
BODY

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GENERAL DESCRIPTION

FEATURES

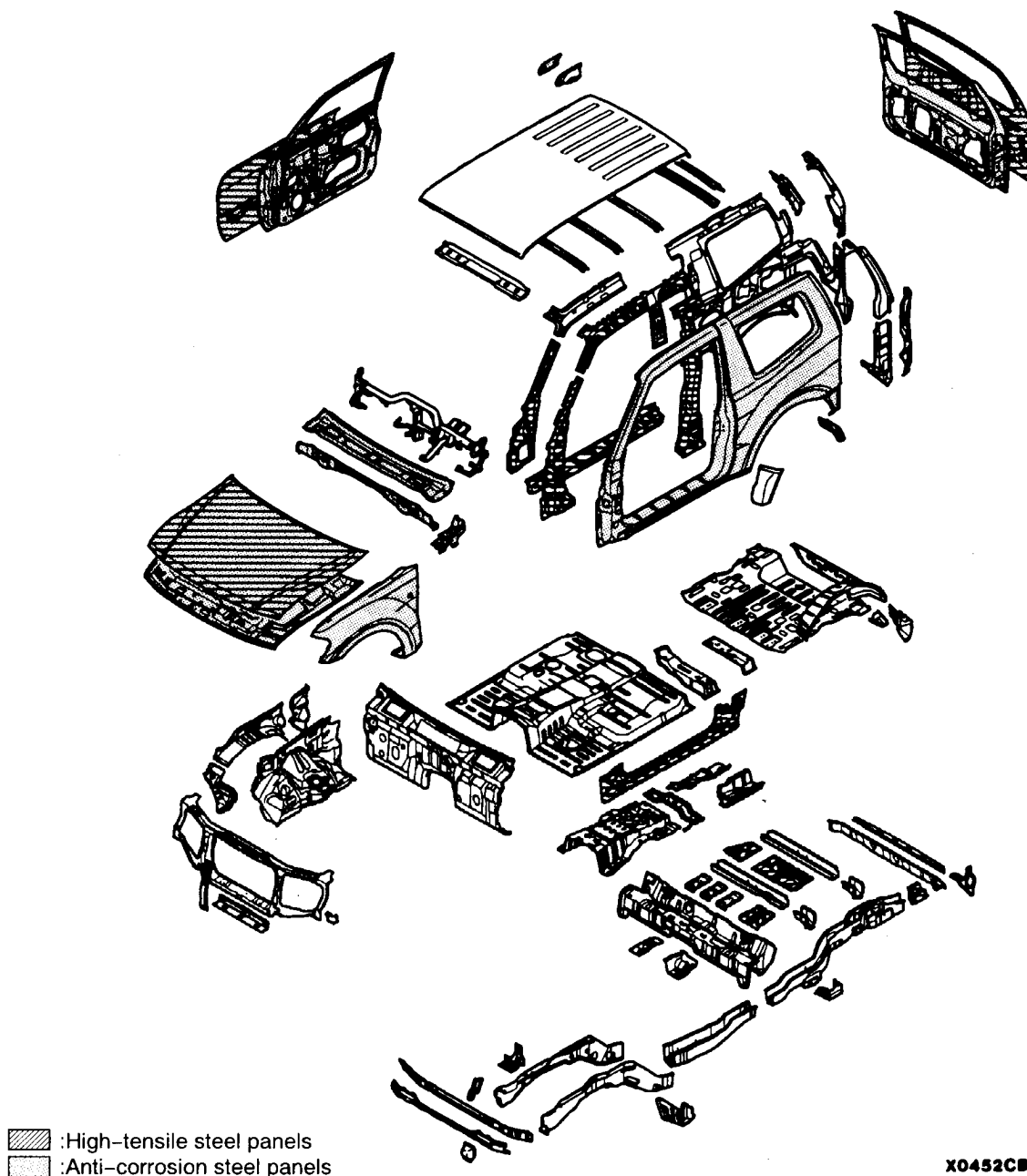
Light weight Increased rigidity	1. Use of high-tensile steel panels 2. Effective use of reinforcements to increase the rigidity of door outer panels 3. Built-in frame construction with large cross-sections that extend from the front to the rear of the vehicle
Anti-corrosion treatment	Adoption of galvanized steel
Reduced vibration, general noise and wind noise	Effective placement of dampers and silencers
Improved operability and safety	1. Adoption of a RISE (Realized Impact Safety Evolution) impact-safe body as the main body 2. Adoption of side door beams to provide improved safety in the event of a side impact 3. Adoption of central door locks which allow all doors including the back door to be locked and unlocked at once 4. Adoption of one touch-type power windows with safety mechanism (with operation after key off function) 5. Inside door locking cable changed from the previous rod to a cable to improve safety in the event of a side impact
Improvement in Merchantability and Appearance	1. Side opening-type back door which can be opened and closed easily 2. Adoption of locking cylinder to prevent theft of the spare tire 3. Adoption of motor-driven tilting and sliding glass sunroof (Option)

MAIN BODY

BODY PANELING

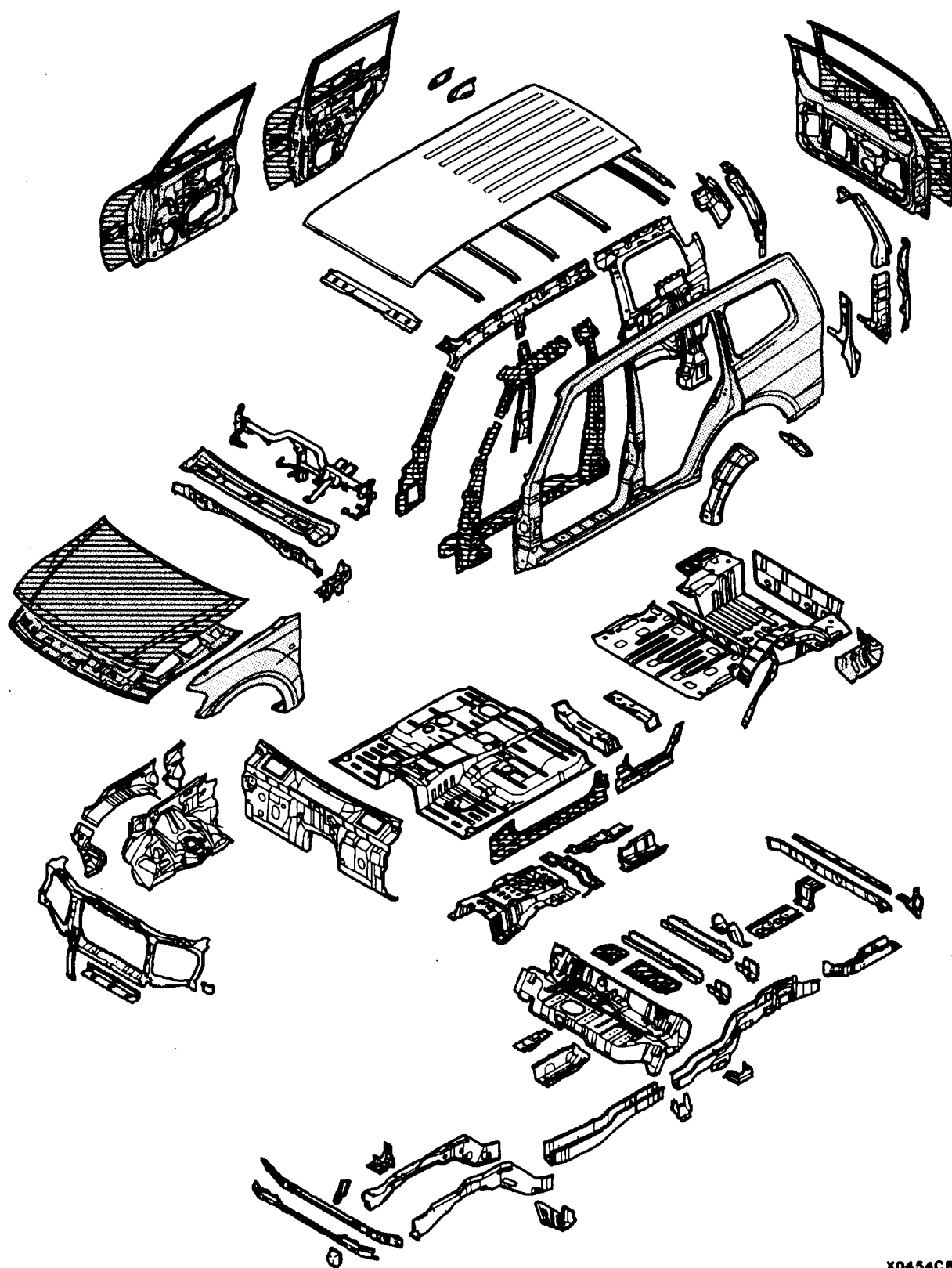
1. The frame structure has been changed from the previous separate-type frame to a built-in frame which has sidemembers with large cross-sections integrated with the body, in order to reduce weight and increase rigidity.
2. A large number of high-tensile steel panels have been adopted in order to reduce weight and to improve safety in the event of a side impact. In addition, high-tensile steel panels which have a greater ability than conventional steel panels to absorb the energy which is generated during impacts have been adopted for shock-absorbing parts such as the front pillar and sid sill, inner.
3. Anti-corrosion steel panels have been adapted for some panels in order to maintain sufficient corrosion resistance.

