BODY

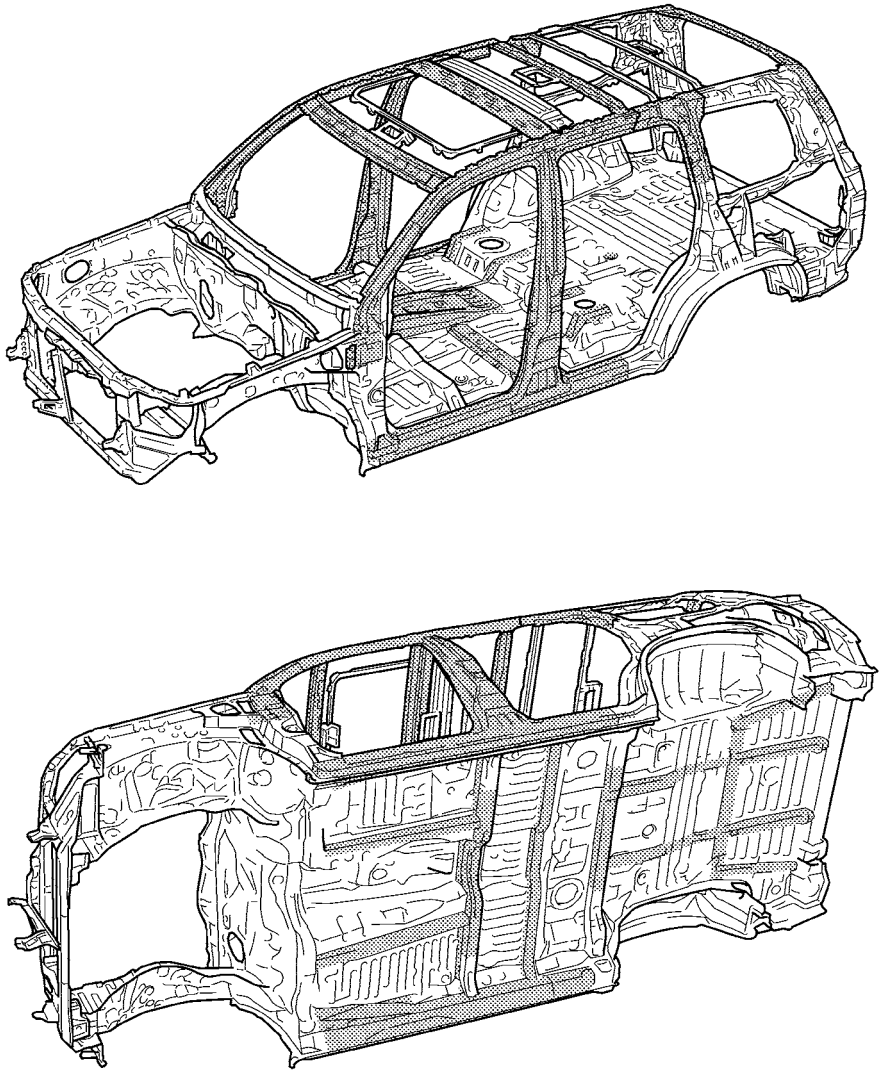
BODY STRUCTURE

■ LIGHTWEIGHT AND HIGHLY RIGID BODY

1. High-strength Sheet Steel

- High-strength sheet steel is provided on the new LX 570 in an effort to reduce the vehicle weight while increasing the rigidity.
- High-strength sheet steel is used in the pillar reinforcements, floor reinforcements and rocker members. As a result, high-strength sheet steel makes up 33% of body shell mass.

