

BODY

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E9EAZAF

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GENERAL DESCRIPTION

E9EJAAB

Further weight reduction and higher endurance reliability of the body have been achieved by

simplifying the body construction through use of highly rigid larger panels.

FEATURES

Weight reduction and rigidity increase

1. Ample use of high-tensile steel sheet
2. Improvement of door outer panel rigidity through effective use of reinforcement
3. Ladder type frame incorporating box type closed section side members as well as pipe type and welded channel type crossmembers

Rust prevention

1. Ample use of corrosion-resistant steel sheet
2. Flash plating of outer panel surface to provide excellent paint finish
3. Rocker panel primer is applied on the side sill

Reduction of vibration and noises including aerodynamic noise

1. Use of rubber body mount at connections between frame and body
2. Adoption of flush surfaces
3. Windshield installation using adhesive

Improvement of operability and safety

1. Use of two-stage door check to ensure stop at midpoint
2. Installation of central door lock
3. Adoption of power window switch and power window lock switch provided with one-touch-down mechanism
4. Adoption of laminated glass for windshield
5. Adoption of motor-driven canvas at front
6. Use of folding canvas at rear
7. Optional roll bars made available for canvas top
8. Use of reinforcement (side door beam) in door to ensure occupant's safety in side collision <vehicles for Europe>