<Short wheelbase>



X0452CB

<Long wheelbase>



X0454CB

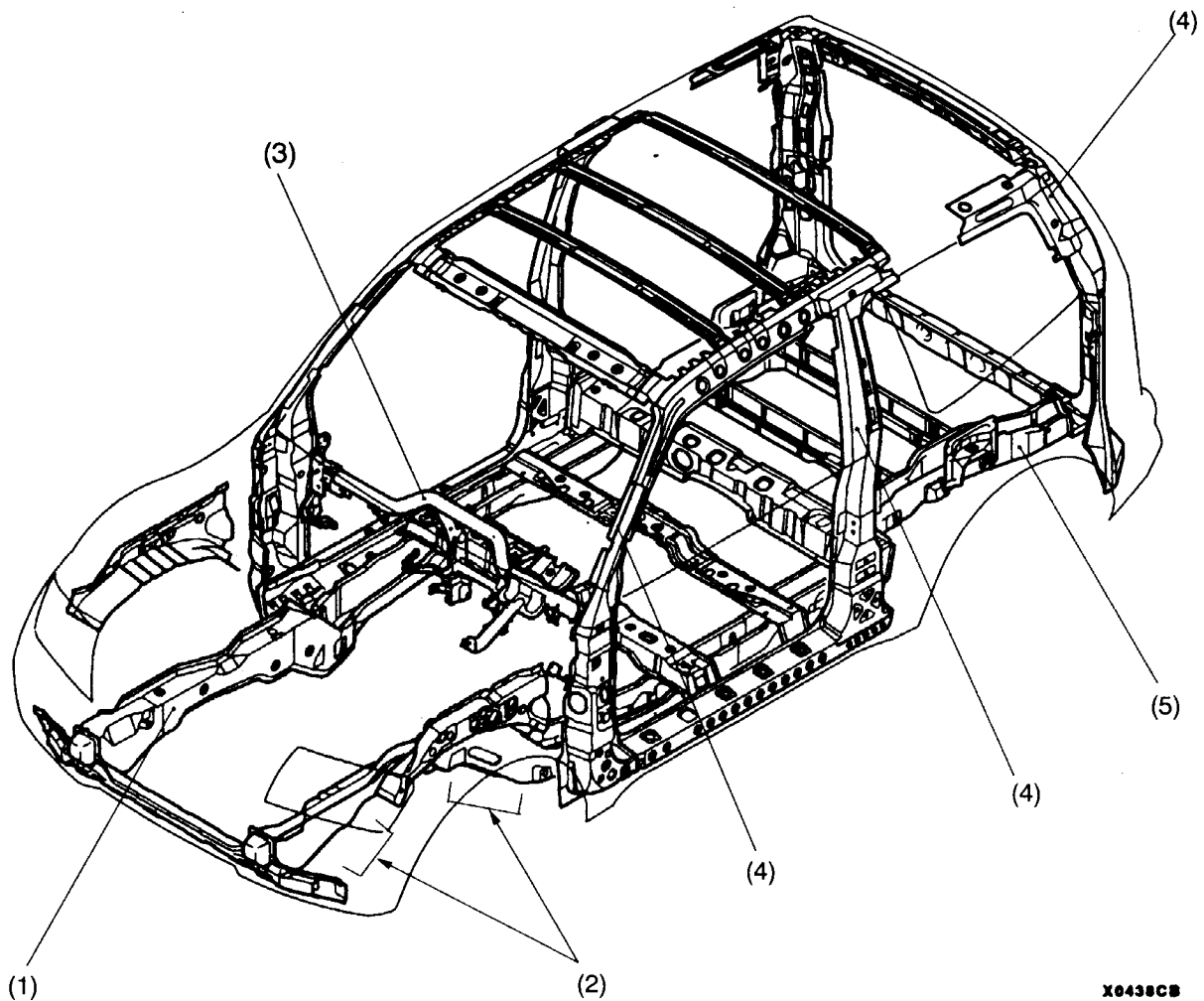
▨ :High-tensile steel panels
□ :Anti-corrosion steel panels

BODY SHELL**RISE (Realized Impact Safety Evolution) Impact-safe Body**

The following construction has been adopted for the RISE impact-safe body. This structure alleviates the shocks which may be experienced by passengers in the event of a front, rear or side impact and maintains enough space inside the passenger compartment to preserve life and to improve passenger rescue.

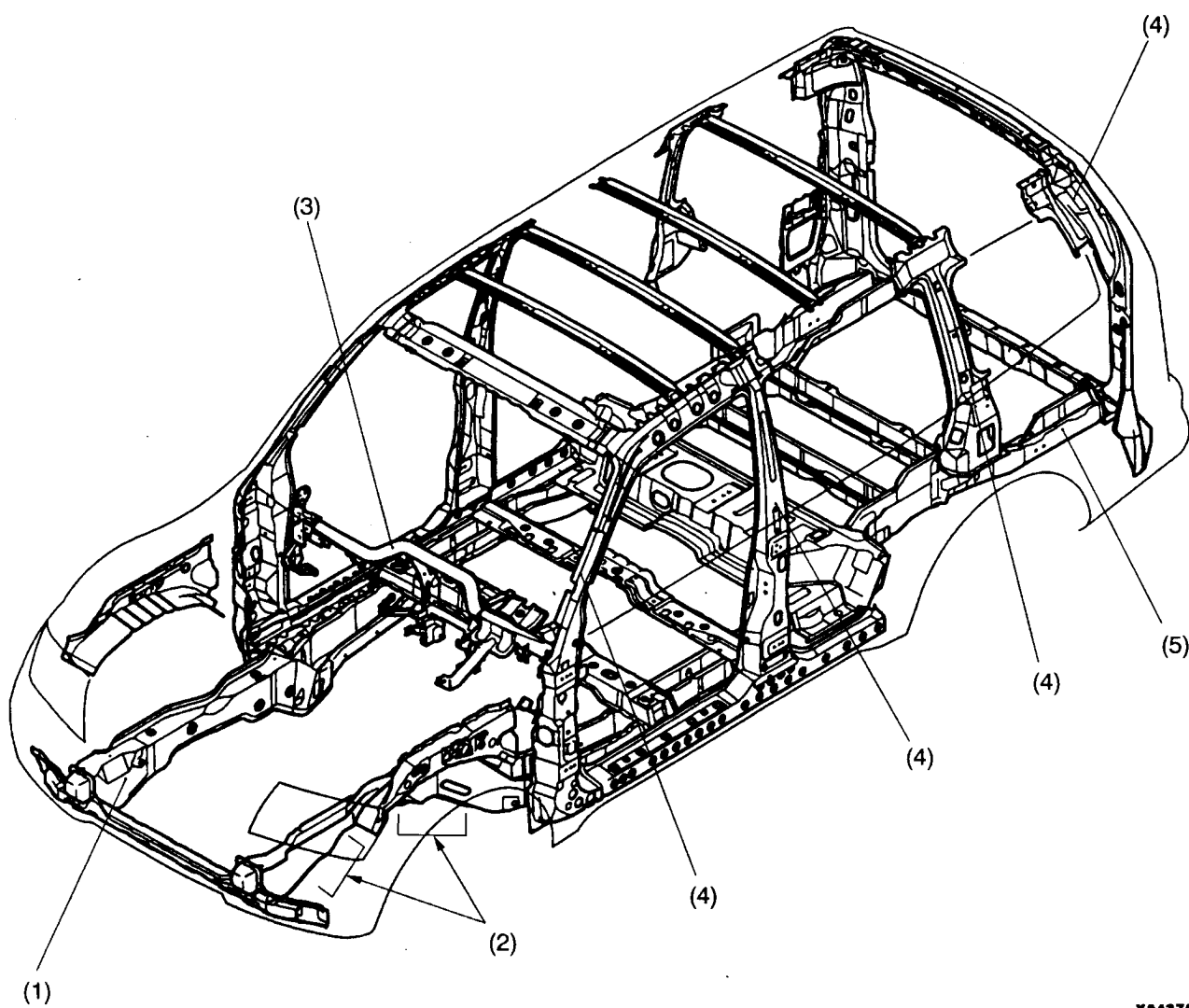
- The high energy-absorbing structure includes front sidemembers with a straight frame and a large cross-section.
- The high energy-absorbing structure includes clashable zones at the front and rear of the front sidemembers to disperse the force of an impact.

