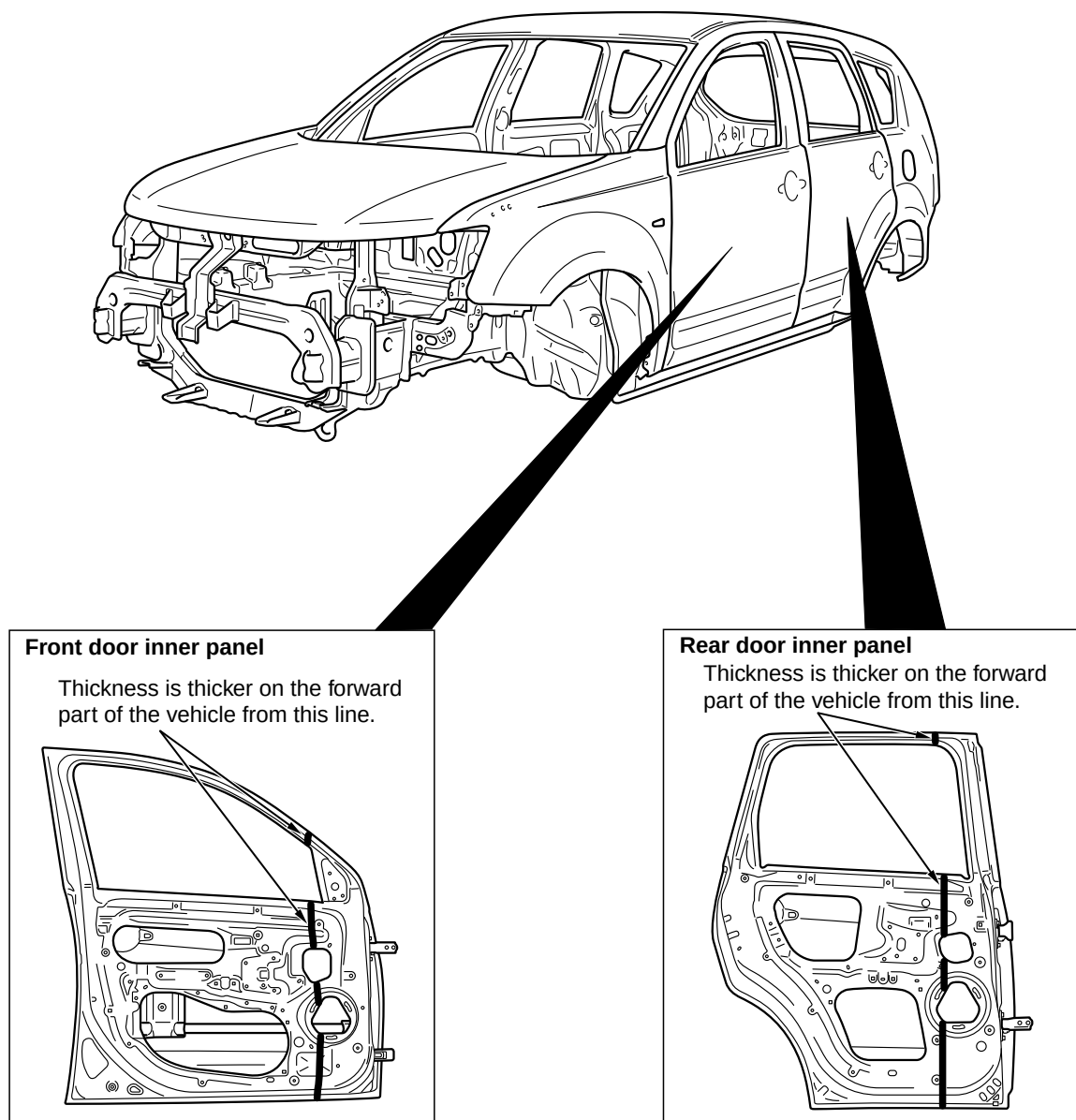


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The front and rear structures to absorb high energy, and the highly tough cabin structure is adopted to

reduce the risk of passenger injuries at front-, rear-, and side-impact collisions, secure the space for life protection, and facilitate rescuing passengers. The structures also have the following features:

1. The crush box structure has been adopted to the front end of the sidemember to improve the characteristics at a minor frontal collision.
2. Closed-crosssectional construction has been used for the front roof rail, the roof bow center and the rear roof rail to improve vehicle body rigidity and suppress vibration and noise.
3. An annular construction has been used for the side structure reinforcement to improve collision safety and vehicle body rigidity.
4. The front frame structure is supported in three directions by the dash crossmember center, dash crossmember lower, and front sidemember rear in order to improve the frontal collision characteristics, and increase the vehicle body rigidity.
5. The front sidemember structure has been changed to a straight frame structure with a hexagon cross section in order to improve the collision characteristics.
6. The padding structure of the fender has been adopted to efficiently absorb energy upon impact and improve the pedestrian protection capability.
7. The impact absorbing opening on the cowl top outer panel has been added to efficiently absorb energy upon impact and improve the pedestrian protection capability.

STEEL PLATE WITH UNEVEN THICKNESS

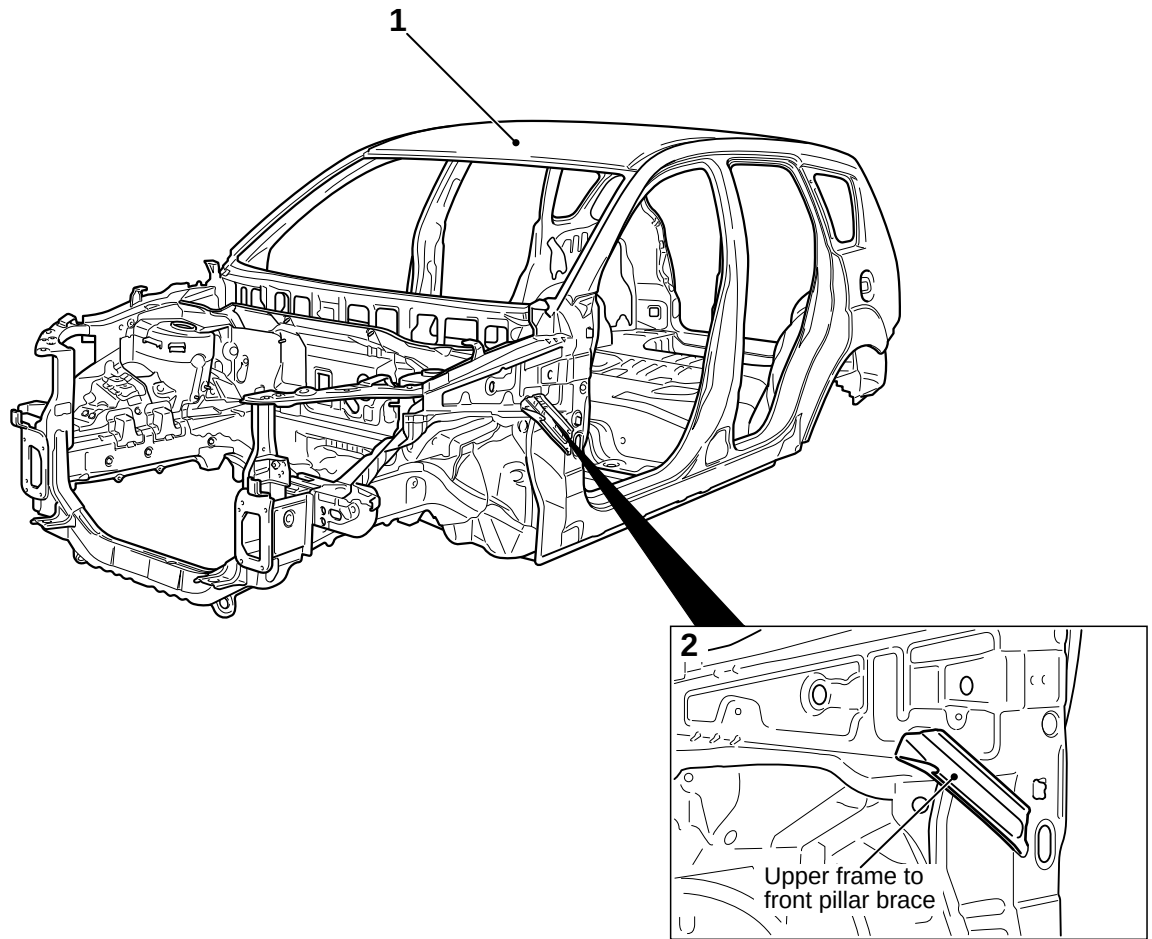
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The uneven thickness steel panels* (in uneven thickness integrated structure) have been adopted for

the parts shown in the figure to improve safety upon impact and reduce weight.