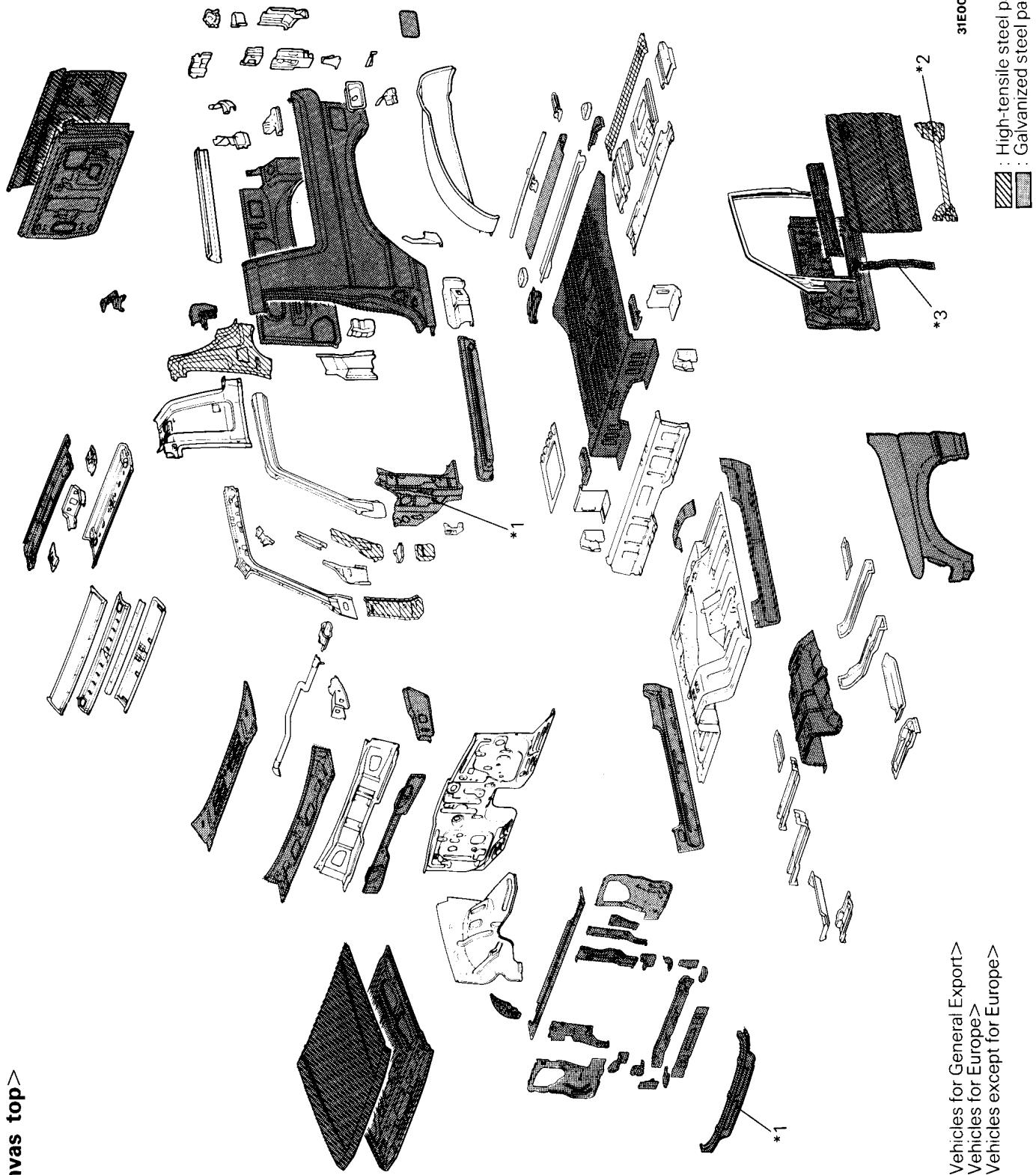
Improvement of reliability

Use of Torx screws for installation of door latch

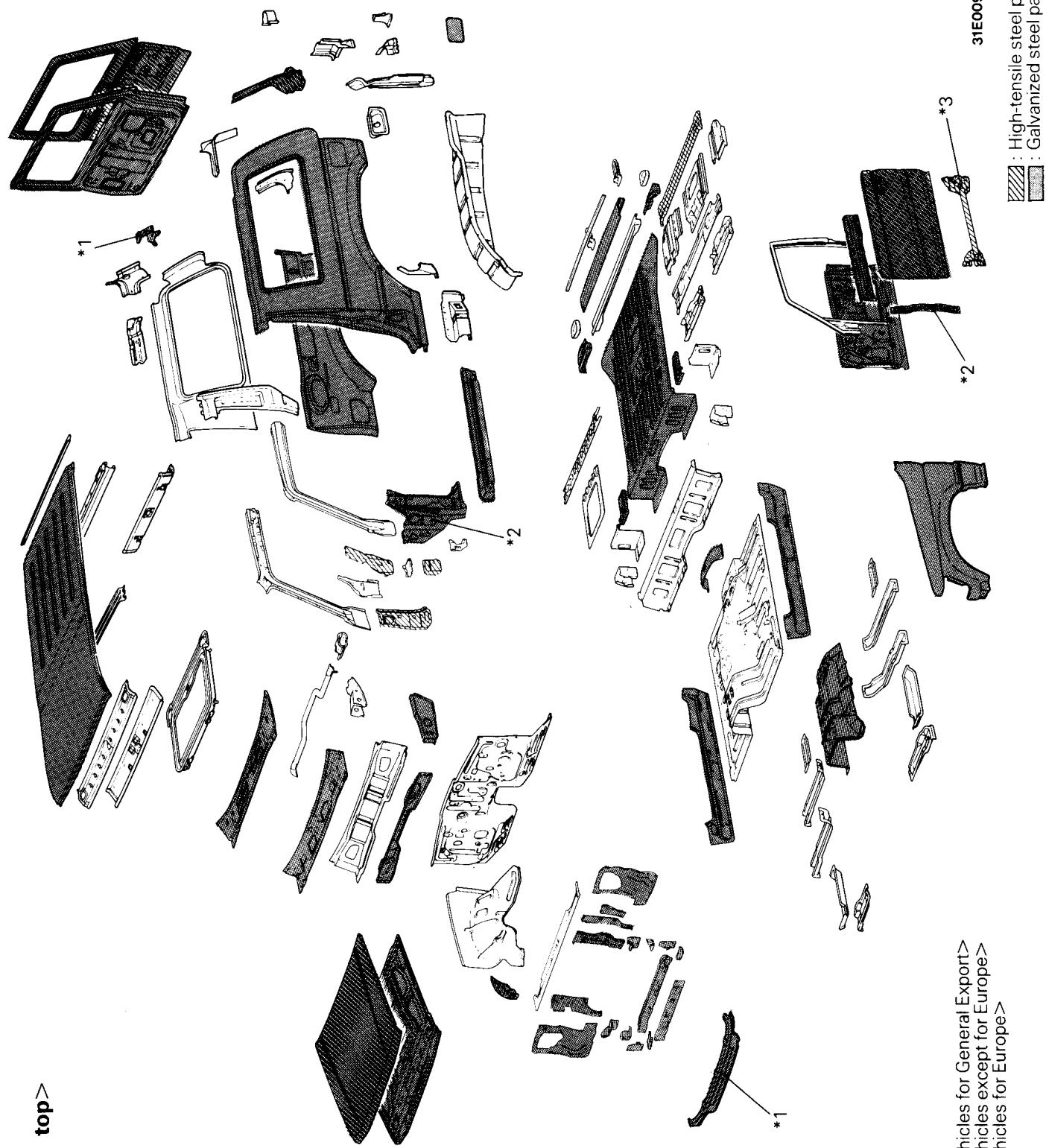
Enhancement of merchantability

1. Adoption of detachable tilt-up sunroof (option)
2. Adoption of motor-driven sliding sunroof (option)

MAIN BODY



<Canvas top>

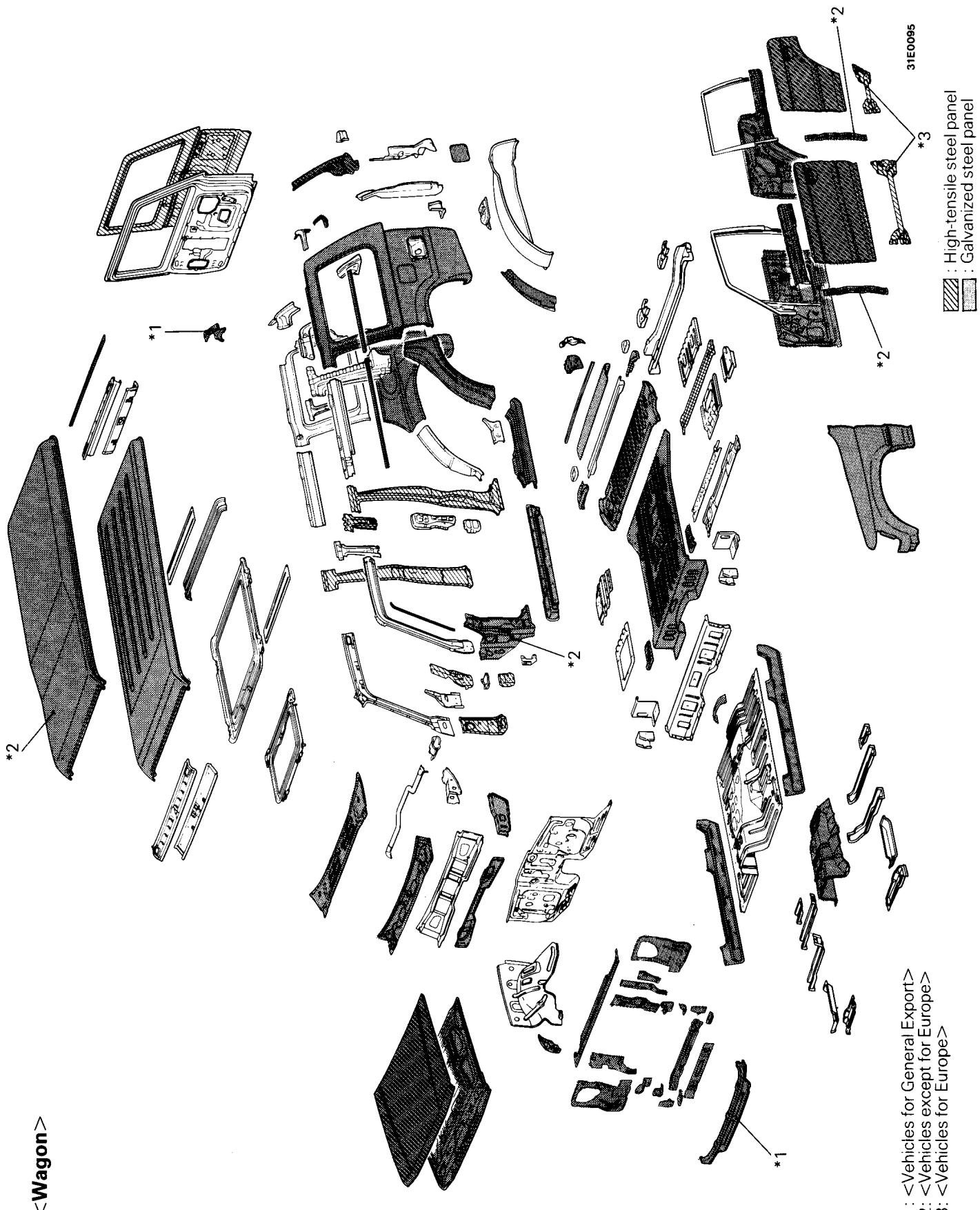


<Metal top>

*1: <Vehicles for General Export>
 *2: <Vehicles except for Europe>
 *3: <Vehicles for Europe>

31E0097

: High-tensile steel panel
 : Galvanized steel panel



<Wagon>

PAINT

BODY COLOUR

(M): Metallic paint
(P): Pearl tone paint

Paint used by manufacturer	Body colour	Body colour code	Colour number	Body colour name	Engine compartment and luggage compartment colour	
					Colour number	Colour name
	WHITE	W09	AC10809	Sophia White	AC10739	WHITE
	SILVER	H84	AC10884	Grace Silver (M)	AC10595	GRAY
	BLACK	X56	AC10756	Majorca Black (M)	AC10539	DARK GRAY
	LAMP BLACK	X94	AC10894	Lamp Black	AC10539	DARK GRAY
	RED	R57	AC10957	Venus Red	AC10795	RED
		R25	AC10925	Kutani Red (P)	AC10632	MAROON
	BEIGE	S46	AC10946	European Beige	AC10845	BEIGE
	LIGHT BEIGE	S22	AC10922	Wheat Beige (M)	AC10845	BEIGE
	BROWN	C41	AC10941	Sanjose Brown (M)	AC10828	DARK BROWN
	YELLOW	Y59	AC10659	San Marino Yellow	AC10575	YELLOW
	GREEN	G31	AC10931	Hannover Green (M)	AC10832	DARK GREEN
	BLUE	B42	AC10942	Normandie Blue (M)	AC10857	DARK BLUE
	WHITE	W09A51 ^{*1}	W09	AC10809	AC10739	WHITE
	MEDIUM GRAY		A51	AC10951		
	WHITE	W09A24 ^{*1}	W09	AC10809	AC10739	WHITE
	DARK GRAY		A24	AC10724		
	BLACK	X56S22 ^{*1}	X56	AC10756	AC10539	DARK GRAY
	LIGHT BEIGE		S22	AC10922		
	LAMP BLACK	X94S22 ^{*1}	X94	AC10894	AC10539	DARK GRAY
	LIGHT BEIGE		S22	AC10922		
	BLACK	X56A24 ^{*1}	X56	AC10756	AC10539	DARK GRAY
	DARK GRAY		A24	AC10724		
	RED	R57H84 ^{*1}	R57	AC10957	AC10795	RED
	SILVER		H84	AC10884		
	RED	R25H84 ^{*1}	R25	AC10925	AC10632	MAROON
	SILVER		H84	AC10884		
	RED	R57A24 ^{*1}	R57	AC10957	AC10795	RED
	DARK GRAY		A24	AC10724		

^{*1}: Two-tone body colour

(M): Metallic paint
(P): Pearl tone paint

Paint used by manufacturer	Body colour	Body colour code	Colour number	Body colour name	Engine compartment and luggage compartment colour	
					Colour number	Colour name
RED	R25A24* ¹	R25	AC10925	Kutani Red (P)	AC10632	MAROON
DARK GRAY		A24	AC10724	Dark Gray		
BEIGE	S46X56* ¹	S46	AC10946	European Beige	AC10845	BEIGE
BLACK		X56	AC10756	Majorca Black (M)		
GREEN	G31S22* ¹	G31	AC10931	Hannover Green (M)	AC10832	DARK GREEN
LIGHT BEIGE		S22	AC10922	Wheat Beige (M)		
BLUE	B42H84* ¹	B42	AC10942	Normandie Blue (M)	AC10857	DARK BLUE
SILVER		H84	AC10884	Grace Silver (M)		
SILVER	H84B42* ²	H84	AC10884	Grace Silver (M)	AC10595	GRAY
BLUE		B42	AC10942	Normandie Blue (M)		
SILVER		H84	AC10884	Grace Silver (M)		
LIGHT BEIGE	S22C41* ²	S22	AC10922	Wheat Beige (M)	AC10845	BEIGE
BROWN		C41	AC10941	Sanjose Brown (M)		
LIGHT BEIGE		S22	AC10922	Wheat Beige (M)		
LIGHT BEIGE	S22G31* ²	S22	AC10922	Wheat Beige (M)	AC10845	BEIGE
GREEN		G31	AC10931	Hannover Green (M)		
LIGHT BEIGE		S22	AC10922	Wheat Beige (M)		

*¹: Two-tone body colour

*²: Three-way two-tone body colour

REDUCTION OF AERODYNAMIC NOISE

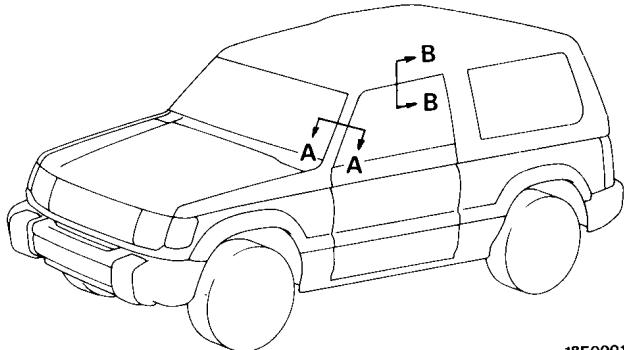
E9EHAAB

FLUSH SURFACE

Use of flush surface at each part of the body reduces wind noise and noise of escaping air and

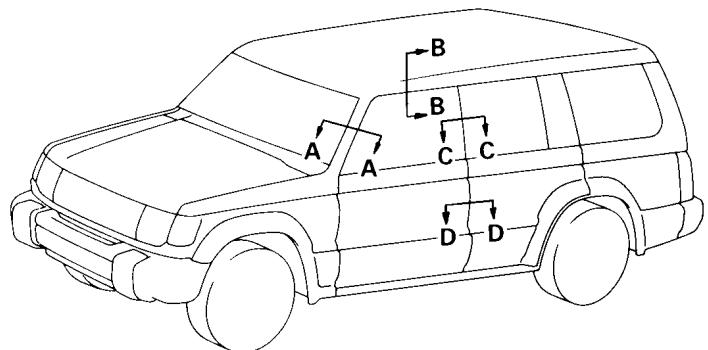
improves the appearance of the body.