- The joints between the front pillars and front deck crossmember maintain the high rigidity of the cabin.
- Large reinforcements have been added to each pillar to increase the rigidity of the joints along the whole of the side of the vehicle body.
- The high energy-absorbing structure includes rear floor sidemembers with a straight frame and a large cross-section.

<Shot wheelbase>

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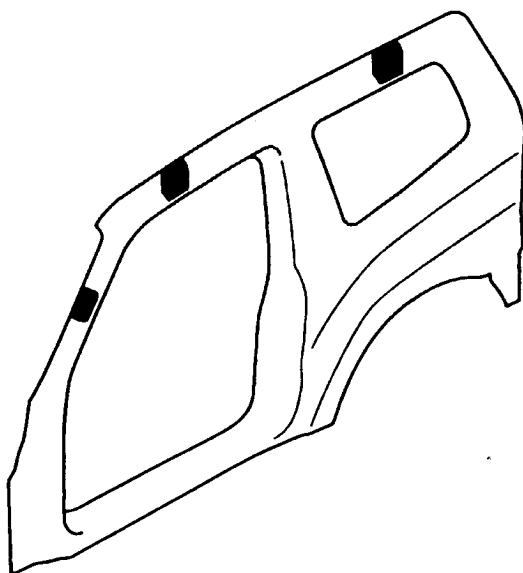
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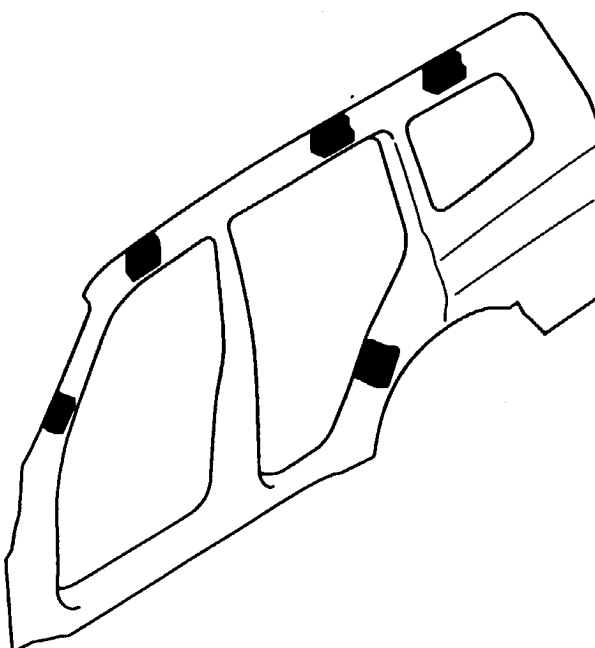
X0437C0

SOUND SILENCING**FOAMING AGENT**

Foaming agent has been added in the closed panel structures where stress is concentrated to provide improved sound silencing performance.

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<Long wheelbase>

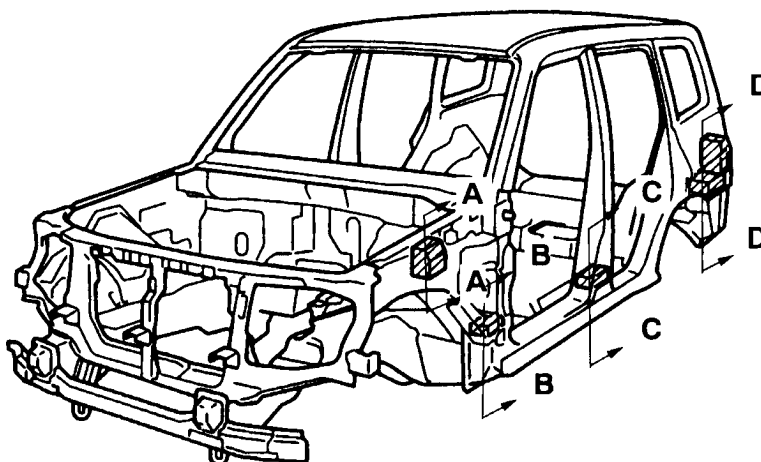
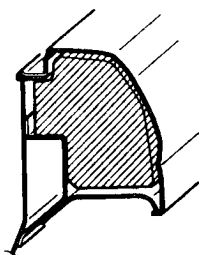
 : Foaming agent usage locations

X0171CB

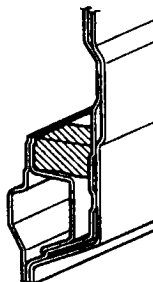
SILENCER

Urethane foam has been added inside the pillars and inside the fender in the places shown in the illustration below to reduce the amount of sound

permeating through the pillars and to improve soundproofing.

**Section A – A**

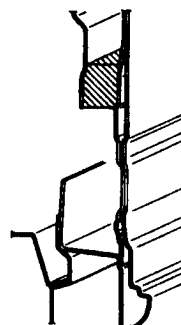
X0423CB

Section B – B

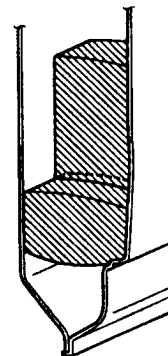
X0173CB

Section C – C

X0424CB



X0430CB

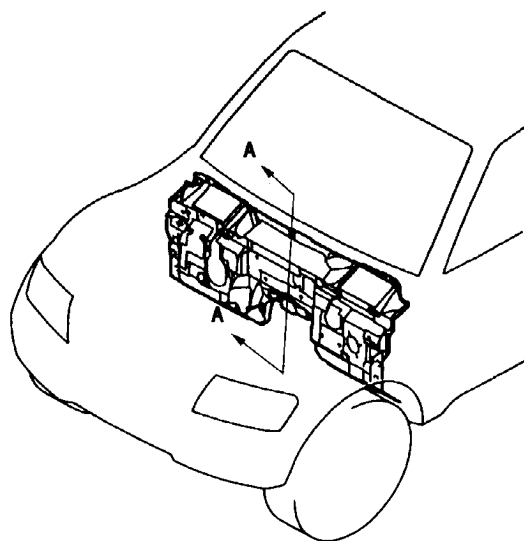
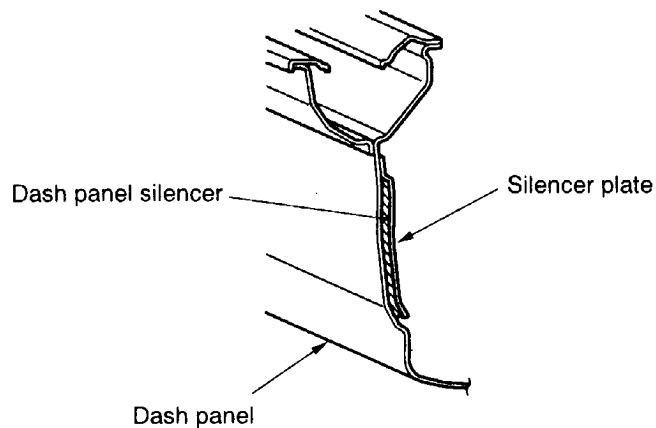
Section D – D

X0175CB

HIGH-RIGIDITY VIBRATION DAMPER

A steel plate-type vibration damper (consisting of panels with silencer material inside) have been added to the dash panel to suppress the noise and

vibration transmitted from the engine and to improve vibration damping and soundproofing.