NOTE: *: A steel sheet of varying thickness that is welded into one steel sheet.

STEERING ABILITY

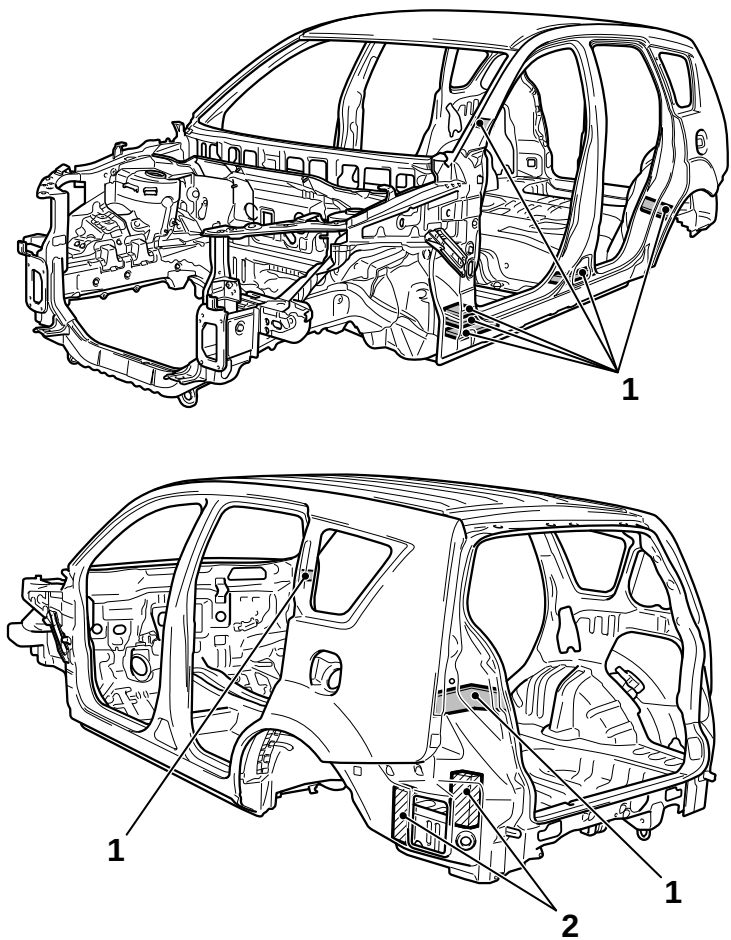


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1. The aluminum roof panel has been adopted to reduce weight and improve the steering ability.
2. The front upper frame outer and front pillar have been joined with the upper frame to front pillar brace in order to improve the steering ability.

QUIETNESS

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1. Foams have been filled in the front pillar upper and lower, the center pillar lower, the rear pillar, the rear wheelhouse front and the gate pillar in order to reduce noise.

2. The quarter inner inside have been filled with the urethane foam to reduce noise.

BODY COLOR CHARTS

Two types of color variation have been introduced; the color suggesting the great nature or the color

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providing the sporty and tough impression. Color names have been modified for easy recognition. The color recipe is the same as the conventional one.

BODY COLOR TABLE

Color	Color code	Color number	Color name (Previous name)	Composition of film
SILVER	A31	CMA10031	Cool Silver Metallic	Metallic
MEDIUM PURPLISH GRAY	A39	CMA10039	Medium Purplish Gray Mica	Metallic Interferenced Pearl +

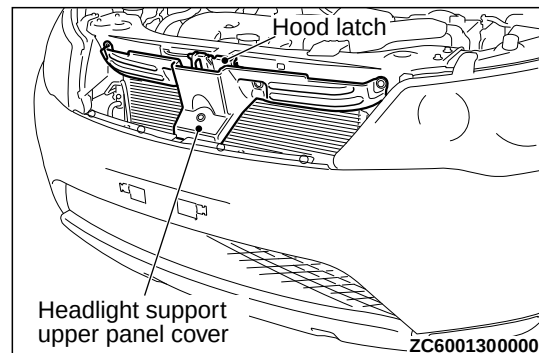
Color	Color code	Color number	Color name (Previous name)	Composition of film
GREENISH SILVER	A86	CMA10086	Aqua Metallic	Metallic Interferenced Pearl +
DEEP BLUE	T65	CMT10065	Deep Blue Mica	Interferenced Pearl
BEIGE	S18	CMS10018	Beige Metallic (Fraser Beige)	Metallic Interferenced Pearl +
BLACK	X42	AC11342	Black Mica (Amethyst Black)	Interferenced Pearl
WHITE	W13	CMW10013	White Pearl	Pearl
RED	P23	CMP10023	Red Solid	Solid

NOTE: For painting, inner panel colors should be similar to the outer panel colors.

HOOD

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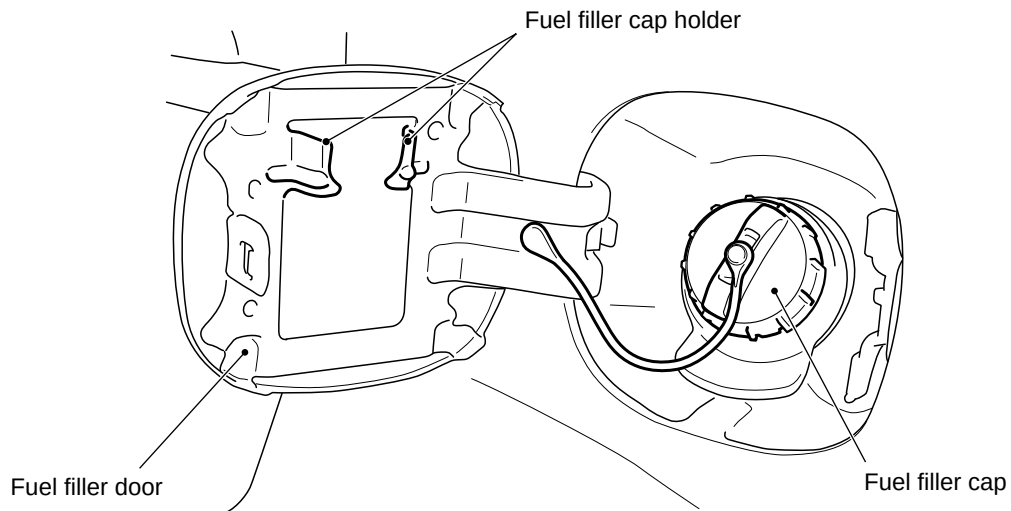
HOOD LATCH



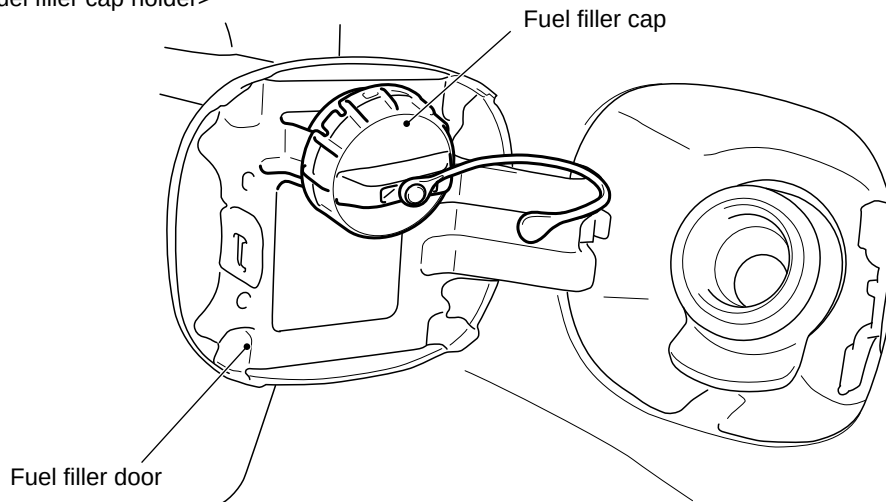
A headlight support upper panel cover has been installed to the front of the hood latch to deter thieves.