<2-door model>



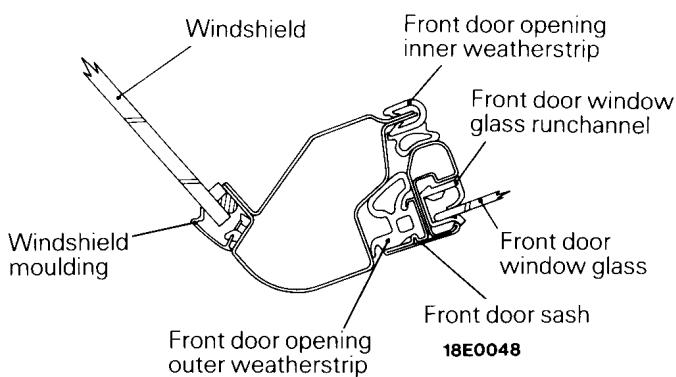
18E0001

<4-door model>



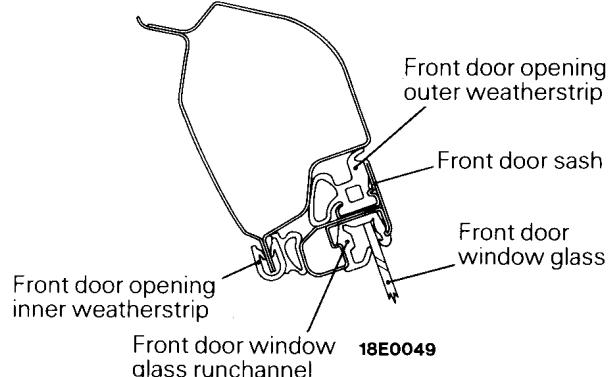
18E0003

Section A-A



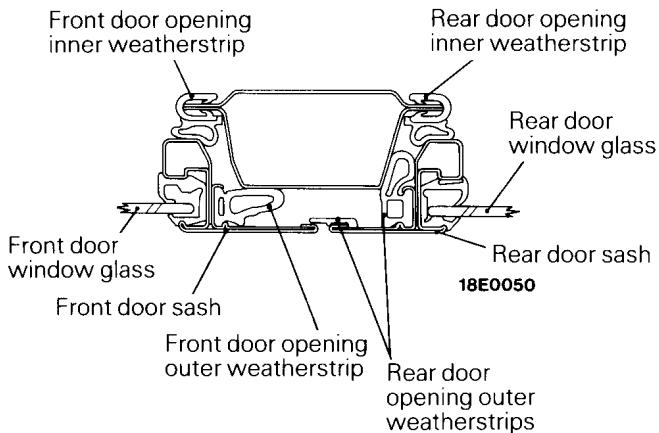
18E0048

Section B-B



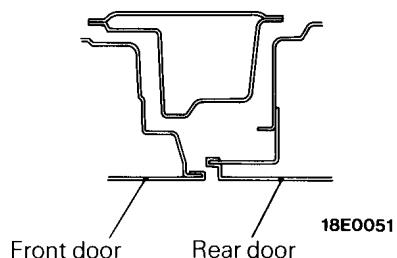
18E0049

Section C-C



18E0050

Section D-D



18E0051

DOORS

E9ECAAD

DOOR PANEL

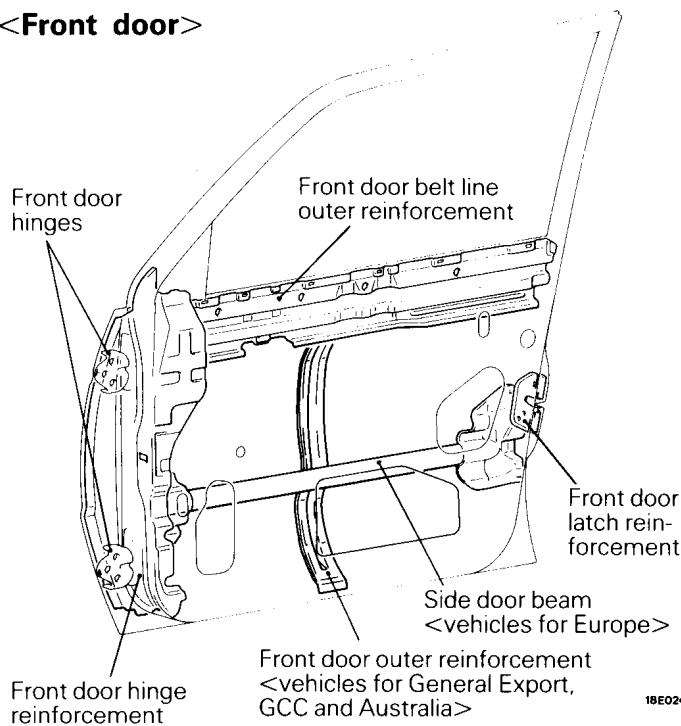
The front and rear doors are sash doors. The front door sash delta uses the welded construction to improve sash rigidity and reduce wind noise and the noise of escaping air.

The back door is a door integral with the inner door

panel and has the door thickness increased to improve door rigidity.

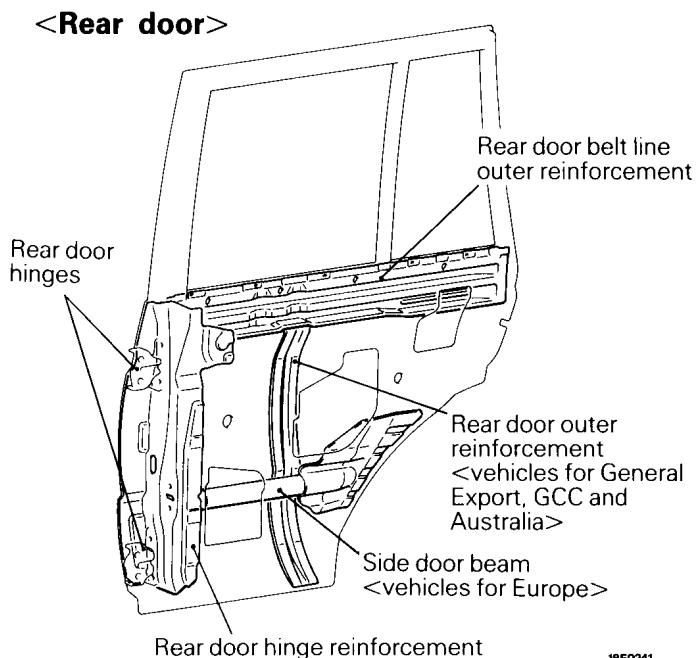
In addition, reinforcements at various points effectively improve outer panel rigidity.

<Front door>



18E0242

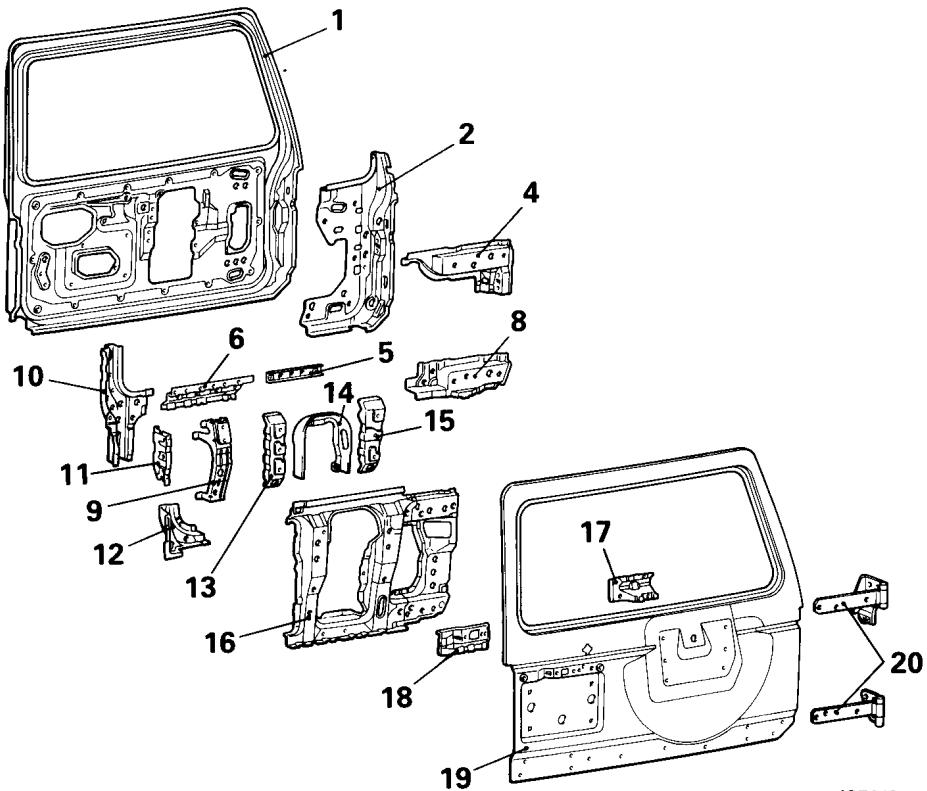
<Rear door>



18E0241

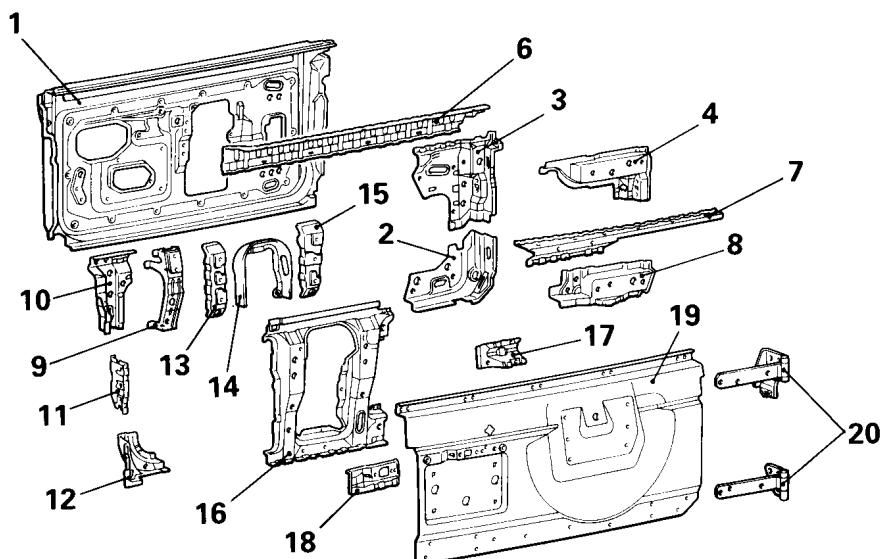
<Back door>

Metal top, long body



18E0137

Canvas top



18E0139

No.	Part name	No.	Part name
1	Back door inner panel	11	Bumper rubber reinforcement
2	Back door corner reinforcement	12	Back door bumper lower reinforcement
3	Back door upper corner reinforcement	13	Reinforcement A for spare tire carriage
4	Back door hinge upper reinforcement	14	Back door spare tire extension
5	Pull handle reinforcement	15	Reinforcement B for spare tire carriage
6	Back door inner panel upper inner reinforcement	16	Back door spare tire reinforcement
7	Back door inner panel upper outer reinforcement	17	Back door outer panel reinforcement
8	Back door hinge lower reinforcement	18	Back door outside handle reinforcement
9	Tank carrier reinforcement	19	Back door outer panel
10	Back door latch reinforcement	20	Back door hinge

DOOR LOCK

Some models are equipped with the central door lock which allows all doors to be locked or unlocked by operating the inside lock knob on the driver's door or using the front door key.

The front and rear door checks are of the two-stage type to ensure stop at the midpoint.

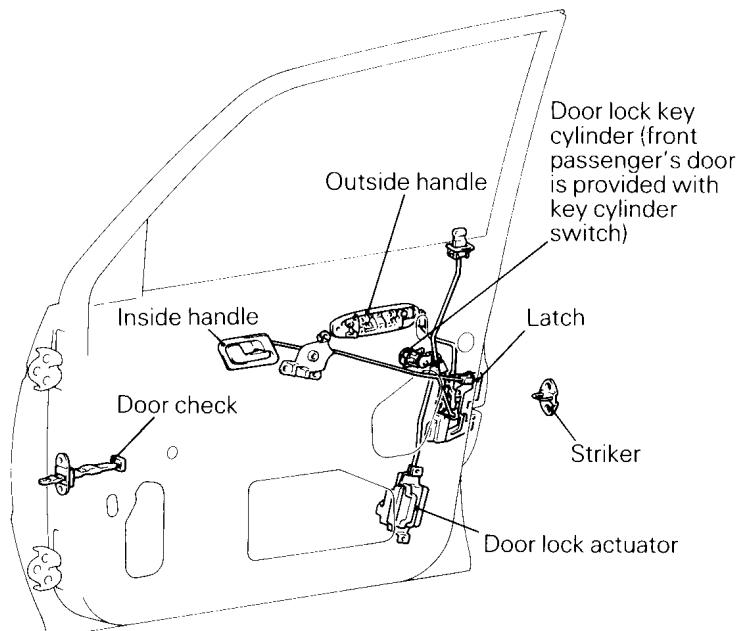
The back door is provided with a back door stopper

to prevent the door in the full open position from closing of itself on a slope or the like. In addition, the door latch is fastened with Torx screws to enhance the reliability.