**Section A – A**

X0177CB

X0176CB

BODY COLOUR CHARTS

Check the vehicle's body colour code, and then use then use this body colour chart to determine

the refinishing paint supplier from which the colour be purchased.

[MONO-TONE]

Colour	Body colour code	Colour number	Body colour name	Composition of film	Engine compartment and luggage compartment colour	
					Colour number	Colour name
SILVER	A69	AC11169	Satellite Silver	Metallic	AC10595	GRAY
BLUE	D85	AC11285	Canal Blue	Metallic	AC11285	BLUE
GREEN	F26	AC11326	Forester Green	Pearl	AC11326	GREEN
RED	P78	AC11178	Roanne Red	Coloured Pearl	AC10632	MAROON
BEIGE	S74	AC11174	Fraser Beige	Metallic	AC10845	BEIGE
PURPLE	V23	AC11323	Amaranth Purple	Coloured Pearl	AC11323	PURPLE
WHITE	W09	AC10809	Sophia White	Solid	AC10739	WHITE
BLACK	X08	AC11008	Pyrenees Black	Coloured Pearl	AC11008	BLACK

[TWO-TONE]

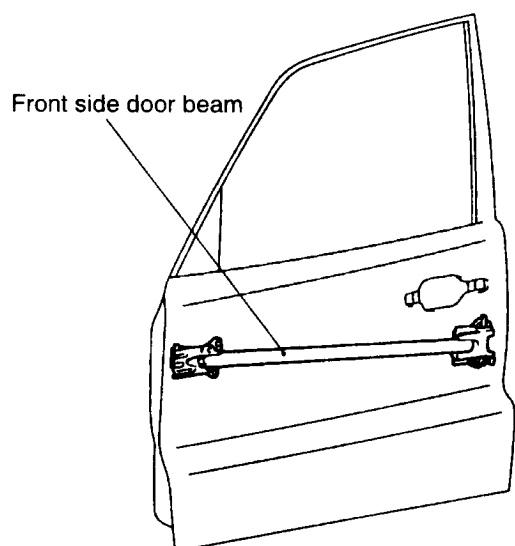
Colour	Body colour code		Colour number	Body colour name	Composition of film	Engine compartment and luggage compartment colour	
						Colour number	Colour name
GREEN	F26A21	F26	AC11326	Forester Green	Pearl	AC11326	GREEN
SILVER		A21	AC10921	Queens Silver	Metallic		
BLACK	X08A21	X08	AC11008	Pyrenees Black	Coloured Pearl	AC11008	BLACK
SILVER		A21	AC10921	Queens Silver	Metallic		
RED	P78A21	P78	AC11178	Roanne Red	Coloured Pearl	AC10632	MAROON
SILVER		A21	AC10921	Queens Silver	Metallic		
BLUE	D85A21	D85	AC11285	Canal Blue	Metallic	AC11285	BLUE
SILVER		A21	AC10921	Queens Silver	Metallic		
SILVER	A69A21	A69	AC11169	Satellite Silver	Metallic	AC10595	GRAY
SILVER		A21	AC10921	Queens Silver	Metallic		
PURPLE	V23A21	V23	AC11323	Amaranth Purple	Coloured Pearl	AC11323	PURPLE
SILVER		A21	AC10921	Queens Silver	Metallic		
WHITE	W09A69	W09	AC10809	Sophia White	Solid	AC10595	GRAY
SILVER		A69	AC11169	Satellite Silver	Metallic		

DOORS

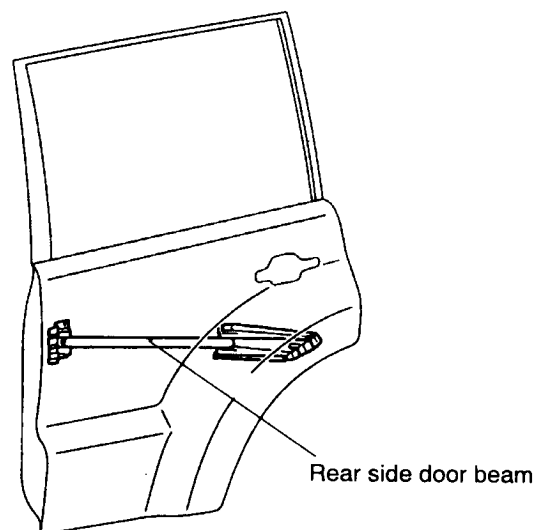
DOOR PANELING

Pipe-shaped side door beams with high rigidity have been provided on the inside of the front doors

and rear doors to maintain passenger safety in the event of a side impact.



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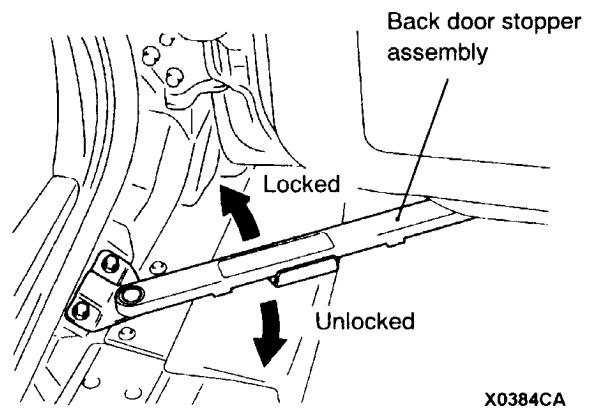
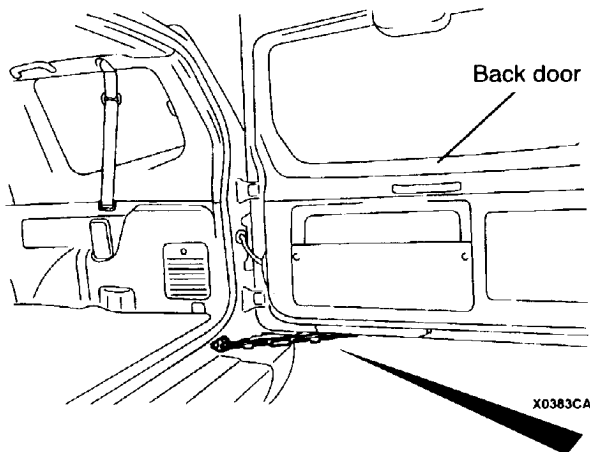
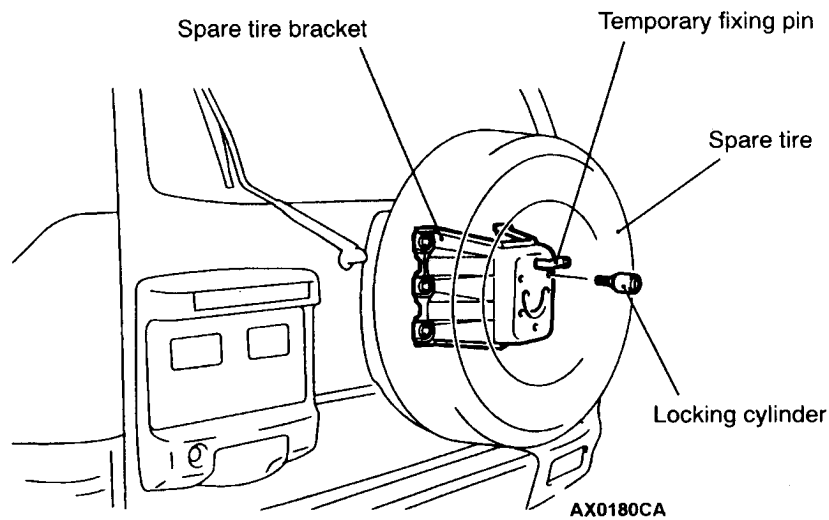