FUEL FILLER DOOR

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<When using fuel filler cap holder>

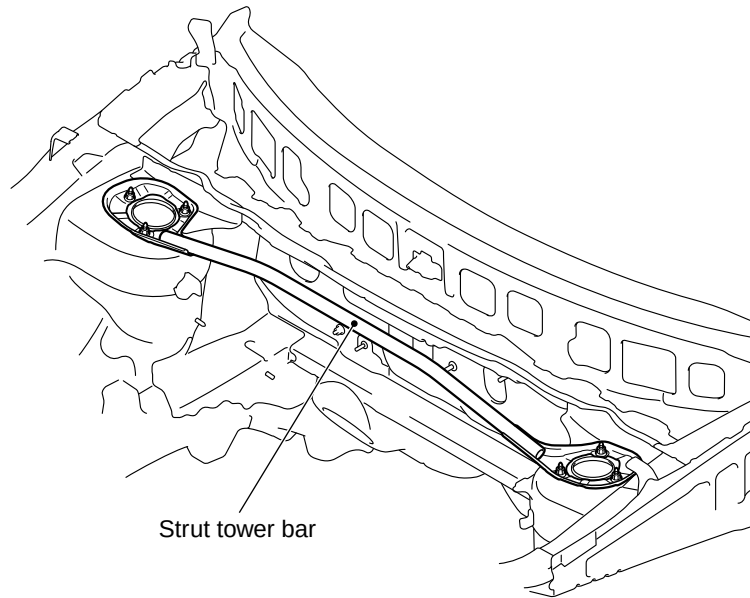


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The fuel filler cap holder has been installed to the fuel lid, holding the removed cap in refueling to prevent the fuel cap from being left open.

STRUT TOWER BAR

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The strut tower bar has been adopted to the strut attachment point to improve steering ability.

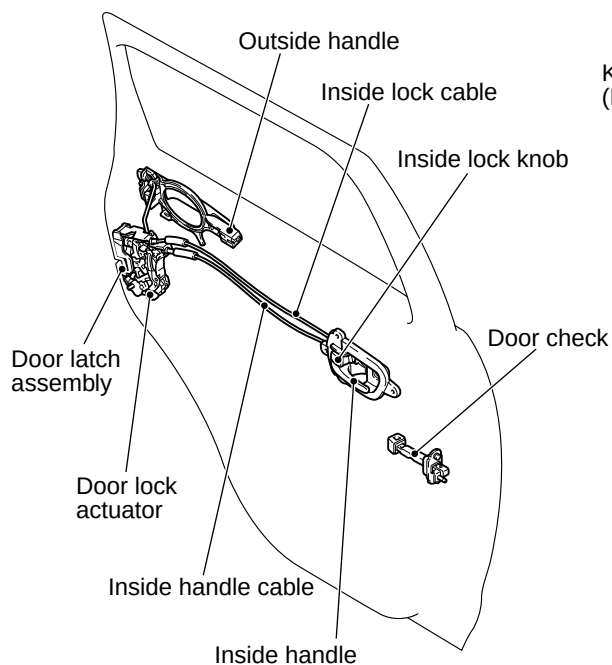
DOOR AND LIFTGATE

DOOR AND LIFTGATE LOCK

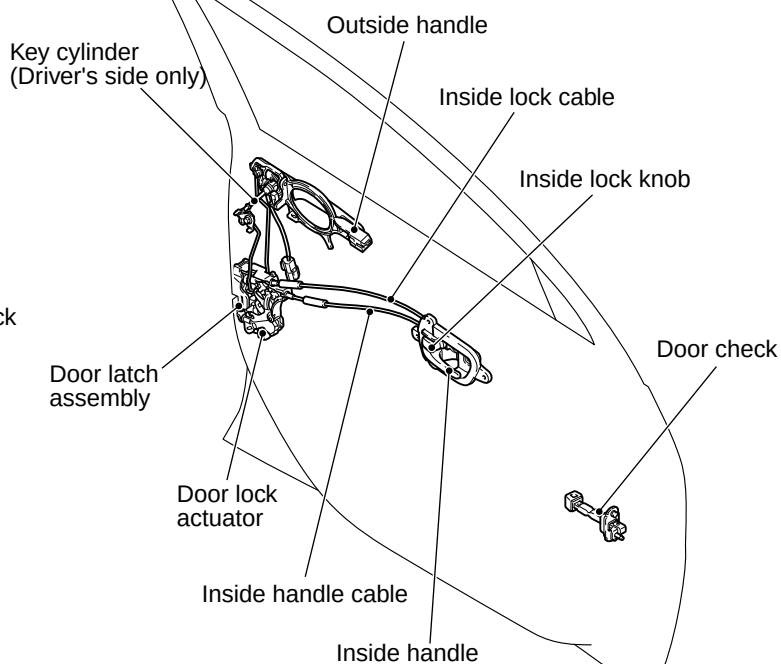
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CENTRAL DOOR LOCKING

<Rear door>

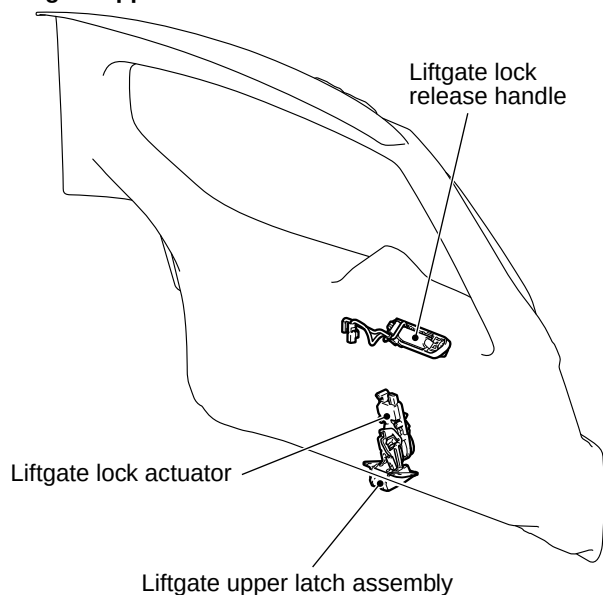


<Front door>

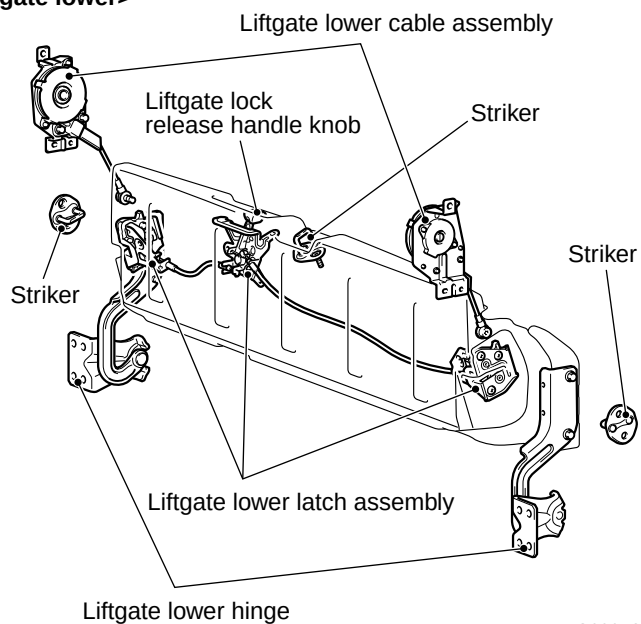


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<Liftgate upper>

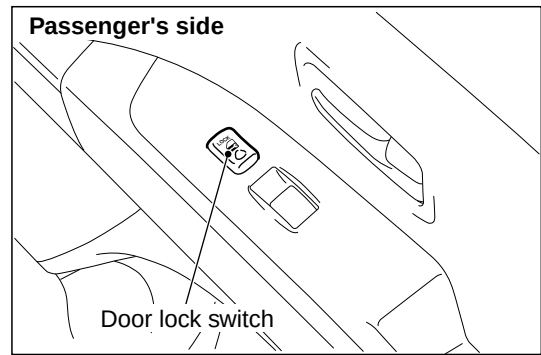
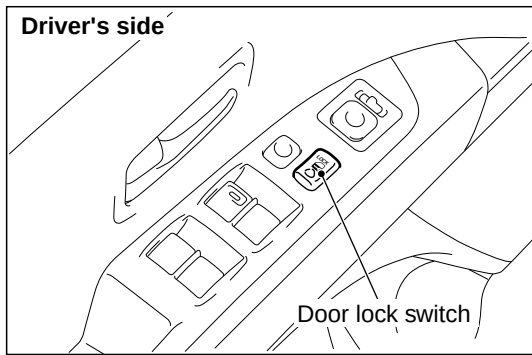