NOTE

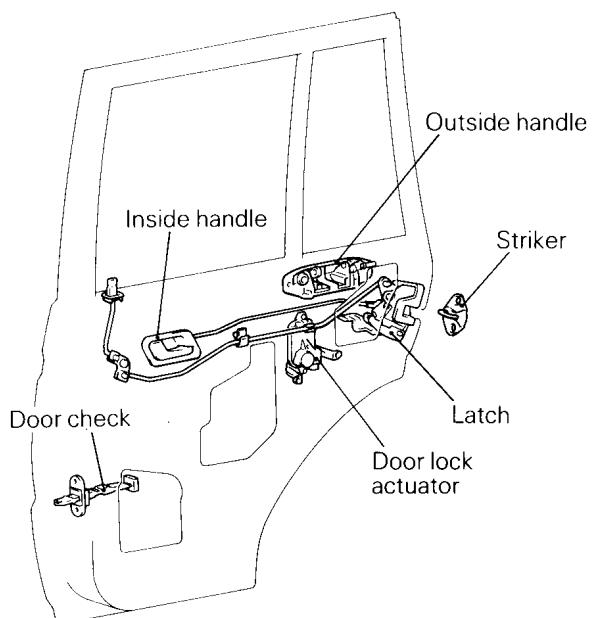
Operation of the door check is essentially the same as Lancer.

<Front door>



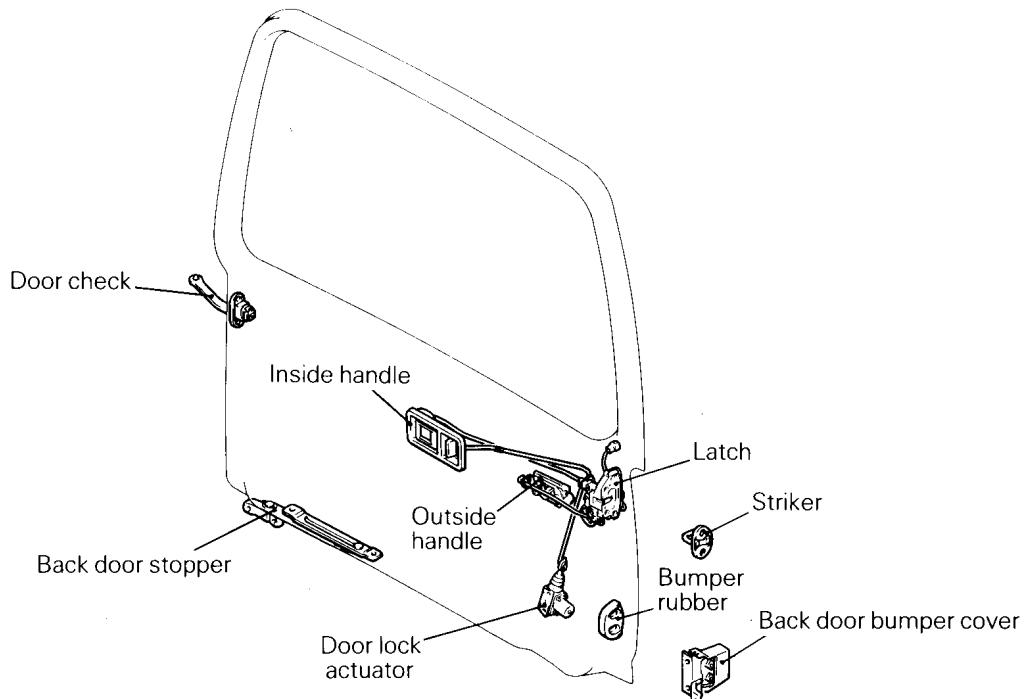
18E0095

<Rear door>

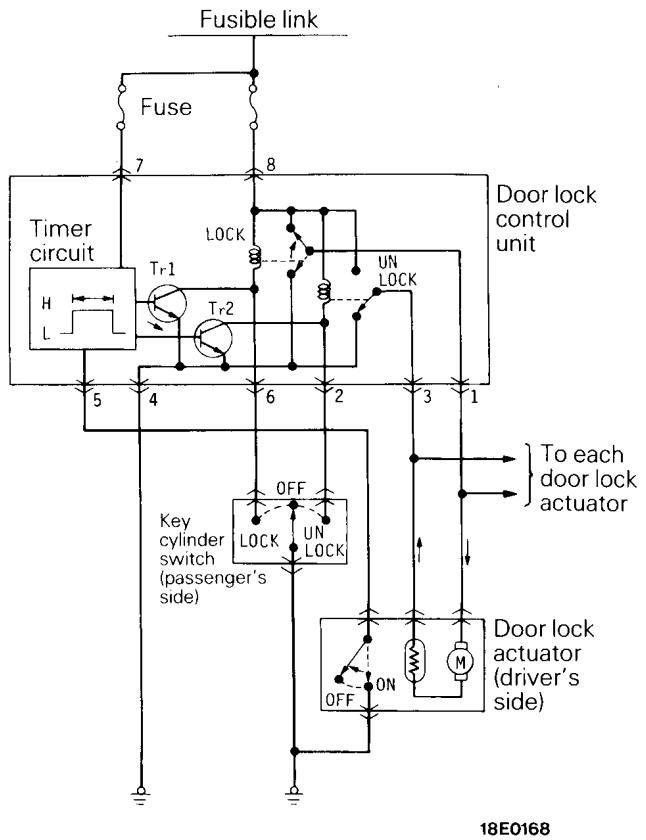


18E0092

<Back door>



18E0099

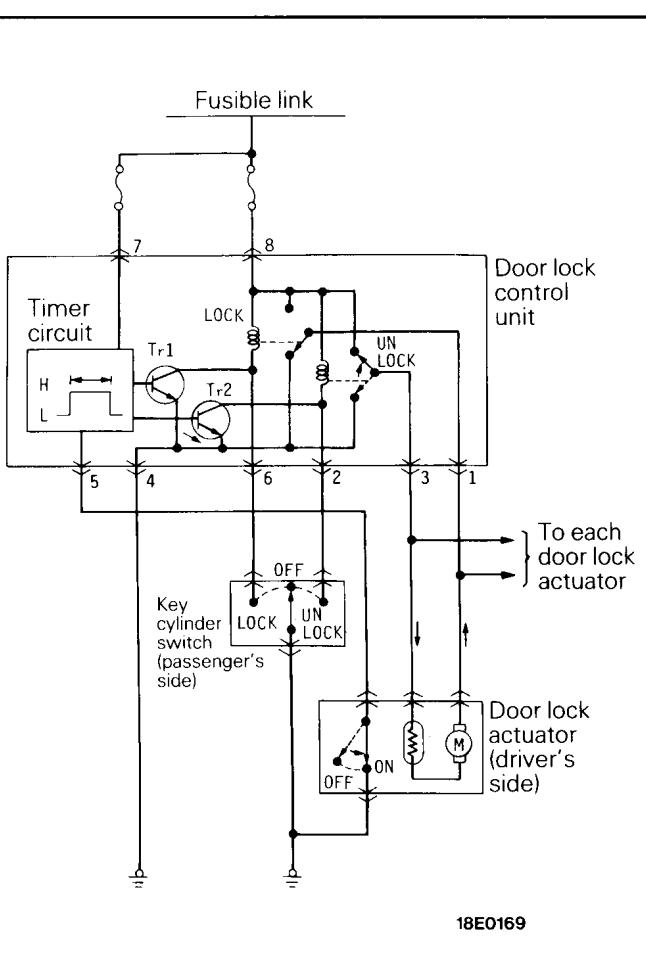


CENTRAL DOOR LOCK OPERATION

Door Locking Operation

Setting the inside lock knob or key of the driver's door to the locking position causes the door lock switch incorporated in the door lock actuator to be turned off and terminal voltage ⑤ of the door lock control unit to change from L to H, flowing base current from the timer circuit to transistor Tr_1 for approx. 0.5 second. This will energize the lock side coil of the power relay inside the door lock control unit, operating the door lock actuators to lock the doors.

Turning the front passenger's door key to the locking position turns on the lock side of the key cylinder switch, directly energizing the lock side coil of the power relay inside the door lock control unit. This will operate the door lock actuators to lock the doors.



Door Unlocking Operation

Setting the inside lock knob or key of the driver's door to the unlocking position causes the door lock switch incorporated in the door lock actuator to be turned on and terminal voltage ⑤ of the door lock control unit to change from H to L, flowing base current to transistor Tr_2 for approx. 0.5 second by the inverting action of the timer circuit. This will energize the unlock side coil of the power relay inside the door control unit, operating the door lock actuators to unlock the doors.

Turning the front passenger's door key to the unlocking position turns on the unlock side of the key cylinder switch, directly energizing the unlock side coil of the power relay inside the door lock control unit. This will operate the door lock actuators to unlock the doors.

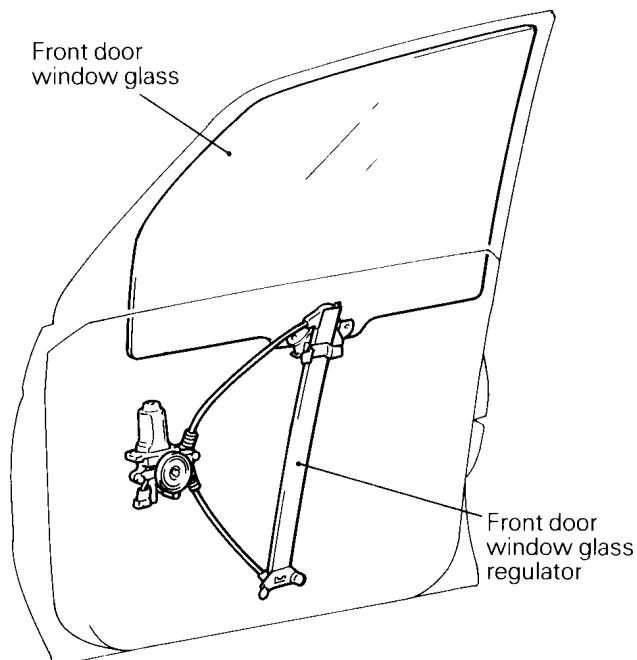
WINDOW GLASS REGULATOR

The window glass regulator is of the lightweight and compact wire winding type. On some models, the power windows with one-touch-down mechanism are used.