X0187CB

BACK DOOR

- A back door with an easy-to-operate side opening mechanism has been adopted in all models.
- The spare tire carrier on the back door has been provided with a temporary fixing pin to improve the ease of attaching the spare tire.
- A locking cylinder has been provided in order to prevent theft of the spare tire.
- The rear licence plate is attached to the back door to prevent it from being damaged during offroad driving.
- A back door stopper assembly with an integrated door check function has been adopted. The door check function keeps the door securely in place when it is half-open, and the back door stopper function prevents the door from automatically closing from the fully-open position on sloped surfaces.

STRUCTURAL DIAGRAM

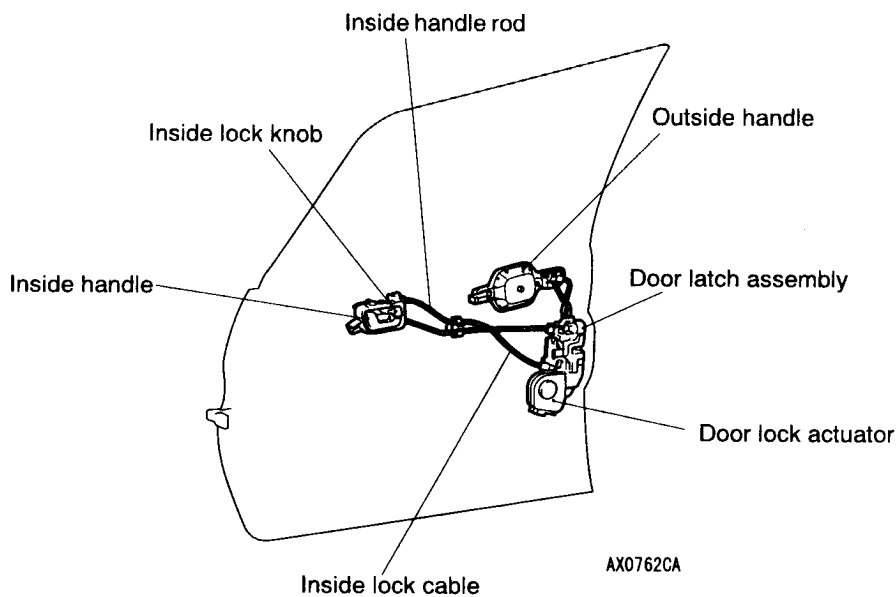


DOOR LOCKS

- A central door locking function has been provided which makes it possible to lock and unlock all doors using the all door key cylinders and the driver's side door inside lock knob.
- A door lock prevention function which uses ETACS control to prevent the doors from being locked when the key is still in the ignition has been adopted. (Refer to GROUP 7 – SWS.)
- As an added safety measure, the front doors incorporate an inside lock cable to prevent the door from locking due to warping of the door during an impact.