<Liftgate lower>



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Location of the door lock switches



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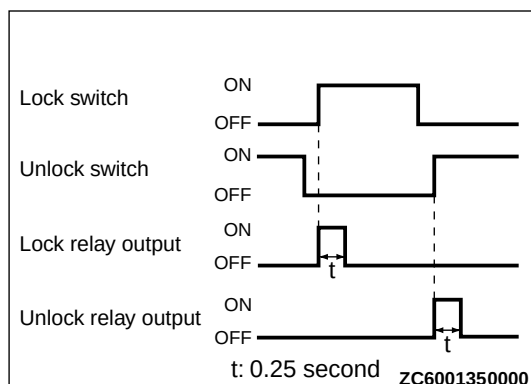
- The central door locking system locks/unlocks all the doors and liftgate using the driver's door key cylinder, the driver's side door lock switch or the passenger's side door lock switch.
- The child protection function prevents the rear doors from being opened accidentally during driving.
- The key-in prevention function has been introduced.
- The selector "P" position-linked door unlocking function has been introduced.
- The direct combination key cylinder mechanism has been adopted.

DESCRIPTION OF CONSTRUCTION AND OPERATION

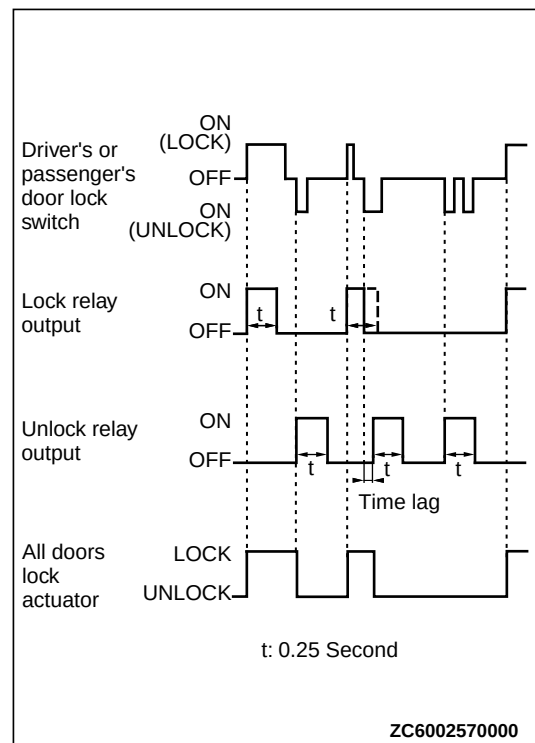
CENTRAL DOOR LOCKING

All the doors (including liftgate) can be locked/unlocked, using the door key cylinder on the driver's door, the driver's side door lock switch or the passenger's side door lock switch.

The function that allows the driver's door to be opened by pulling the driver's door inside handle even when the driver's door inside lock knob is in the lock position is called "override function".



turns ON after turning OFF the unlock switch in the driver's door lock actuator), ETACS-ECU turns ON the lock relay output for 0.25 second, and locks all doors (including the liftgate). When the driver's door is unlocked by turning the door lock key cylinder to the unlock side (when the unlock switch turns ON after turning OFF the lock switch on the driver's door lock actuator), ETACS-ECU turns ON the unlock relay output for 0.25 second, and unlocks all doors (including the liftgate).



When the driver's door is locked by turning the door lock key cylinder to the lock side (when the lock switch

When the door is locked by the driver's or passenger's door lock switch, the ETACS-ECU operates its door lock relay and passes a current through the door lock actuators of all the doors (including the liftgate) for 0.25 second to lock all the doors (including the liftgate).

When the door is unlocked by the driver's or passenger's door lock switch, the ETACS-ECU operates its door unlock relay and passes a current through the door lock actuators of all the doors (including the liftgate) for 0.25 second to unlock all the doors (including the liftgate).

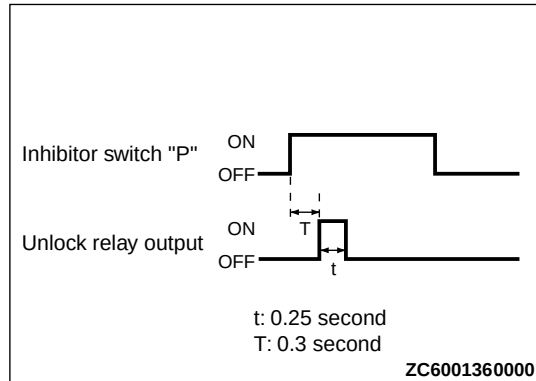
When the door is locked and unlocked by driver's or passenger's door lock switch consecutively, the ETACS-ECU operates its door lock relay and passes a current through the door lock actuators of all the doors (including the liftgate) for 0.25 second to lock all the doors (including the liftgate). Then, the ETACS-ECU operates its door unlock relay and passes a current through the door lock actuators of all the doors (including the liftgate) for 0.25 second to unlock all the doors (including the liftgate). Due to this, there may be a time lag between the driver's or passenger's door lock switch actuation and the time when all the doors (including the liftgate) are unlocked.

KEY-IN PREVENTION FUNCTION

When the driver's door inside lock knob is operated to the lock position with the driver's door opened, the driver's door cannot be locked, preventing it from being locked with the key inside the vehicle.

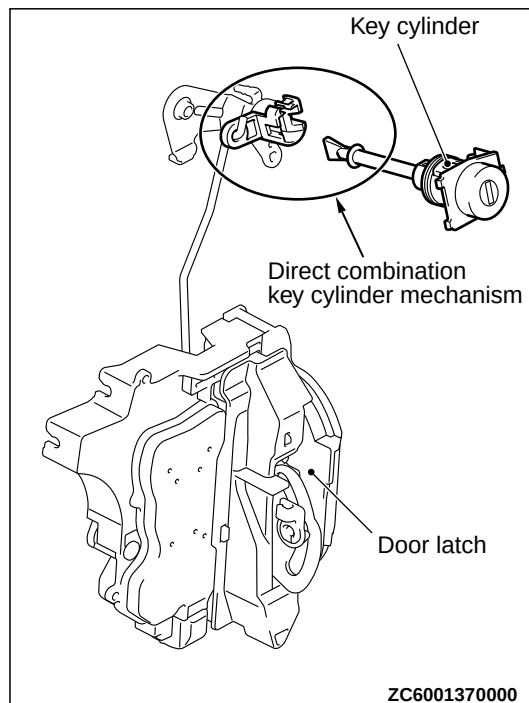
SELECTOR "P" POSITION-LINKED DOOR UNLOCKING FUNCTION

When the selector lever is shifted to the "P" (parking) position with the ignition switch turned ON, all the doors (including the liftgate) will be unlocked automatically, improving passengers' convenience for getting out. Using a customization feature, the selector "P" position-linked door unlocking function can be switched (Refer to P.42A-23).



When the selector lever is shifted to the P position with the ignition switch turned ON, the transmission range switch "P" turns ON, ETACS-ECU turns the unlock relay output ON for 0.25 seconds to unlock all the doors (including the liftgate).

DIRECT COMBINATION KEY CYLINDER MECHANISM



The impact of a side collision is not easily transferred to the door latch with the doors unlocked (to prevent passengers from falling out of the vehicle).