NOTE

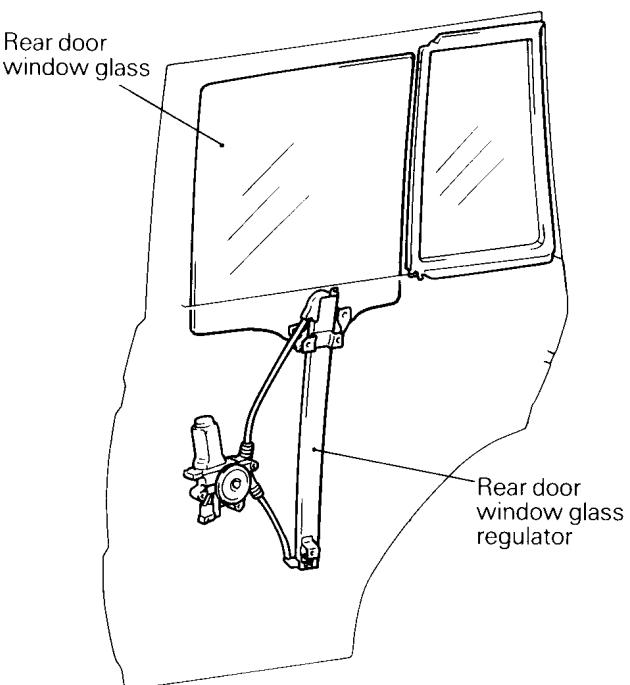
Operation of the power window is essentially the same as Lancer.

<Front door>



18E0086

<Rear door>



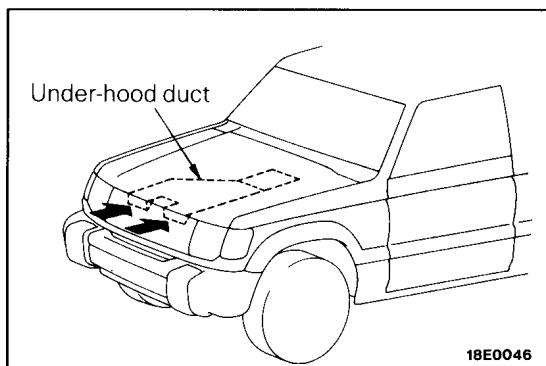
18E0090

HOOD

E9EIAAB

<Vehicles with intercooler>

The engine hood has air ducts for cooling the intercooler installed on its back to improve the cooling efficiency and simplify the construction.

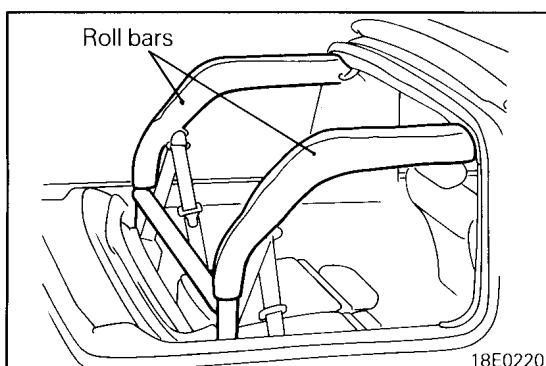


18E0046

ROLL BARS <VEHICLES FOR EUROPE>

E9EKAAA

The roll bars made of steel pipe are available as option for the canvas top vehicles. These are designed to emphasize their cross country performance and enhance body strength.



18E0220

WINDOW GLASS

E9EJAAB

- For added safety, the windshield is laminated glass and the door window glass and quarter window glass are tempered glass. On some models, coloured glass is used to improve matching with the interior colour.
- Windshield and back door window glass are installed in place with adhesive.
- The quarter window glass is either sliding type or stationary type.

Name	Thickness mm (in.)
Windshield glass	5.3 (0.21)
Front door window glass Rear door window glass Back door window glass	3.5 (0.14)
Quarter window glass	3.5 (0.14) ^{*1} 4.0 (0.16) ^{*2}
Sunroof glass	5.0 (0.20)

NOTE

^{*1}: Sliding glass

^{*2}: Stationary glass

SUNROOF

E9EGAAG

Optionally available motor-driven sliding type and detachable tilt-up type sunroofs, both made of

tempered glass, offer ample lighting and openness to enhance comfortableness.

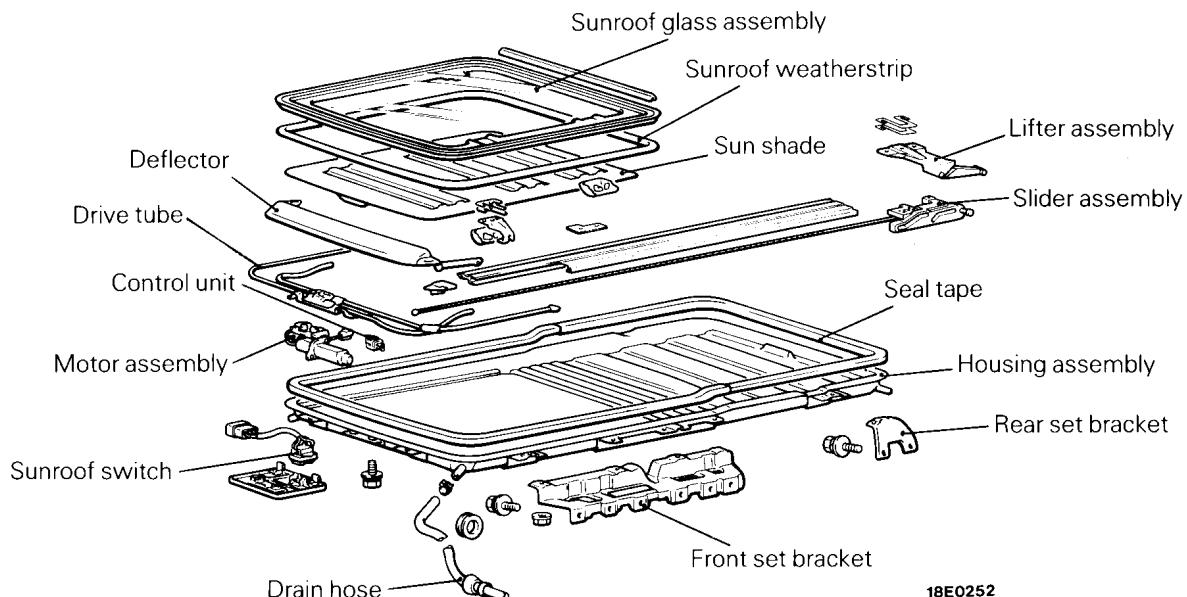
MOTOR-DRIVEN SLIDING SUNROOF

This sliding sunroof is opened and closed by the motors. In the fully opened state, it refreshes the occupants very much and also provides good ventilation. Even when it is fully closed, it does not offer poor lighting and visibility.

NOTE

The operation and construction of the sliding sunroof are the same as conventional Pajero except the following.

- Cam mechanism of sun shade
- Cam mechanism of slider assembly



18E0252

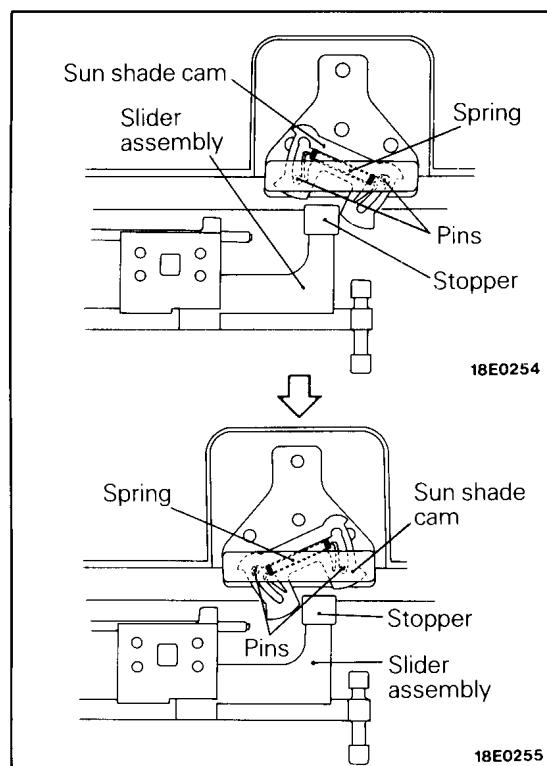
SUN SHADE CAM MECHANISM

Sliding the sunroof rearward brings the stopper into contact with the cam. The cam spring force prevents the cam from turning. The sun shade moves with the slider assembly until it is full open.

Although the sun shade stops at the full open position, the slider assembly slides further rearward. Therefore, the cam turns along the groove overcoming the cam spring force. When the sunroof slides forward, the same operation takes place.

NOTE

If the sunroof is closed before it is full open, the stopper does not contact the cam. Therefore, the sun shade is not interlocked with the sunroof.



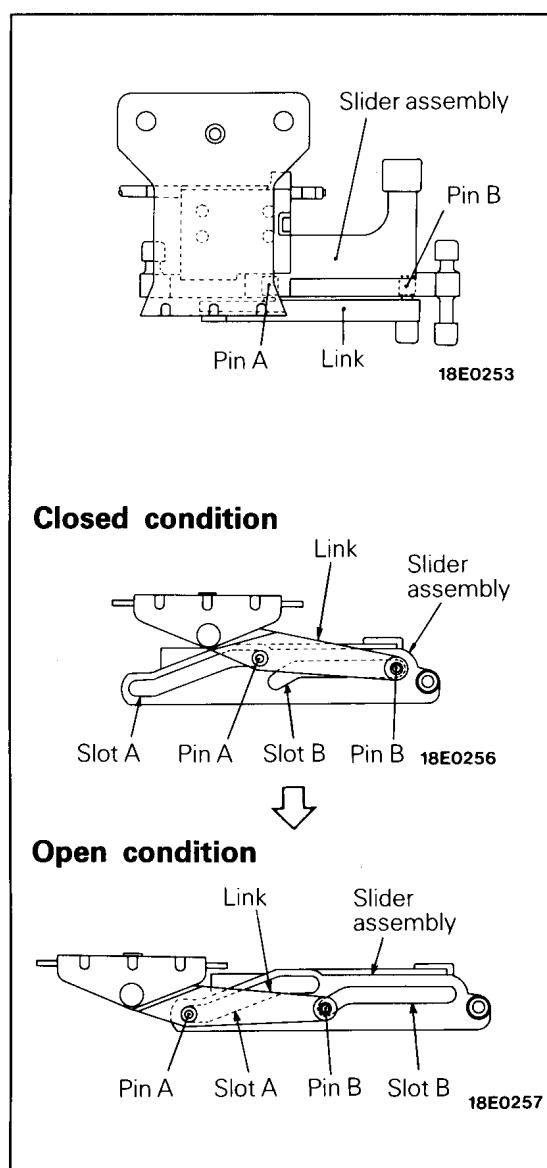
SLIDER ASSEMBLY CAM MECHANISM

In the full closed condition, pins A and B coupling the link with the slider assembly are located at the rear section of the slots, and the sunroof glass is flush with the roof panel.