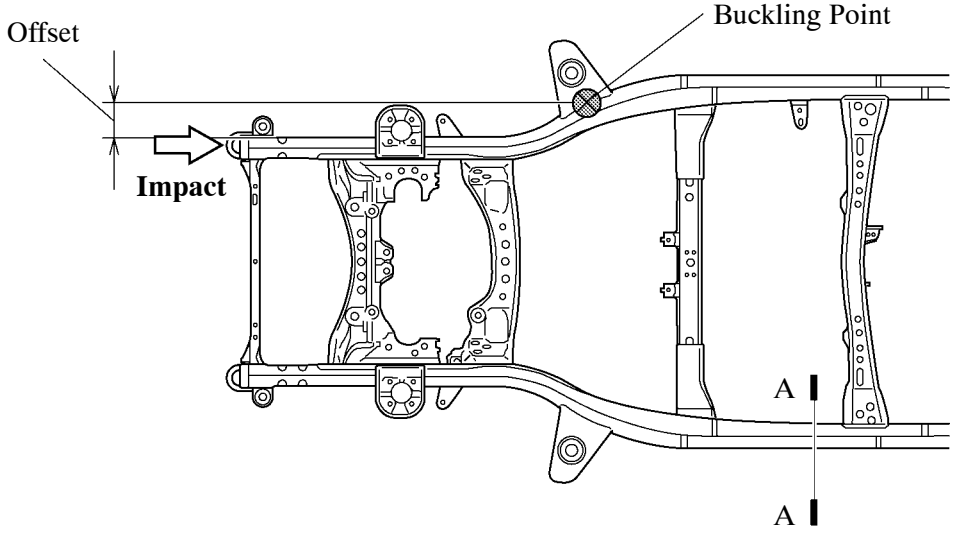
: High-Strength Sheet Steel



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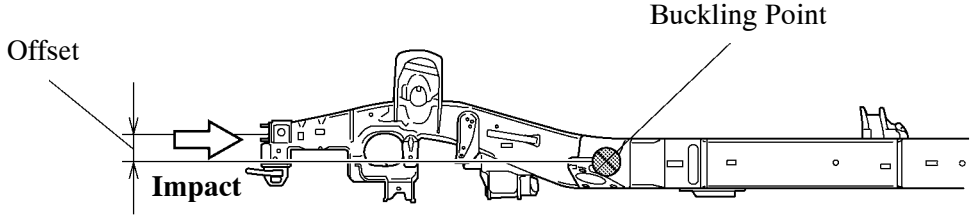
■ FRAME

A high-strength, high-rigidity, axial-compression collision safety frame structure is used. This frame structure helps minimize frame buckling as much as possible, and considerably reduces the amount of offset between the load application point and the frame buckling point when a collision occurs.