Even if any door key cylinder is attempted to be tampered with the doors locked, the tampering force is not easily transferred to the door latch, to deter thieves.

CENTRAL DOOR LOCKING SYSTEM

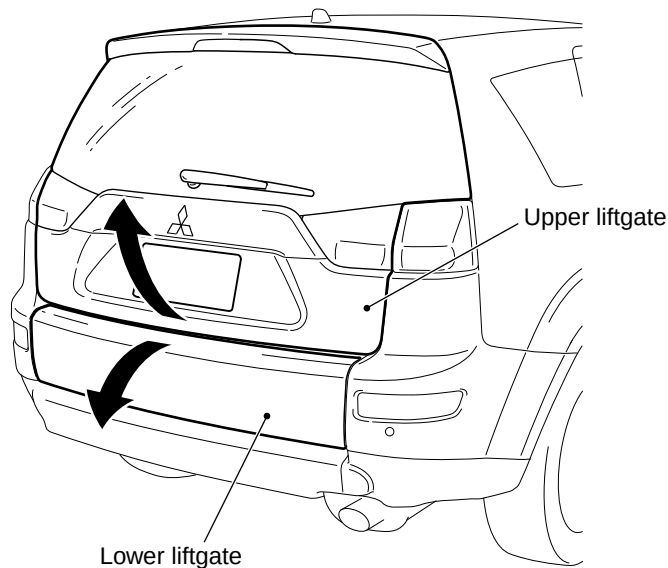
DOOR LOCK OPERATION TABLE

Operation		Driver's side door	Passenger's side door	Rear door	Liftgate
Door lock key cylinder	Lock	Lock	Lock	Lock	Lock
	Unlock	Unlock	Unlock	Unlock	Unlock
Door lock switch	Driver's side door	Lock	Lock	Lock	Lock
		Unlock	Unlock	Unlock	Unlock
	Passenger's side door	Lock	Lock	Lock	Lock
		Unlock	Unlock	Unlock	Unlock

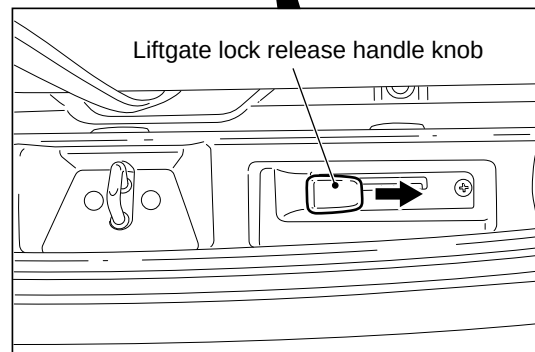
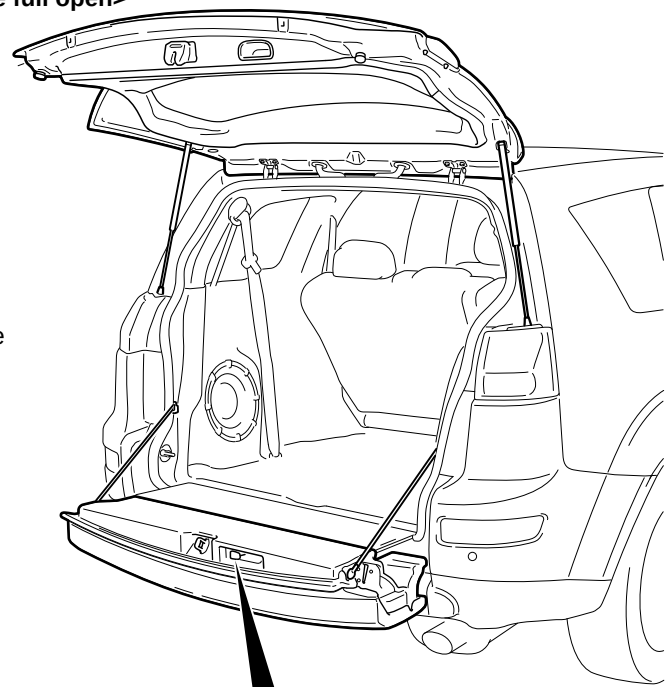
LIFTGATE

OPENING/CLOSING OF LIFTGATE

<Liftgate full close>



<Liftgate full open>



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•The upper/lower split liftgate has been adopted.

- To open the lower liftgate, open the upper liftgate first and operate the liftgate lock release handle knob in the direction of the arrow as shown in the figure. Then the lower liftgate will be opened.

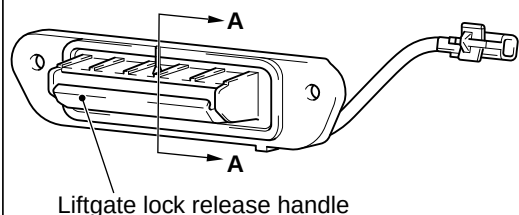
NOTE: Lower liftgate cannot be opened alone.

- To close the lower liftgate, lift it up.
- When the lower liftgate is opened, the floor and lower liftgate make a flat surface for ease of loading and unloading.
- The lower liftgate can be sit upon.

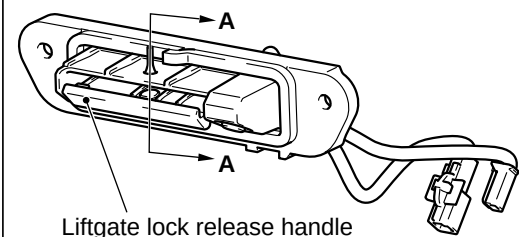
NOTE: Maximum load: Static load 200 kg (441 lbs)

LIFTGATE LOCK RELEASE HANDLE

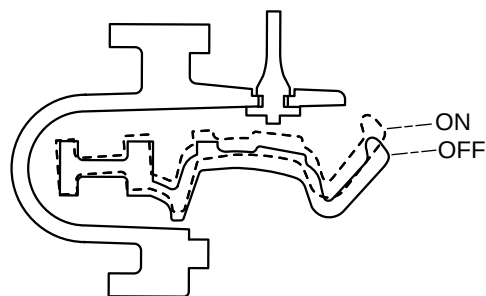
<Vehicles without KOS>



<Vehicles with KOS>



Section A - A

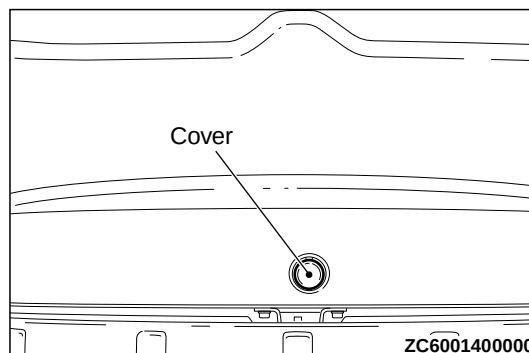


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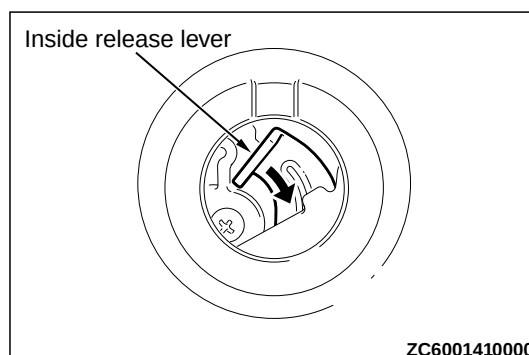
The electric liftgate lock release handle requires low operating force and has no temperature dependency

improves the opening operation. When the liftgate lock release handle is operated, the switch is turned ON or OFF.

If the liftgate cannot be opened from the outside of the vehicle due to any malfunction such as discharged battery, it can be opened from the inside of the vehicle using the following procedure:

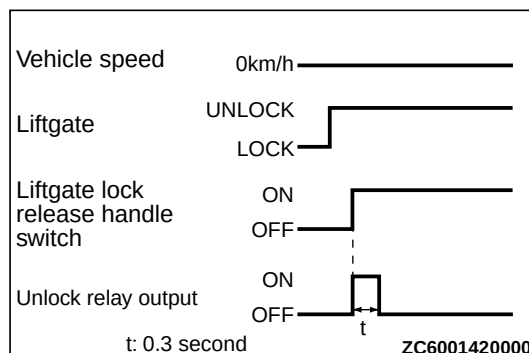


1. Remove the inside release lever cover installed to the liftgate trim from the inside of the vehicle.



2. Push down the inside release lever in the direction of the arrow shown in the figure.
3. Open the liftgate while pushing it up.