Press the open side of the sunroof switch, and the motor will run, sliding the slider assembly rearward.

Sliding the slider assembly rearward moves pins A and B forward along the slots. Therefore, the link turns about pin B (fulcrum), bringing the front end of the link downward and lowering the sunroof glass. When pin B moves to the front section of the slot, it goes down along slot B. Therefore, the rear end of the link goes down.

Sliding the slider assembly further rearward moves the sunroof glass with the slider assembly rearward. Press the close side of the sunroof switch, and the motor will run in the direction opposite to that in which it runs when the open side of the switch is pressed. This will pull the slider assembly forward, bringing the full closed condition by reversing the operation made in opening the sunroof.



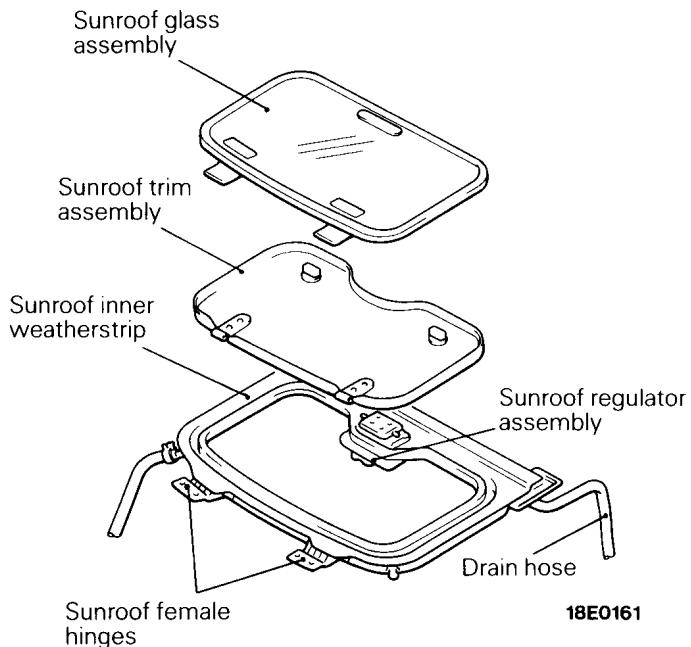
DETACHABLE TILT-UP SUNROOF

The detachable tilt-up sunroof made of tempered glass also improves lighting and ventilation. This sunroof has the following features.

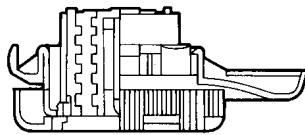
- Provided with the sunroof regulator which can

adjust the rear end of the sunroof up to 50 mm (1.97 in.) freely at any angle.

- Equipped with detachable sunroof trim to prevent the glaring sunlight.



18E0161

Cross section of sunroof regulator

18E0052

CANVAS TOP

E9ELAAA

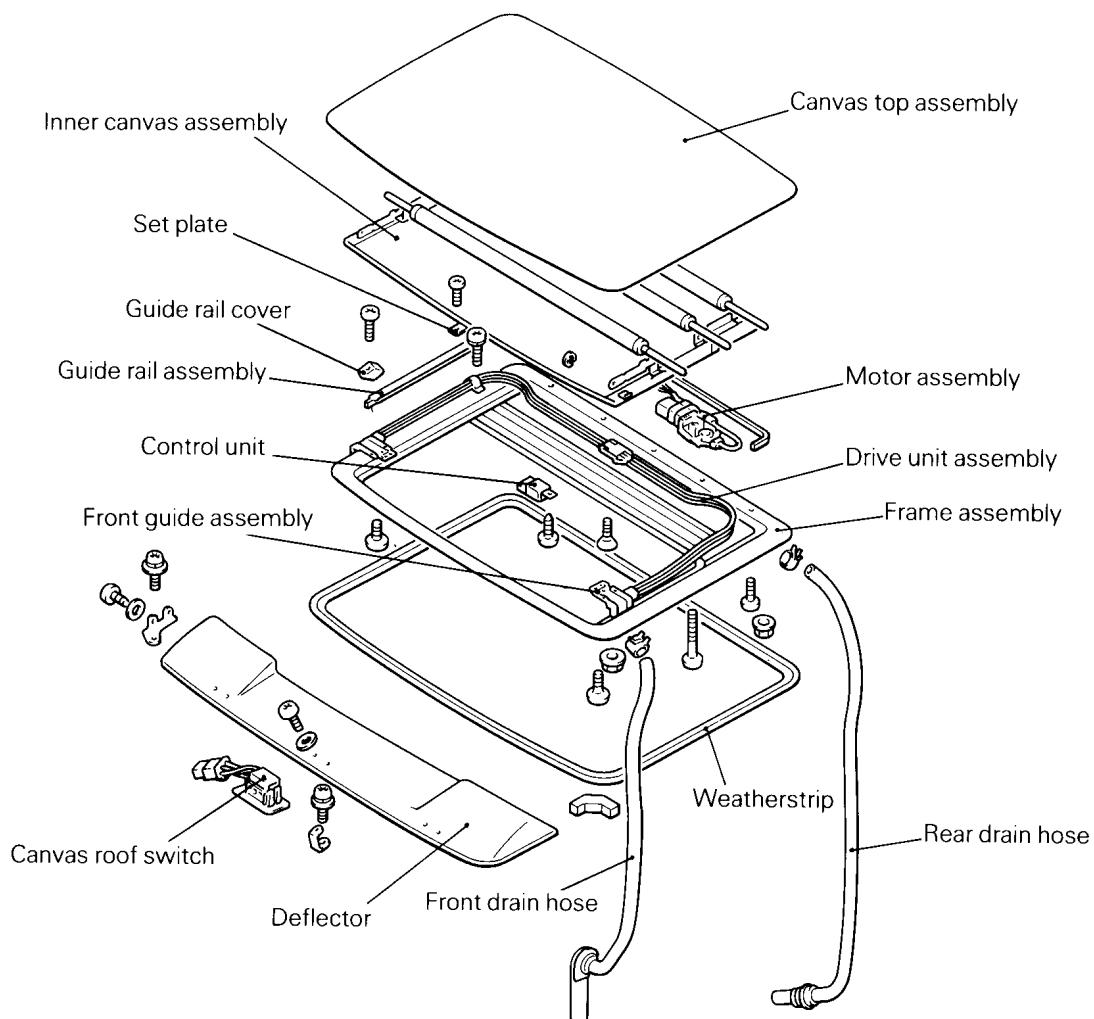
The canvas top is a water-proof polyester canvas which offers outstanding protection against rain and cold weather. The front canvas top is a motor-driven canvas (an option for Europe), whereas the rear is a folding type, and is easy to operate.

The canvas top offers the following features.

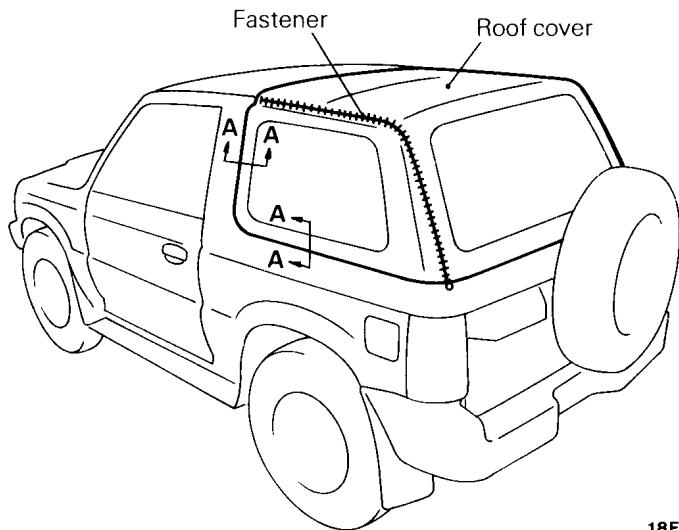
- The front canvas top uses a motor-driven canvas which can be opened and closed by operation of a switch.
- The rear canvas top uses a simplified folding canvas which can be easily opened and closed simply by removing the side canvas.

- A deflector is provided at the front of the canvas top to assure smoother air flow and less air noise during high speed operation.
- To eliminate the accident of part of your body being caught by the motor-driven canvas, a safety mechanism has been adopted which temporarily stops the front canvas at a position of 180 mm (7.1 in.) before it is totally closed.
- A storage cover has been provided to assure better appearance with the rear canvas folded.