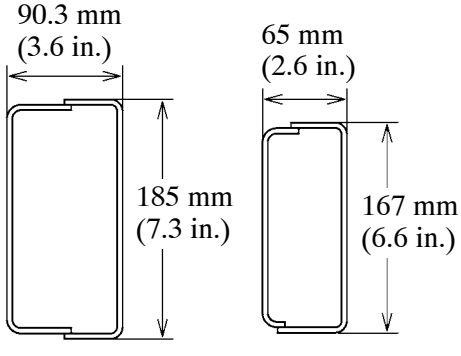
080BO02Y

Top View



080BO03Y

Side View



New Model **Previous Model**

080BO04Y

A – A Cross Section

BO

■SAFETY FEATURES

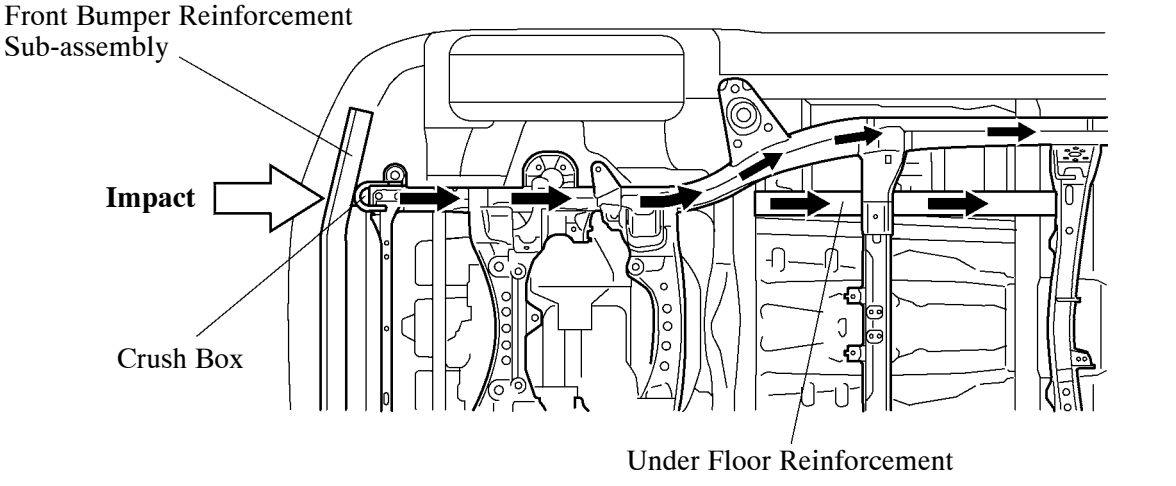
1. General

The impact absorbing structure of the new LX 570 minimizes cabin deformation by effectively helping to absorb the impact energy in the event of a front, side or rear collision. This provides high-performance occupant protection.

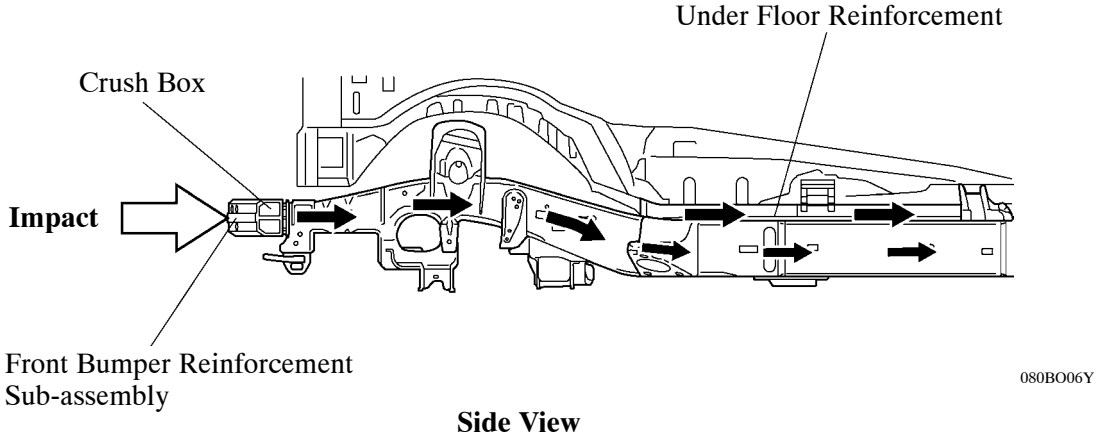
2. Impact Absorbing Structure for Front Collision

High-strength sheet steel is used in the reinforcements located under the floor and on the rocker panels, and a new structure that can effectively provide the axial-compression load to the frame is used. This is to absorb the collision energy efficiently and to disperse the load. As a result, cabin deformation will be minimized.

- A large front bumper reinforcement is used to efficiently dissipate the impact energy into the frame side rails.
- Crush boxes are provided at the front ends of the frame side rails. These crush boxes reduce the impact that acts on the side rails and minimize body deformation during a minor collision.
- In order to disperse the impact load which is caused by a frontal offset collision, the frame structure has been designed to minimize the frame buckling and transfer collision energy more linearly. In addition, high-strength sheet steel is used in the reinforcements under the floor. As a result, more efficient dispersal of the collision impact load has been made possible by controlling frame distortion mode through a combination of the body and frame during a major collision.