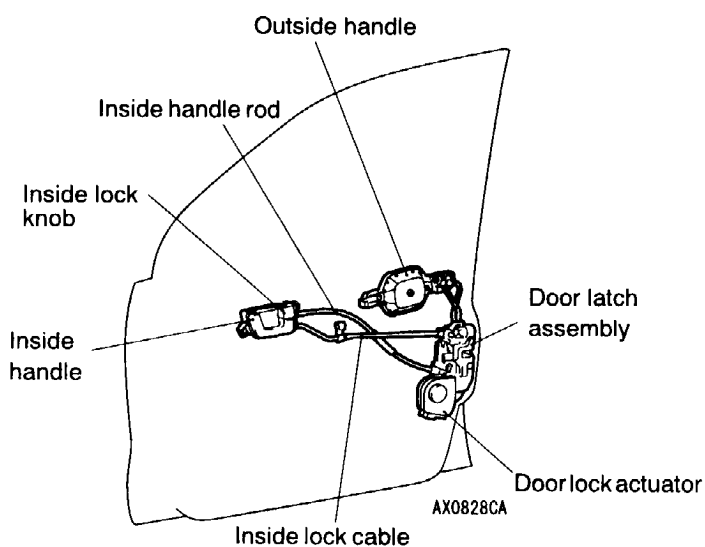
STRUCTURAL DIAGRAM

<Short wheelbase>

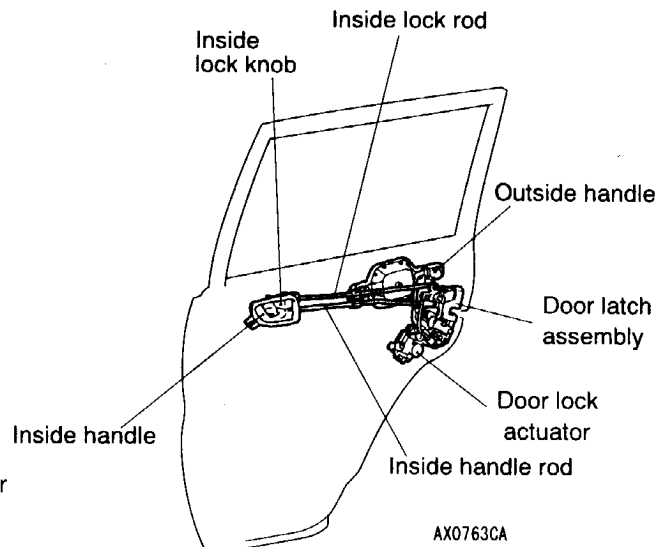


<Long wheelbase>

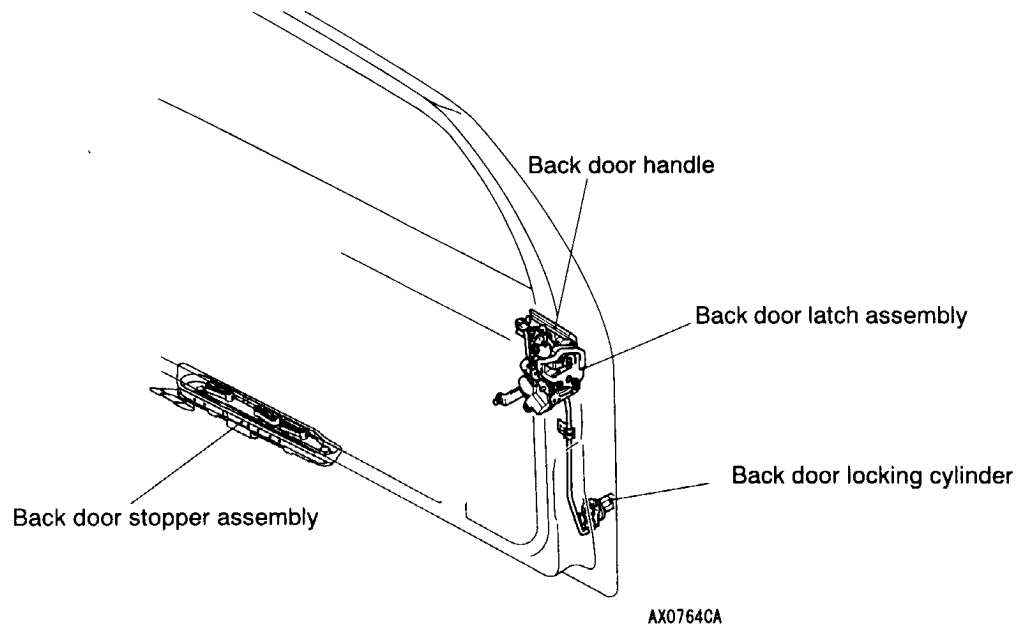
Front



Rear



<Back door>



KEYLESS ENTRY SYSTEM

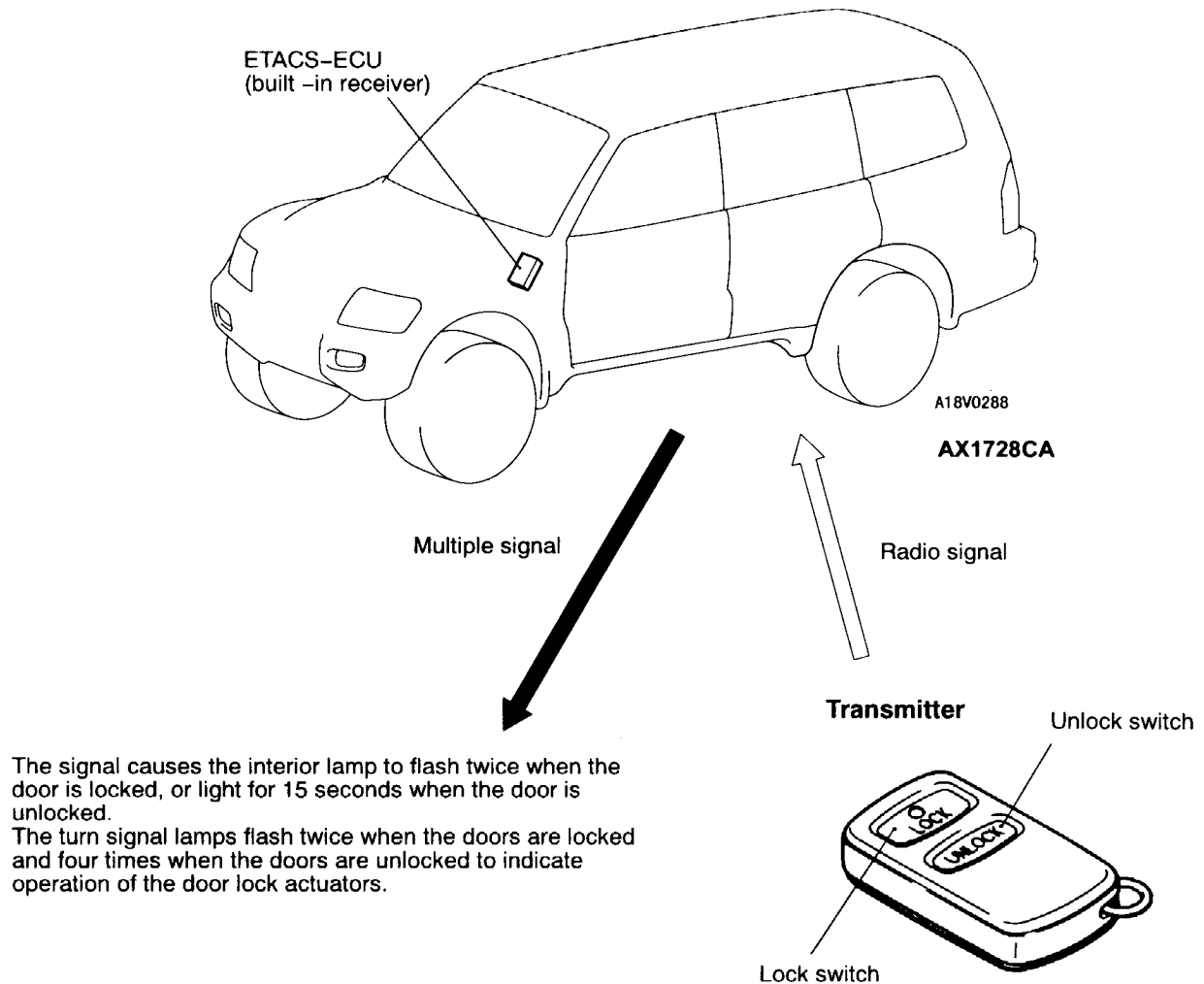
A radio-controlled keyless entry system that allows all doors and the back door to be locked or unlocked remotely from a distance of up to six metre, is adopted.

This system has the following features.

The radio-controlled keyless entry system differs from the previously employed system in the following respects:

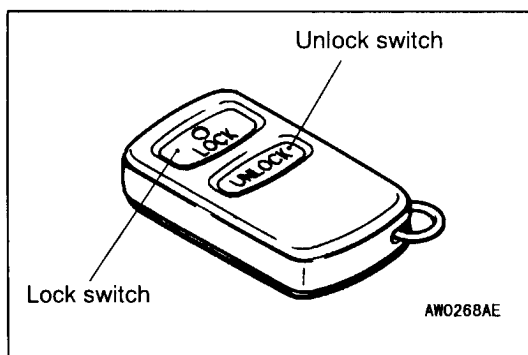
- The transmitter has two buttons: lock and unlock.
- The receiver and antenna are built into the ETACS-ECU.
- Up to four identification codes can be registered using a MUT-II.

CONSTRUCTION DIAGRAM



The signal causes the interior lamp to flash twice when the door is locked, or light for 15 seconds when the door is unlocked.

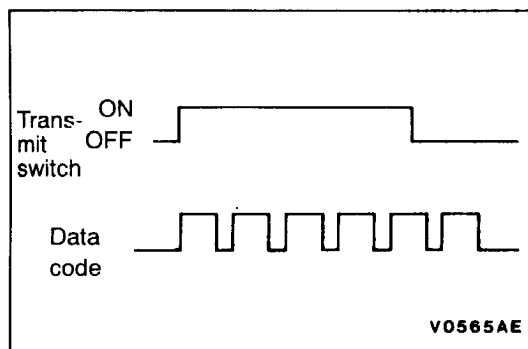
The turn signal lamps flash twice when the doors are locked and four times when the doors are unlocked to indicate operation of the door lock actuators.



TRANSMITTER

The transmitter is separate from the key. It has two buttons (lock and unlock) and transmits a unique identification code by radio.

Transmitter switch	System response
Lock switch (pressed once)	All doors and back door locked
Unlock switch (pressed once)	All doors and back door unlocked



Secret code

The illustration at left shows the codes which are sent from the transmitter. Six codes are sent each time the switch is pressed. The secret codes used for identification are made up of 1's and 0's, and over one million different combinations are possible. In addition to secret codes, the data codes also contain rolling codes which change each time a data code is transmitted, in order to prevent possible theft from copying of codes.

RECEIVER

The signal sent from the transmitter which is received by the antenna with the code stored in the receiver itself, and outputs a signal to the ETACS-ECU on receiver, together with the receiving antenna, is built into the ETACS-ECU.

The receiver compares the code if the two codes are identical. Furthermore, a maximum of four transmitter secret codes can be registered by connecting the MUT-II to the diagnosis connector.

Receiver output and operation checking function (Answer-back function)

When a wireless signal containing an identification code stored in the receiver is received, the ETACS-

ECU outputs lock and unlock signals, and also causes indicator lamps to operate as a notification.

	When a lock signal is received	When an unlock signal is received
ETACS-ECU (receiver)	Lock signal output	Unlock signal output
Room lamp	Flashes twice	Illuminates for 15 seconds
Hazard lamp*	Flashes twice*	Flashes four times*

NOTE

*: The hazard answer-back function can be changed depending on the adjustment setting. (Refer to GROUP 7 – SWS.)

Timer lock function

If none of the doors (including the back door) are opened or closed within 30 seconds of the doors (including the back door) being unlocked using the keyless entry function, the ETACS-ECU automati-

cally outputs a door lock signal and the doors are locked. This function prevents the doors from being unlocked unintentionally due to mis-operations.

Conditions when operation is disabled

System operation is disabled in the following cases.

- When the ignition key is inserted in the ignition switch
- If any of the doors (including the back door) are open (door switch: ON) [including half-open].