LIFTGATE OPENER CONTROL FUNCTION

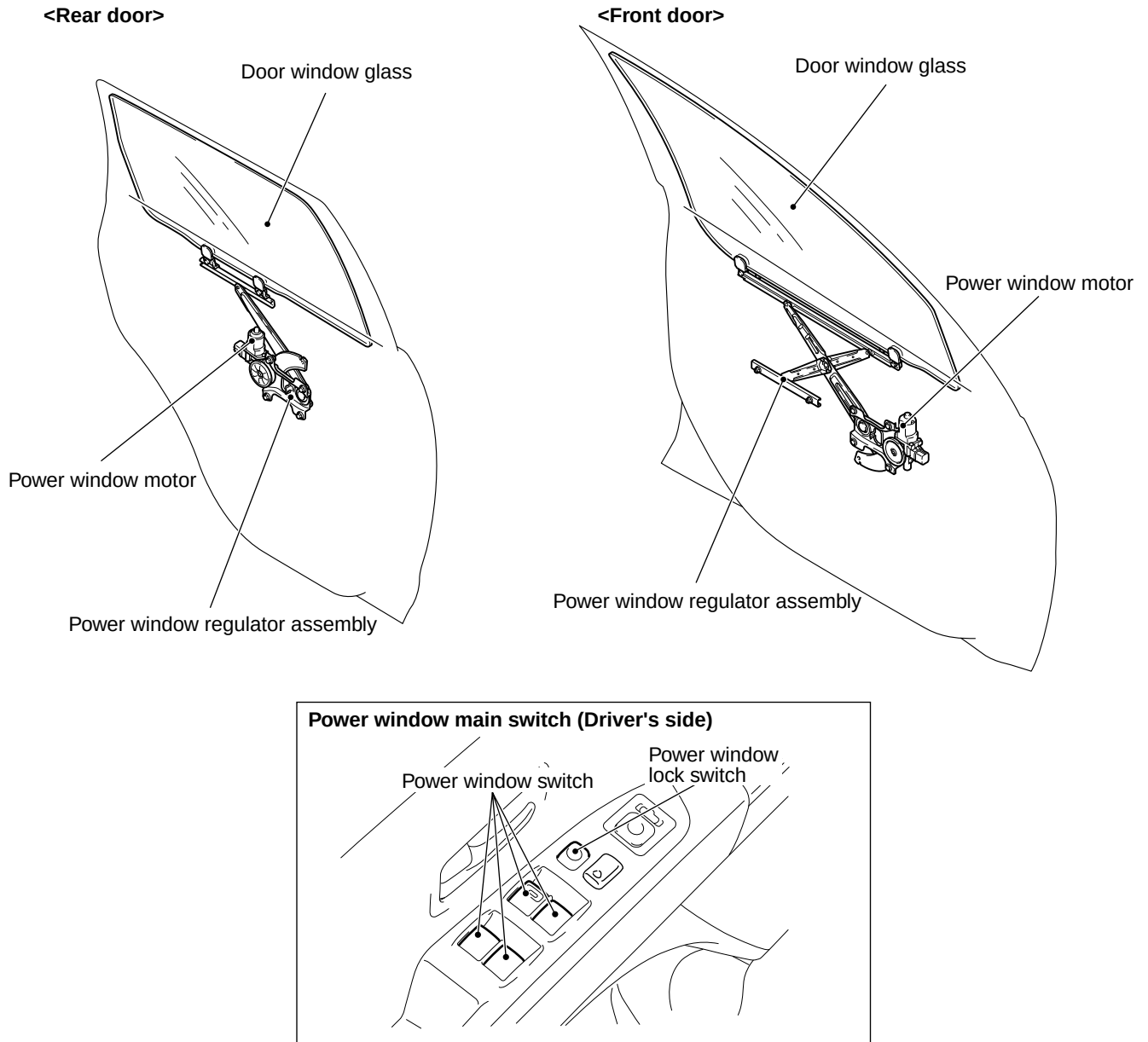


When the liftgate lock release handle is operated to open the liftgate (the liftgate lock release handle switch turns ON) while the vehicle is parked and the

liftgate is unlocked, ETACS-ECU turns the unlock relay output ON for 0.3 seconds, thus the liftgate can be opened by the liftgate lock release handle.

POWER WINDOW

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The power window has the following features:

- Safety mechanism <Driver's door only>
- Power window timer function
- Power window lock switch

DESCRIPTION OF CONSTRUCTION AND OPERATION

POWER WINDOW SYSTEM

The power window switch has a waterproofing structure which prevents water (such as rain drops) from entering from above. Should water enter, it is drained through the hole located on the lower area of the switch, and no water may be accumulated.

POWER WINDOW SWITCH

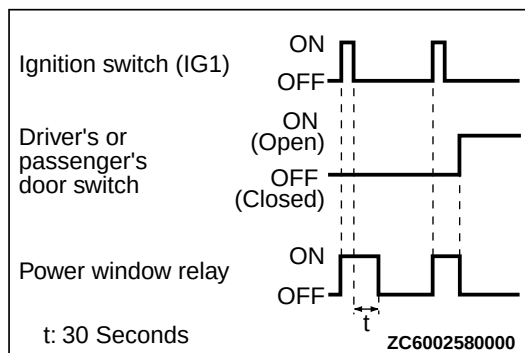
The power window switch has a push-pull operation method to enhance safety. To close a door window glass, press in the switch knob; and to open, pull it up. The one-touch opening/closing mechanism in the driver's power window switch will fully open or close driver's door window glass in a single operation.

SAFETY MECHANISM <Driver's door only>

- The power window with the safety mechanism has been adopted to enhance safety. If any obstacle such as a hand or a head is detected to be pinched during a door window glass closing operation, the door window glass is opened by approximately 150 mm (6.0 inches). The safety mechanism is activated when the power window switch is operated by one-touch closing operation (the status when the hand is released from the switch knob after one-touch closing operation).
- To prevent anyone from intruding into the vehicle, by performing the manual-closing operation of the power window switch, or by continuing the one-touch closing operation (keep pulling up the switch knob), the door window glass can be forcibly closed without safety mechanism activation even when the obstacle is detected to be pinched.

▪ When the power window switch manual-closing or one-touch closing operation is performed accidentally, and an obstacle is detected, the power window switch manual-closing and one-touch closing operations are prohibited for 3 seconds after the obstacle has been detected to be pinched, and activates the safety mechanism.

POWER WINDOW TIMER FUNCTION



Even after the ignition is switched off, the ETACS-ECU keeps the power window relay activated for approximately 30 seconds, enabling raising or lowering of the power windows by using the power window switches. After approximately 30 seconds, the power window relay is deactivated.

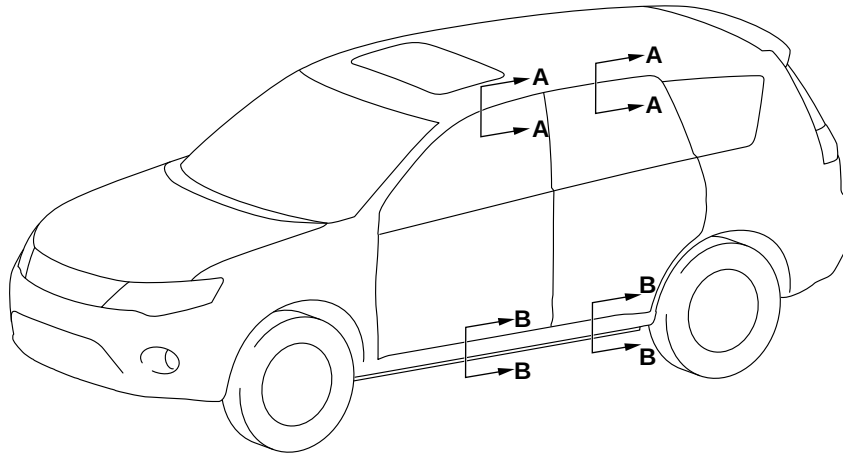
During this timed operation, if the driver's or passenger's doors are opened, the power window relay is deactivated from that moment.