Bottom View

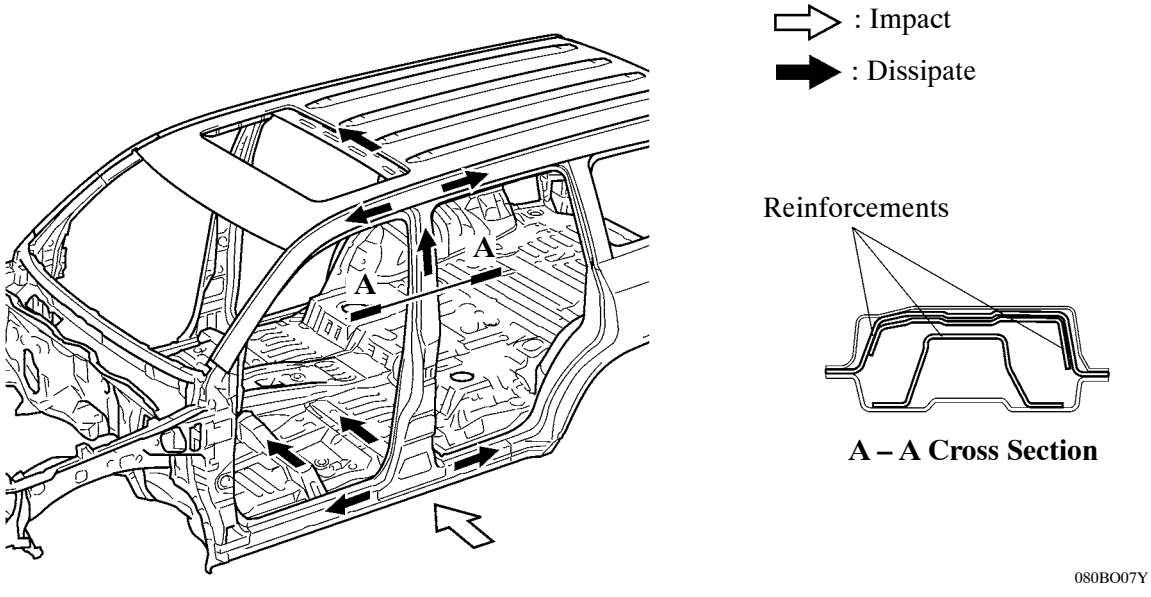


Side View

3. Impact Absorbing Structure for Side Collision

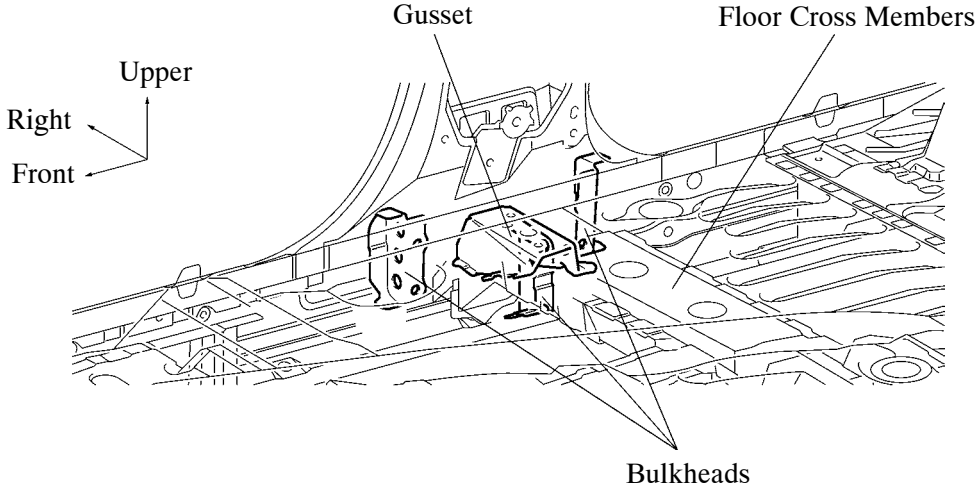
The body construction has been optimized to realize an effective transmission of the collision impact to the peripheral parts, such as from the center pillar to the roof reinforcements, rocker reinforcements, and floor cross members. This ensures the integrity of the cabin space and dramatically reduces body deformation.