WINDOW GLASS REGULATOR

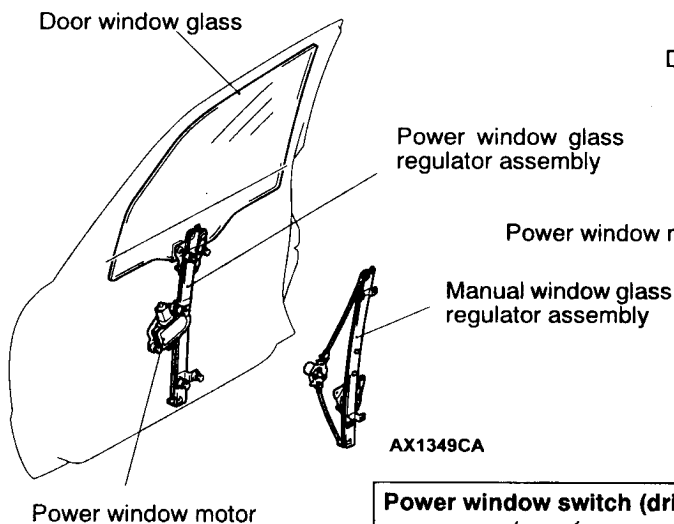
- The window glass regulators are a wire-wound type regulators to make them more compact and light in weight.
- A safety mechanism has been adopted so that if obstructions such as hands or necks are detected when the door window glass is closing, the door window glass is lowered by 150 mm to improve safety.
- To further improve safety, an operation method has been adopted whereby the power window switches are pushed to lower the window glass, and are pulled to raise the window glass.
- To further improve safety, an operation method has been adopted whereby the power window switches are pushed to lower the window glass, and are pulled to raise the window glass.
- The power windows incorporate a multiplex transmission system where signals are transmitted by the main switch.
- The timer function allows the front door window glass to be opened and closed for about 30 seconds after the ignition switch has been turned to OFF.

NOTE

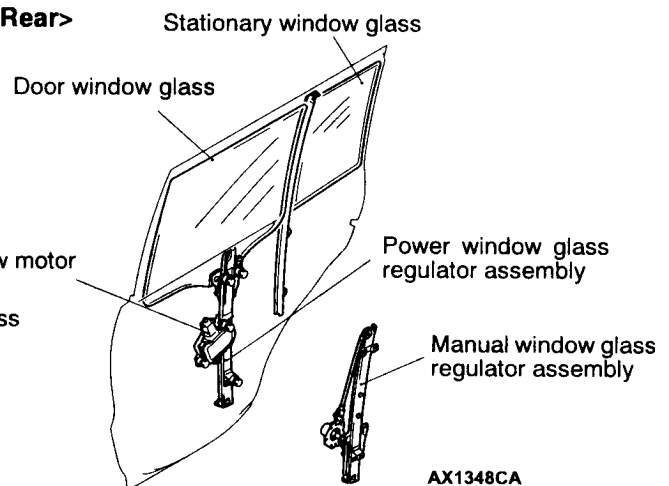
Refer to '99 Technical Information Manual for the SPACE RUNNER and SPACE WAGON (Pub.No.PYDE9802) for details on the multiplex transmission system.

STRUCTURAL DIAGRAM

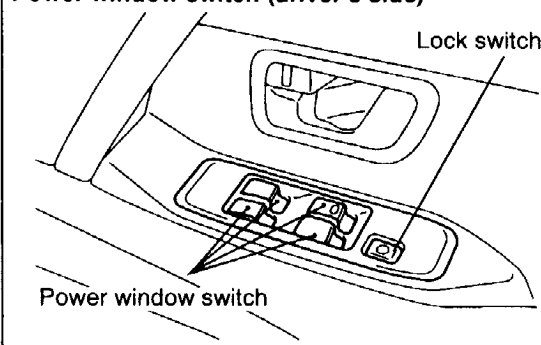
<Front>



<Rear>



Power window switch (driver's side)

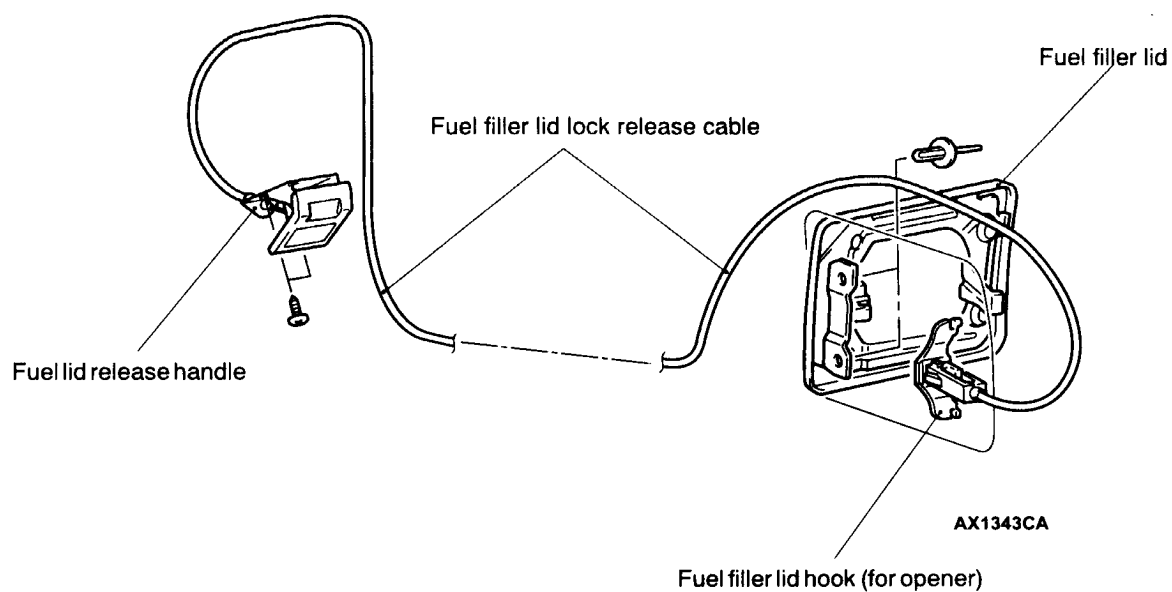


LID

FUEL LID

- All models are equipped with a fuel lid opener (without a key cylinder).
- The fuel lid release handle is located to the right of the instrument panel lower cover.

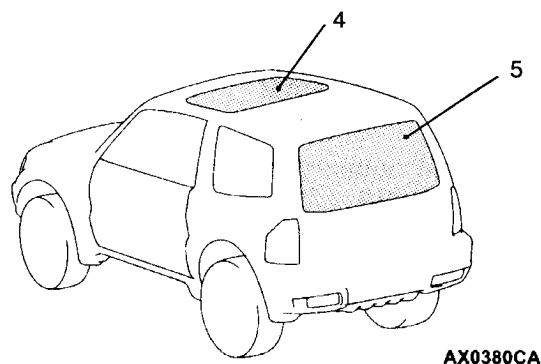
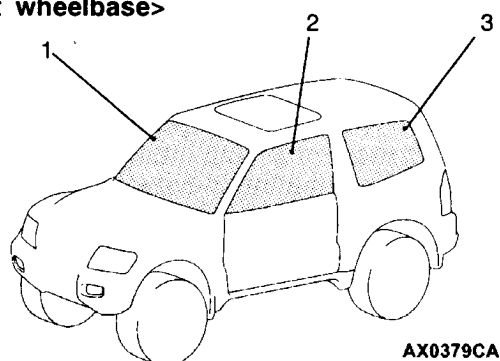
STRUCTURAL DIAGRAM