POWER WINDOW LOCK SWITCH

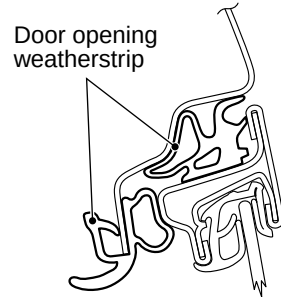
The driver's power window switch is equipped with the lock switch. This switch disables the opening/closing operation of the door window glass using each passenger's power window switch and rear power window switch.

WEATHERSTRIP

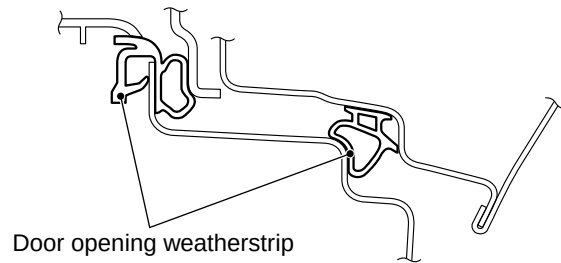
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Section A - A



Section B - B



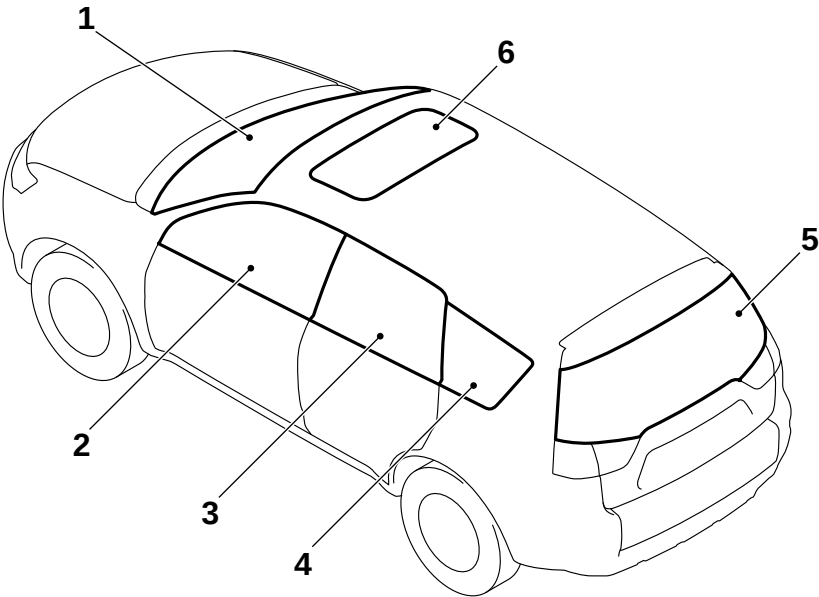
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The double weather strips have been installed along the perimeter of the door window to improve the sound-proof and water-proof performances.

WINDOW GLASS

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VISIBLE RAY TRANSMISSIVITY RATE FOR WINDOW GLASS



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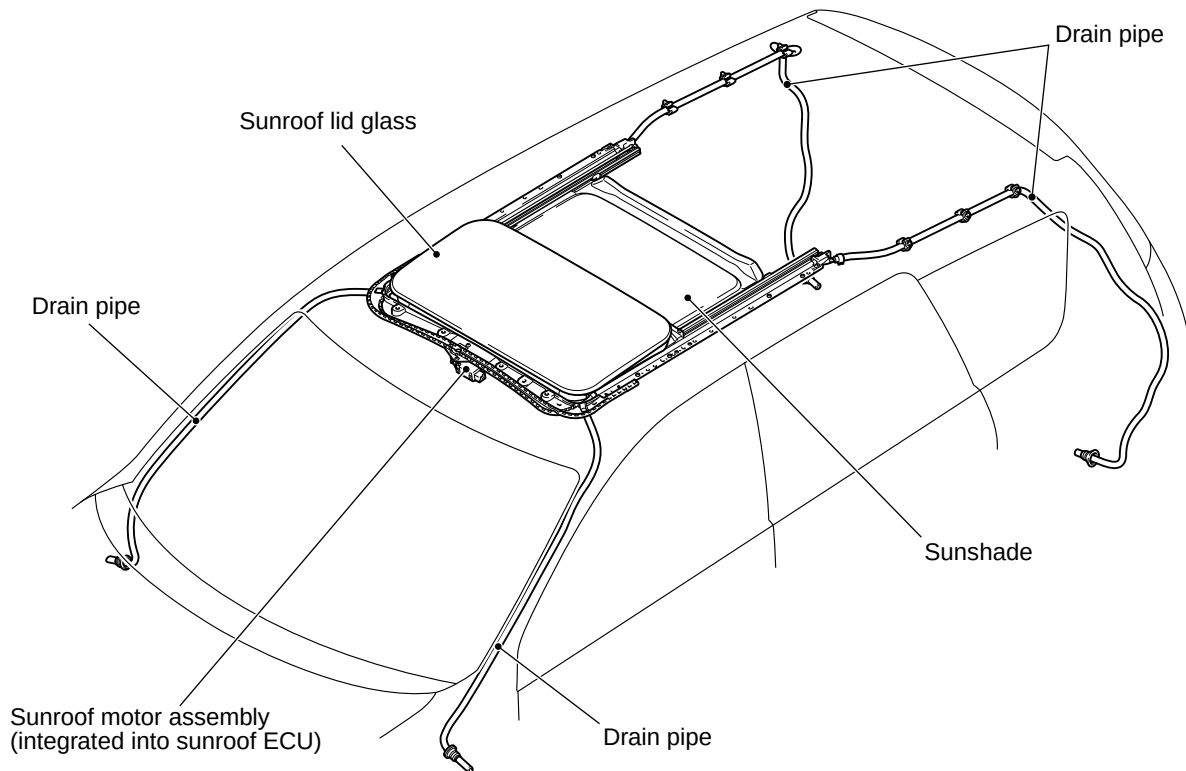
No.	Name	Type	Thick ness (mm)	Color	Visible ray transmissivity rate (%)
1	Windshield	Laminated glass	4.3	Green	80.5
2	Front door window glass	Reinforced glass	3.5	Green	81
3	Rear window glass		3.1	Green	82.3
				Dark gray (privacy glass)	25
4	Quarter window glass		3.1	Green	82.3
				Dark gray (privacy glass)	25
5	Liftgate window glass		3.1	Green	82.3
				Dark gray (privacy glass)	25
6	Sunroof lid glass		3.5	Dark gray	18

NOTE: The visible ray transmissivity rate (%) is a reference value.
The laminated glass has been adopted for the windshield, and the reinforced glass has been

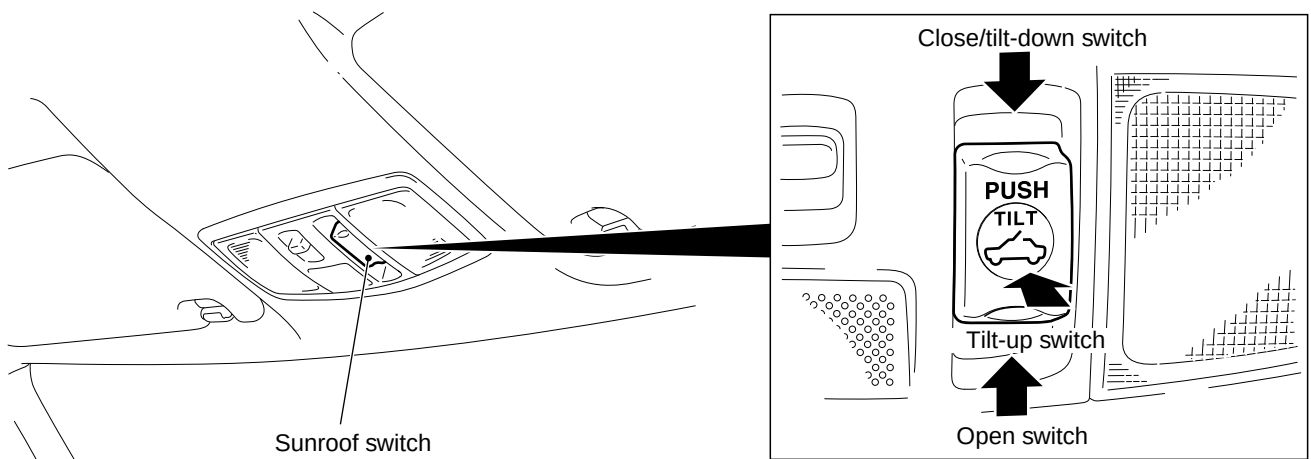
adopted for other windows. The window glass has the following features.
*The privacy glasses for the rear door window glass, quarter window glass, and liftgate window glass have been adopted as an option.(Optional for "LS" grade, standard for "XLS" grade)

SUNROOF

M24200000160USA0000010000



ZC6001490000



ZC6001500000

The electric sliding glass sunroof with tilt-up mechanism has been adopted as an option. This sunroof has the following characteristics:

- A lightweight sunroof has been adopted.
- The sunroof tilts up for approximately 30 mm to improve ventilation.
- The integrated switch allows for all slide opening/closing, tilt up/down, and stop operations. All operations are available at one touch.