- High-strength sheet steel is used in the center pillar reinforcements, thus realizing a compact, lightweight, and highly rigid center pillar construction (A – A cross section).
- Bulkheads and gussets are placed at optimum locations within the rockers. As a result, the load from a center pillar can be transmitted to a floor cross member, absorbing the impact energy.



A – A Cross Section

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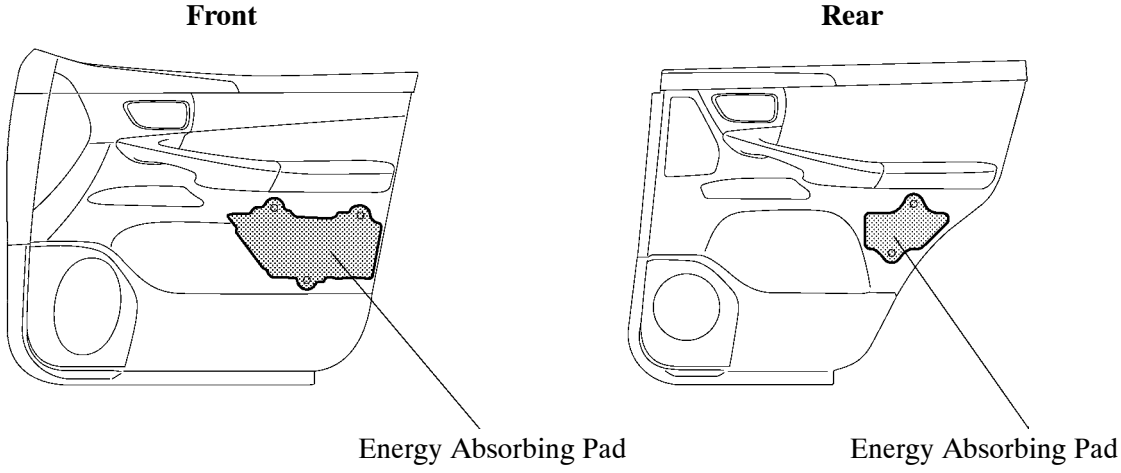


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Rocker Member Section

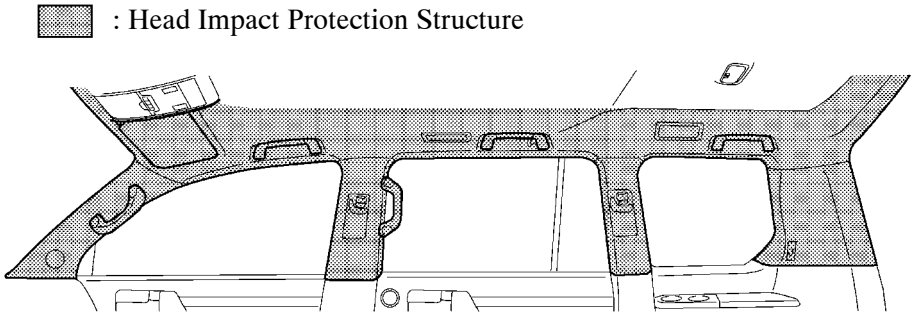
BO

- Energy absorbing pads are provided in the door panels and door trims to help dampen the impact applied from the sides of the vehicle to the occupants.