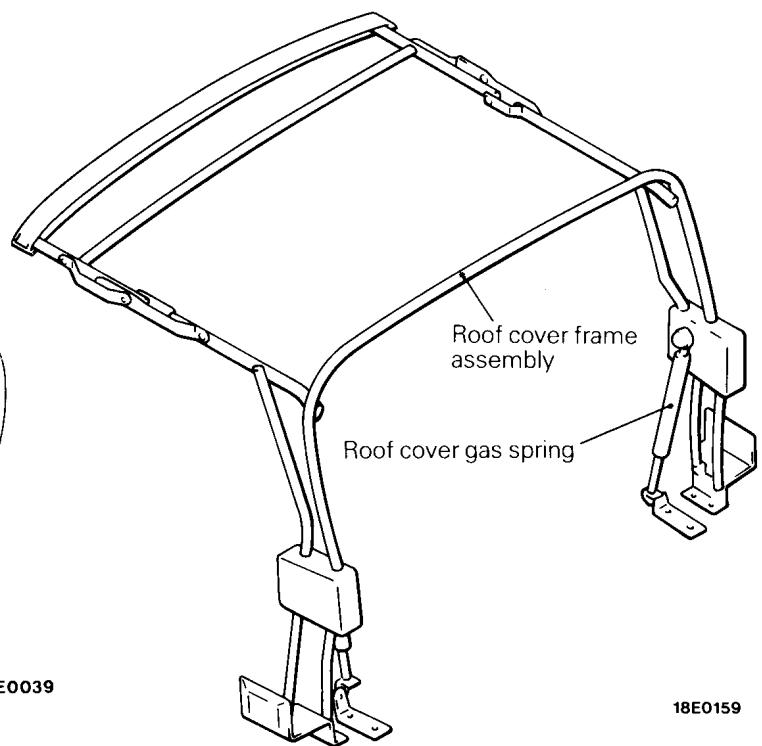
<Front Motor-driven Canvas>



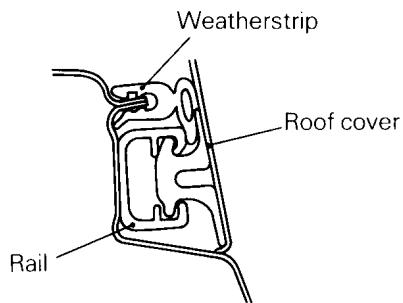
<Rear Folding Canvas>



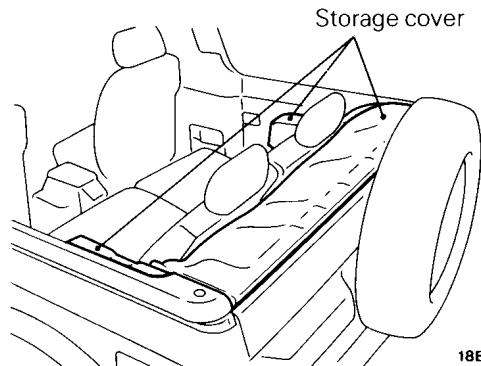
18E0039



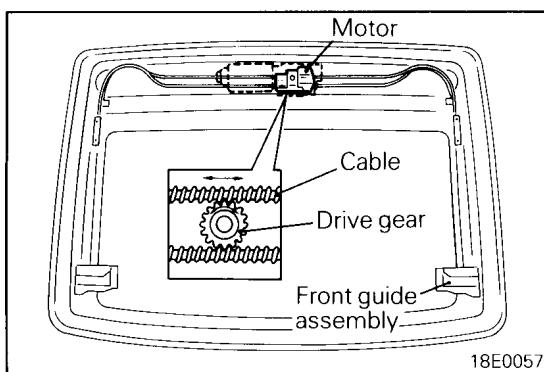
18E0159

Section A-A

18E0053



18E0040



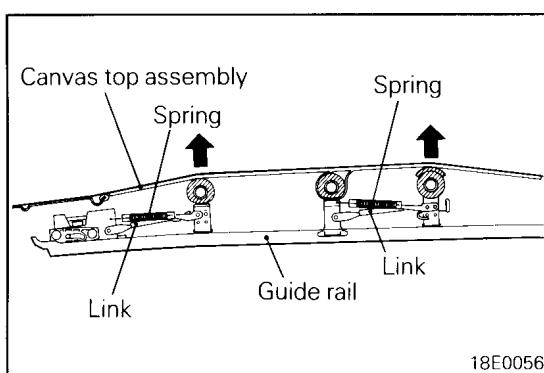
18E0057

CONSTRUCTION AND OPERATION <FRONT MOTOR-DRIVEN CANVAS>**SLIDING MECHANISM**

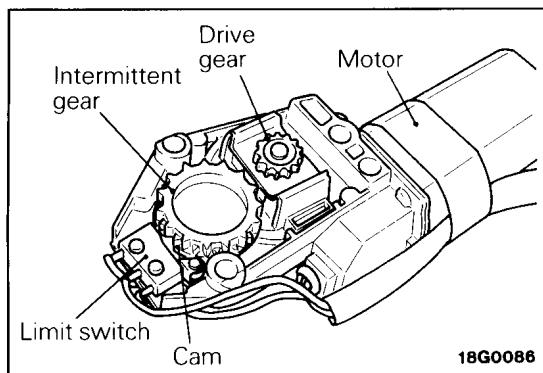
The canvas is moved by the drive gear and cables to allow it to slide forwards or backwards, thereby moving the front guide assembly coupled with the cables forward or backward.

FOLDING MECHANISM

When the canvas is moved to the rear, open. The two links each provided at the right and left are operated by the reactionary force of the springs mounted to the links and force the top frame located behind the links up to fold the canvas top assembly.



18E0056

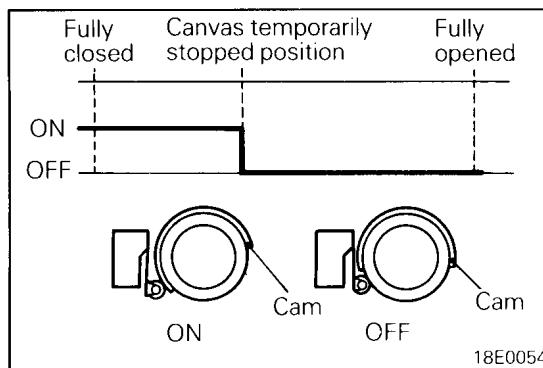


MOTOR ASSEMBLY

The motor assembly consists of a motor, drive gear assembly, cam and limit switch.

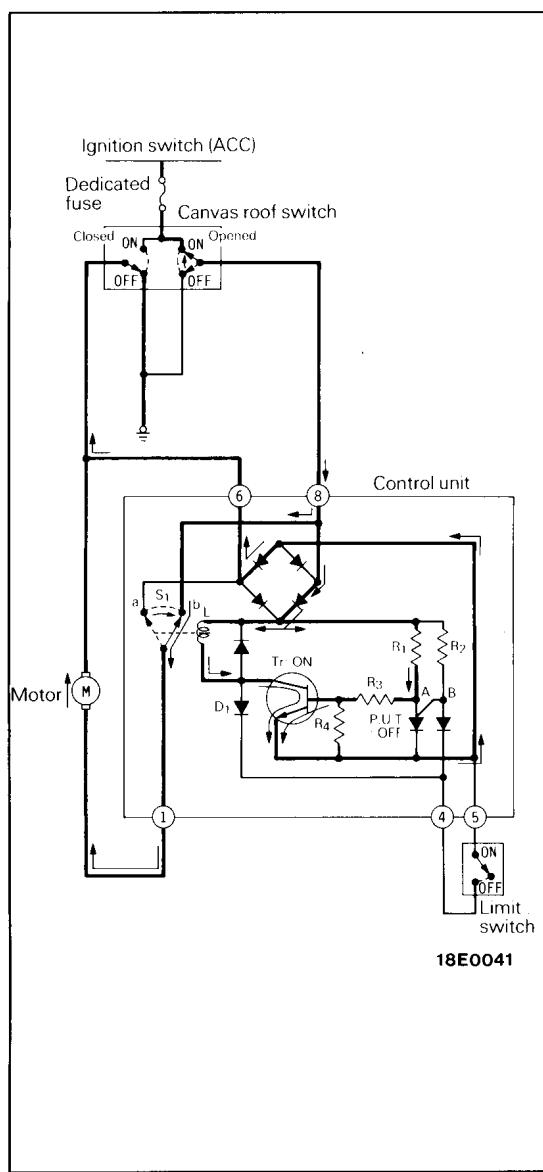
Limit Switch

The limit switch is a microswitch mounted with the motor in a single assembly and is turned ON or OFF by the cam under the intermittent gear to detect the opening position of the canvas.



Operation of Limit Switch

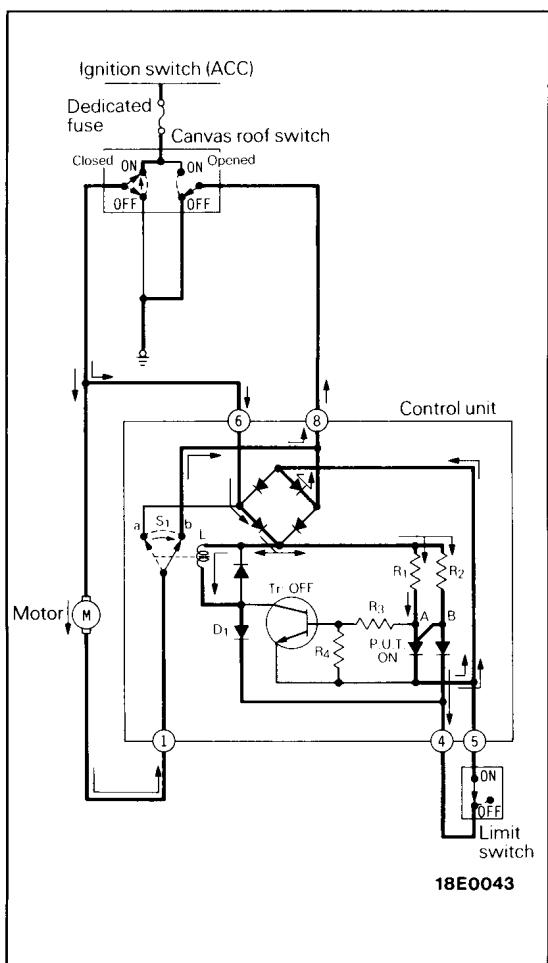
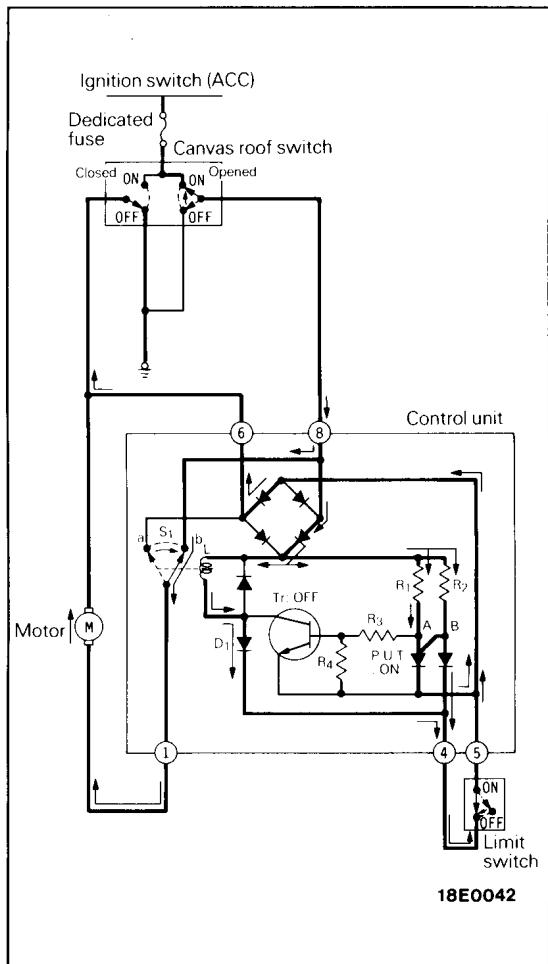
When the canvas reaches a position about 180 mm (7.1 in.) away from the fully closed position, the limit switch is turned ON to OFF when the canvas is in the opening direction, and from OFF to ON when the canvas is in the closing direction.