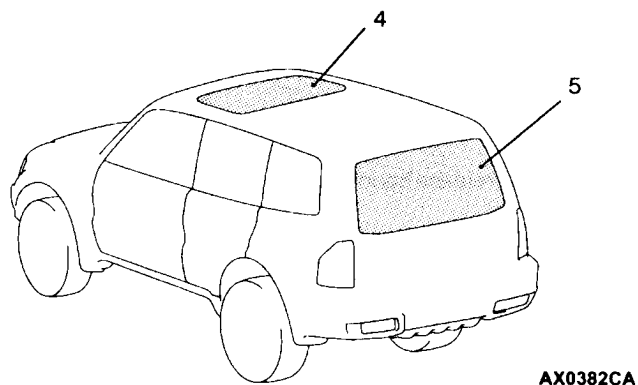
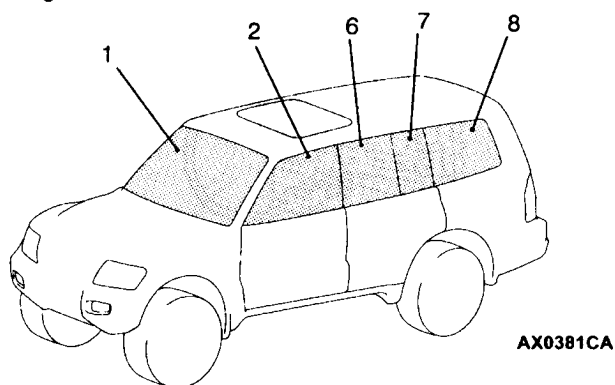
WINDOW GLASS

The windshield is made from laminated glass, and other windows are made from reinforced glass.

<Short wheelbase>



<Long wheelbase>



Name	Type	Thick- ness (mm)	Colouring	Visible light permeation rate (%)
1. Windshield	Laminated glass	4.7	Green	78
2. Front door window glass	Reinforced glass	3.5	Green	81
3. Quarter window glass		3.5	Dark grey (privacy glass)	21
4. Roof lid glass		5.0	Green	76
5. Back door window glass		3.1	Dark grey (privacy glass)	25
			Green	82
6. Rear door window glass		3.5	Green	81
			Dark grey (privacy glass)	21
7. Rear stationary window glass		3.5	Green	81
			Dark grey (privacy glass)	21
8. Quarter window glass		3.5	Green	81
			Dark grey (privacy glass)	21

NOTE

- The visible light permeation rate value is for reference only. The actual rate may differ from these figures.
- Refer to the list of main equipment parts in the Reference materials section for specifications.

ELECTRIC SUNROOF

SUNROOF CONTROL SYSTEM

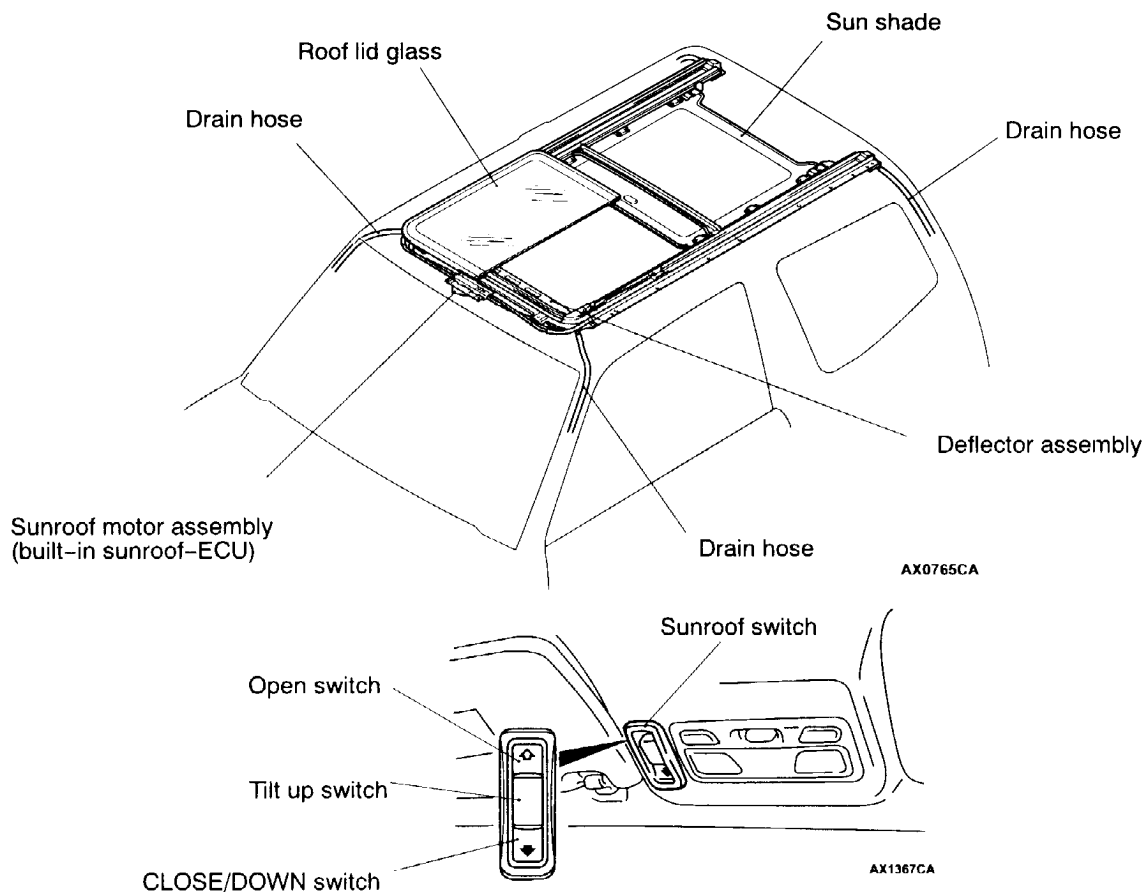
A motor-driven sliding-type glass sunroof with a tilt-up mechanism has been provided in some models. The roof lid glass allows a sufficient feeling of openness when the sunshade is opened, even when the sunroof is closed. The sunroof can also be tilted up (30 mm) to allow ventilation. This sunroof has the following features.

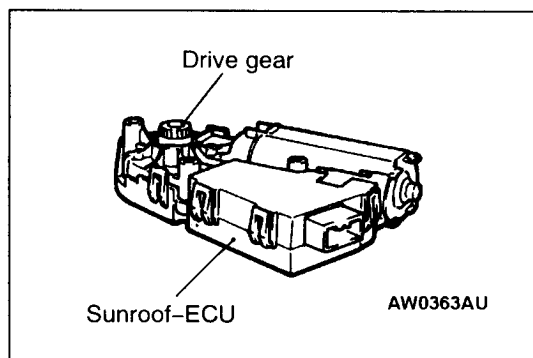
- All operations such as sliding open and closed, tilting up and down and stopping can be performed using a single switch. Furthermore, all operations can be carried out at a single touch.
- When the sunroof is tilted up, the sunshade opens by approximately 30 mm in conjunction with the roof lid glass movement to improve ventilation.
- A clamping prevention mechanism has been adopted whereby if an external force is applied to the roof lid glass while it is closing or tilting downwards, it reverses direction and then stops.
- Because manual operation in the event of a problem has been abolished, a function has been provided so that if the sunroof reverses direction continuously for five times or more because the glass is warped (the clamping prevention mechanism has operated by mistake), for example, the clamping prevention mechanism is disabled and the roof lid glass can then move (a stroke of 30 mm) until it is fully closed.
- The sunroof can continue to be operated for up to 30 seconds after the ignition switch is turned to OFF. (If the driver's-side door is opened during this time, operation is possible for a further 30 seconds from that point. However, if the door is closed, the key-off operation function stops at that point.)

NOTE

- Refer to '99 Technical Information Manual for the SPACE RUNNER and SPACE WAGON (Pub.No.PYDE9802) for details on the structure and operation of the sunroof.
- Refer to GROUP 7 – SWS for details on the operation of the sunroof timer.

STRUCTURAL DIAGRAM





DESCRIPTION OF STRUCTURE AND OPERATION

MOTOR

The motor is installed to the front of the housing. It consists of the motor body, drive gear and sunroof-ECU.

SUNROOF-ECU

The sunroof-ECU has a built-in microprocessor which controls motor operation in accordance with

signals from the sunroof switches and from the ETACS.

SYSTEM DIAGRAM