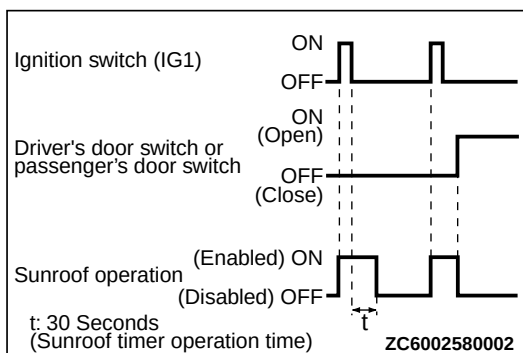
▪ If external force is applied during slide closing or tilt down operations that obstructs operations, the sunroof lid glass will move in the reverse direction.

DESCRIPTION OF CONSTRUCTION AND OPERATION

SAFETY MECHANISM

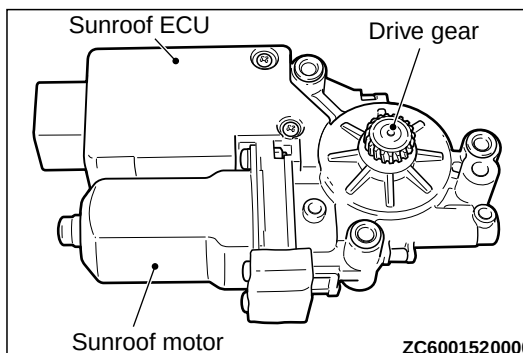
- If any obstacle such as a hand or a head is detected to be pinched during a sunroof lid glass closing operation, the sunroof lid glass is opened by approximately 200 mm (7.9 inches) or more.
- During the sunroof lid glass closing operation, by continuing the sunroof close switch operation, the sunroof can be forcibly closed without activating the safety mechanism even when the obstacle is detected to be pinched.
- During the safety mechanism activation, when the sunroof close switch is operated, the sunroof lid glass stops. By continuing the close switch operation, the sunroof lid glass can be forcibly closed without activating the safety mechanism even when the obstacle is detected to be pinched.

SUNROOF TIMER FUNCTION



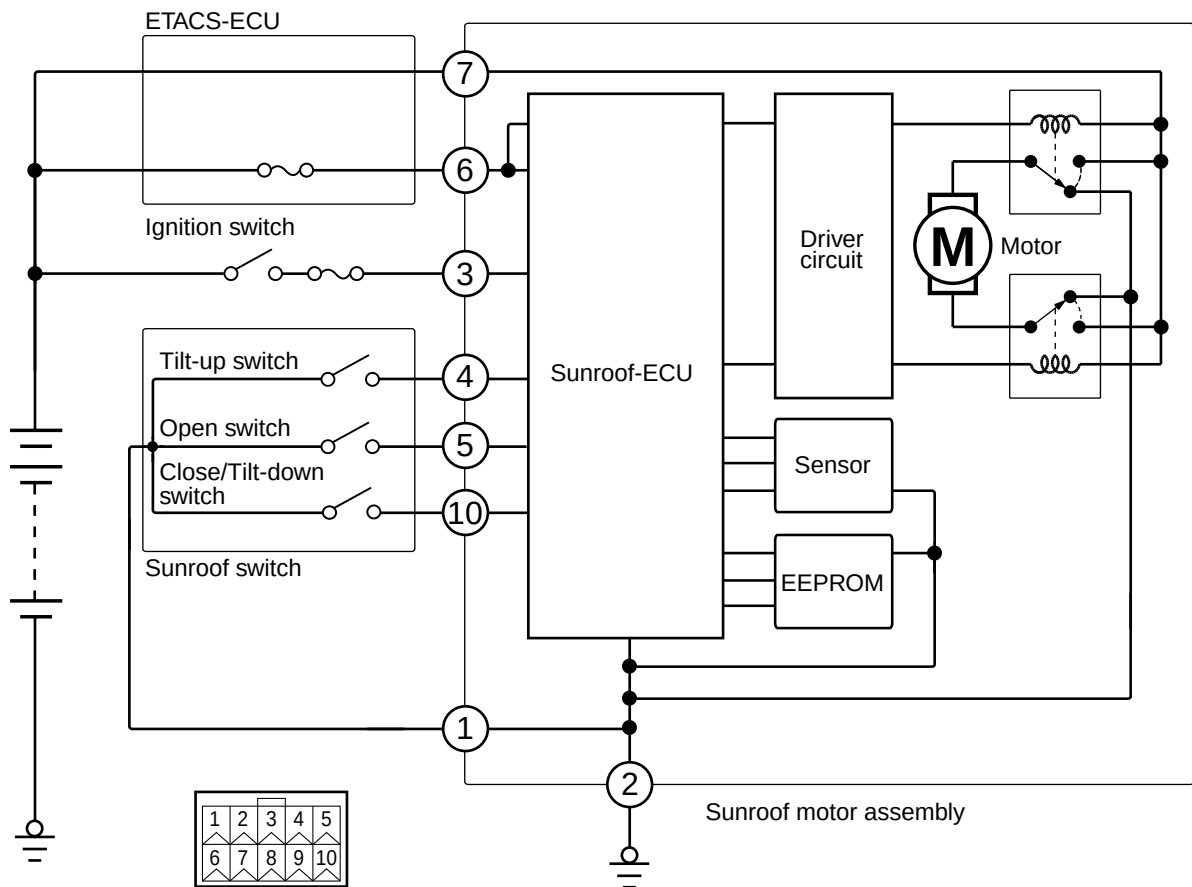
The sunroof ECU (integrated into the sunroof motor assembly) receives the ignition switch (IG1) signal transmitted by ETACS-ECU. If the ignition switch (IG1) signal turns OFF, the sunroof ECU allows the sunroof switch to open/close (timer activation) the sunroof for approximately 30 seconds. During the timer operation, if the driver's or passenger's door open is detected from the door switch signal transmitted by ETACS-ECU, the sunroof timer function stops at this time.

SUNROOF MOTOR ASSEMBLY



The sunroof motor assembly, which consists of the motor main body, drive gear, and sunroof ECU, is installed in front of the housing.

SUNROOF ECU



ZC6044300000

The sunroof ECU incorporates a microcomputer and controls motor operations with the sunroof switch signals, depending on various conditions.

CUSTOMIZATION FUNCTION

M24200000241USA0000010000

With the scan tool MB991958 operation, the following information is kept in memory even when the battery functions can be programmed. The programmed information is disconnected.

Adjustment item (scan tool MB991958 display)	Adjustment item	Adjusting contents (scan tool MB991958 display)	Adjusting contents
Door unlock mode	Door lock system	All doors unlock	All the doors are unlocked when the driver's side door is unlocked.
		Dr door unlock	Only the driver's side door is unlocked when the driver's side door is unlocked. (default)
Auto door unlock by P position	Auto door unlock by P position function	Disable	Without function (default)
		Always enabled	Always able to function
		P/W unlocked	With function (with power window unlocked)

MEMO