OPERATION OF FRONT MOTOR-DRIVEN CANVAS

To Open the Canvas [up to a Position about 180 mm (7.1 in.) from the Fully Closed Position]:

1. Continue to press the "OPEN" side of the canvas roof switch. Current will then flow from the roof switch to pin ⑧ of the control unit.
2. In this case, since the limit switch is ON, the voltage at point B in the control unit is larger than the voltage at point A, and the P.U.T. enters the OFF state.
3. The current that has flowed to pin ⑧ passes through resistors R₁ and R₃ and causes transistor Tr to be ON.
4. When transistor Tr is caused to be ON, the current that has flowed in from pin ⑧ flows to coil L as well, changing over the contact of switch S₁ from a to b.
5. Consequently, as described above, the canvas roof switch "opened" → control unit pins ⑧ and ① → motor → canvas roof switch "closed" → ground circuit is completed to rotate the motor and open the canvas.



To Open the Canvas [from a Position about 180 mm (7.1 in.) Away from the Fully Closed Position to the Fully Opened Position]:

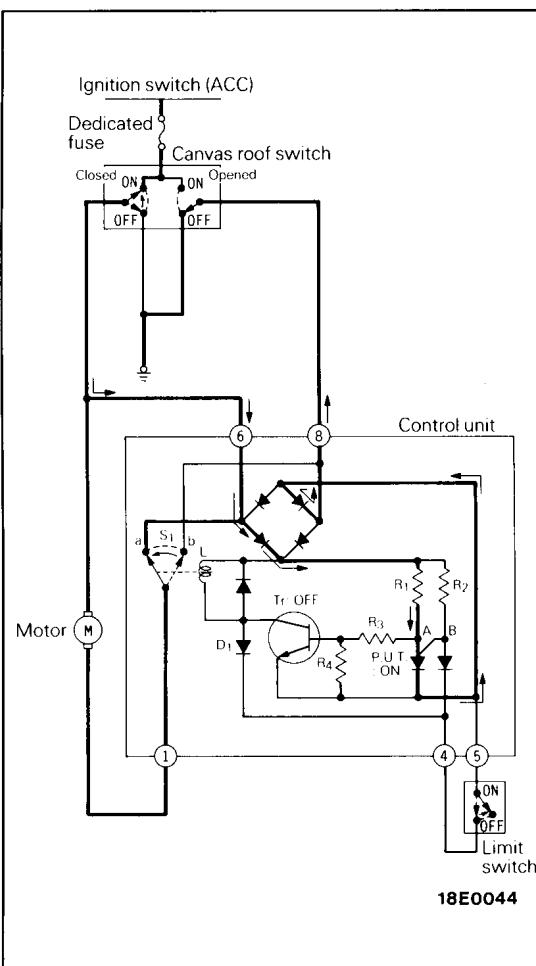
1. When the canvas reaches a position about 180 mm (7.1 in.) away from the fully closed position, the limit switch changes from ON to OFF.
2. When the limit switch is placed in the OFF state, the voltage at point A becomes larger than the voltage at point B and causes the P.U.T. to be ON.
3. Since the P.U.T. is ON, transistor Tr is forced to the OFF state. Since the limit switch is OFF, however, the current having passed through coil L flows through diode D₁ and the limit switch to pin ⑥ of the control unit.
4. Accordingly, as mentioned above, the contact of switch S₁ is retained at b. So the canvas is opened until the fully opened position is reached.

To Close the Canvas [from the Fully Opened Position to a Position about 180 mm (7.1 in.) Away from the Fully Closed Position]:

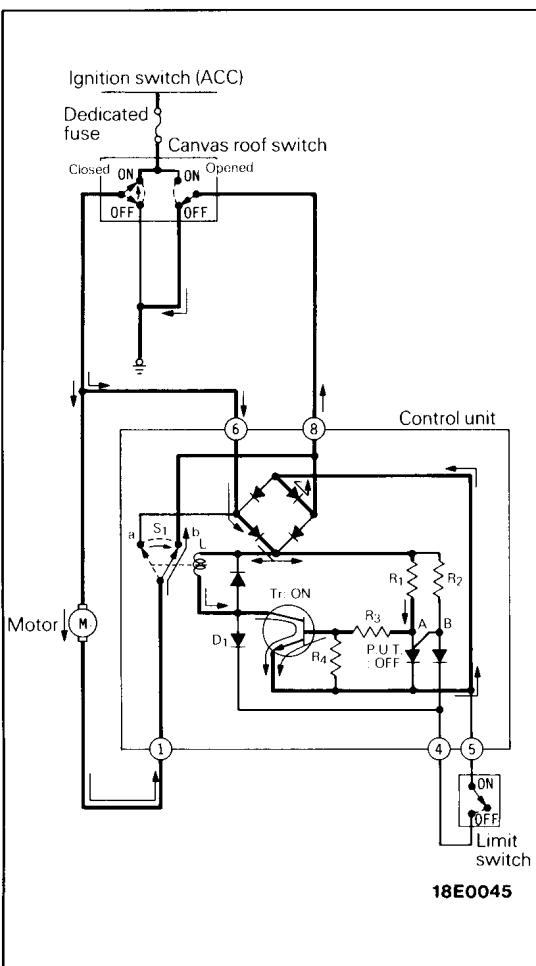
1. Continue to press the "CLOSE" switch. Current will then flow from the canvas roof switch to pin ⑥ of the control unit.
2. In this case, since the limit switch is OFF, the voltage at point A in the control unit is larger than the voltage at point B, and the P.U.T. enters the ON state.
3. Since the P.U.T. is ON, transistor Tr is caused to be OFF. Since the limit switch is OFF, however, the current having passed through coil L flows through diode D₁ and the limit switch to pin ⑧ of the control unit, changing over the contact of switch S₁ from a to b.
4. Consequently, as mentioned above, the canvas roof switch "closed" → motor → control unit pins ①, ⑧ → canvas roof switch "opened" → ground circuit is completed to rotate the motor and close the canvas.

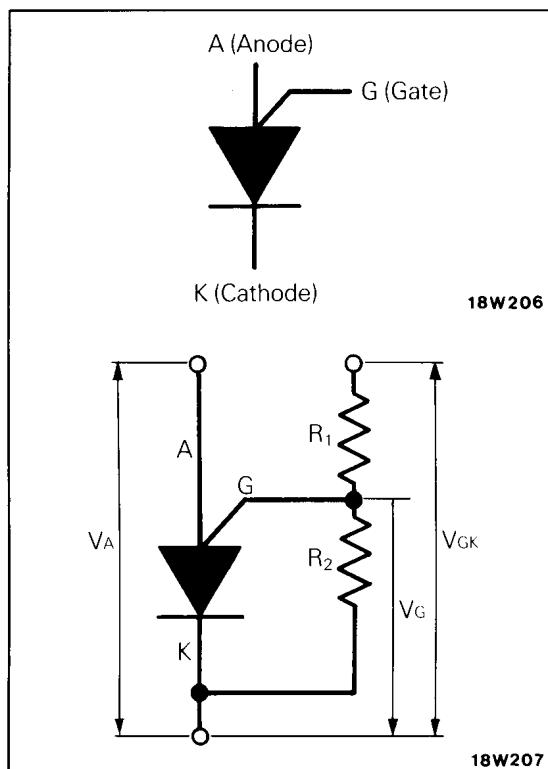
To Close the Canvas [from a Position about 180 mm (7.1 in.) Away from the Fully Closed Position to the Fully Closed Position]:

1. When the canvas reaches a position about 180 mm (7.1 in.) away from the fully closed position, the limit switch is changed from OFF to ON to block the flow of current through coil L and diode D₁.
2. As a result, the contact of switch S₁ is changed over from b to a to interrupt the current that has been flowing through the motor. The canvas is placed in the temporarily stopped state.
3. To reset the temporarily stopped state and re-rotate the motor, release the "CLOSE" side of the canvas roof switch.
4. Then the voltage applied to the control unit is removed and the voltages at both points A and B fall to 0V. Accordingly the P.U.T. is forced to the OFF state, and the circuit re-enters the state that had existed when the canvas roof switch was pressed first.



5. In this condition, press the "CLOSE" switch again. Current then flows from the canvas roof switch to pin ⑥ of the control unit.
6. Since the limit switch is ON, the voltage at point B is larger than the voltage at point A, and the P.U.T. enters the OFF state.
7. The current delivered from pin ⑥ passes through resistors R₁ and R₃ and causes transistor Tr to be ON.
8. When transistor Tr is switched ON, the current that has flowed in from pin ⑥ flows through coil L as well, changing over the contact of switch S₁ from a to b.
9. As a result, the canvas roof switch "closed" → motor → control unit pins ①, ⑧ → canvas roof switch "opened" → ground circuit is completed to rotate the motor and move the canvas until the fully closed position is reached.





NOTE

Programmable Unijunction Transistor (P.U.T.)

The P.U.T. consists of a PNP and NPN transistors combined together like a high sensitivity n gate type thyristor.

The P.U.T. switches ON and OFF, depending on the anode voltage V_A and gate voltage V_G .

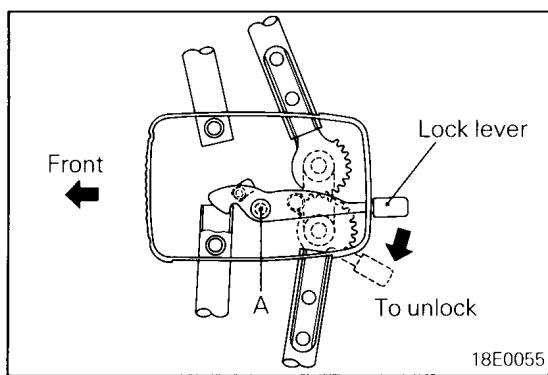
When V_A is smaller than V_G ($V_A < V_G$), it enters the OFF state.

When V_A is larger than V_G ($V_A > V_G$), it enters the ON state.

When V_A is equal to V_G ($V_A = V_G$), it retains the ON state.

Since the gate voltage V_G which constitutes an essential factor is a voltage divided by resistors R_1 and R_2 , the P.U.T. offers the advantage of allowing its characteristics to be freely programmable by changing resistors R_1 and R_2 .

The P.U.T. features high sensitivity and low leak current.



CONSTRUCTION AND OPERATION <REAR FOLDING CANVAS>

ROOF COVER FRAME LOCK MECHANISM

When the lock lever is placed in the unlocked position, it rotates clockwise with the A as the fulcrum, releasing the sub lower frame to set the gear assembly free.

When the gear assembly is pressed forward, the gears are rotated to fold the frame with the right and left in linked operation.

The roof cover frame is provided with gas springs so that the canvas can be opened and closed with less operating force.