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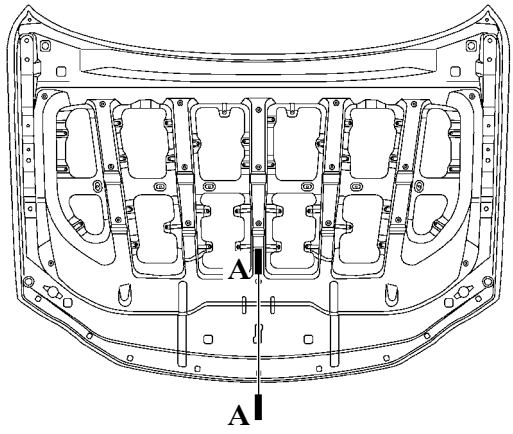
- A head impact protection structure is used. With this type of construction, if the occupant's head hits against the roof side rail or pillar due to a collision, the inner panels of the roof side rail and pillar collapse to help reduce the impact.



080BO09Y

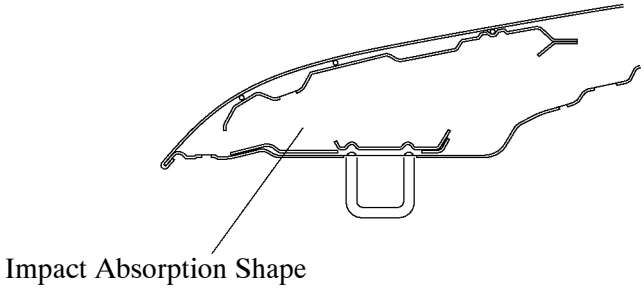
4. Lessening Pedestrian Head Injury

- In order to enhance the pedestrian protection performance, the hood has been designed with a longitudinal frame structure which brings uniform hood rigidity and efficiently absorbs the impact.
- An impact absorption shape has been provided at the front of the hood. If someone short such as a child hits the front, the impact will be absorbed more efficiently, helping minimize head injuries.



08FBO20Y

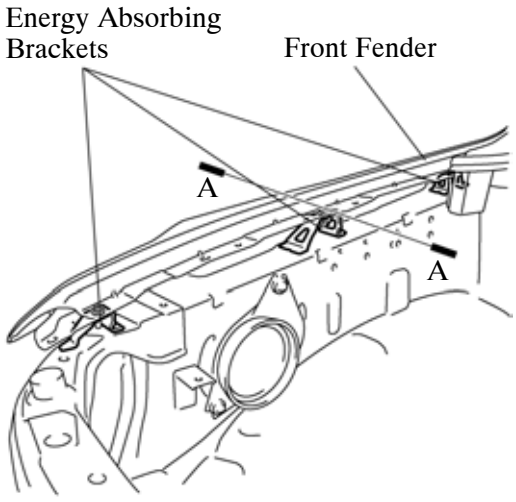
Engine Hood



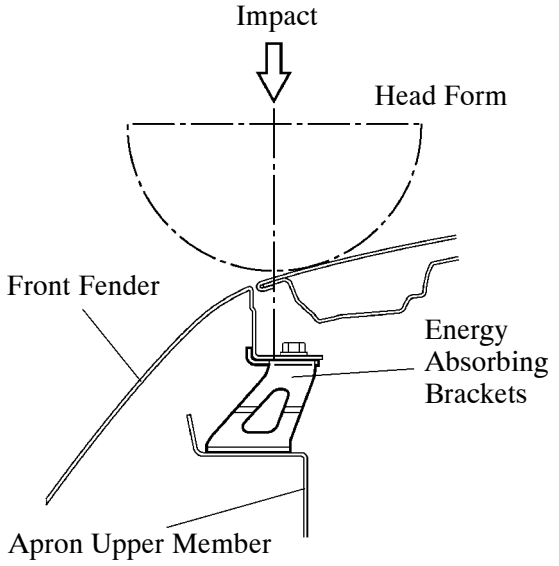
08FBO21Y

A – A Cross Section

- Energy absorbing brackets are used in the joint portion of the front fender. Thus, a certain deformation stroke in the event of a head form collision has been ensured, helping reduce the impact.



08FBO22I



08FBO024Y

A – A Cross Section

■ RUST-RESISTANT BODY

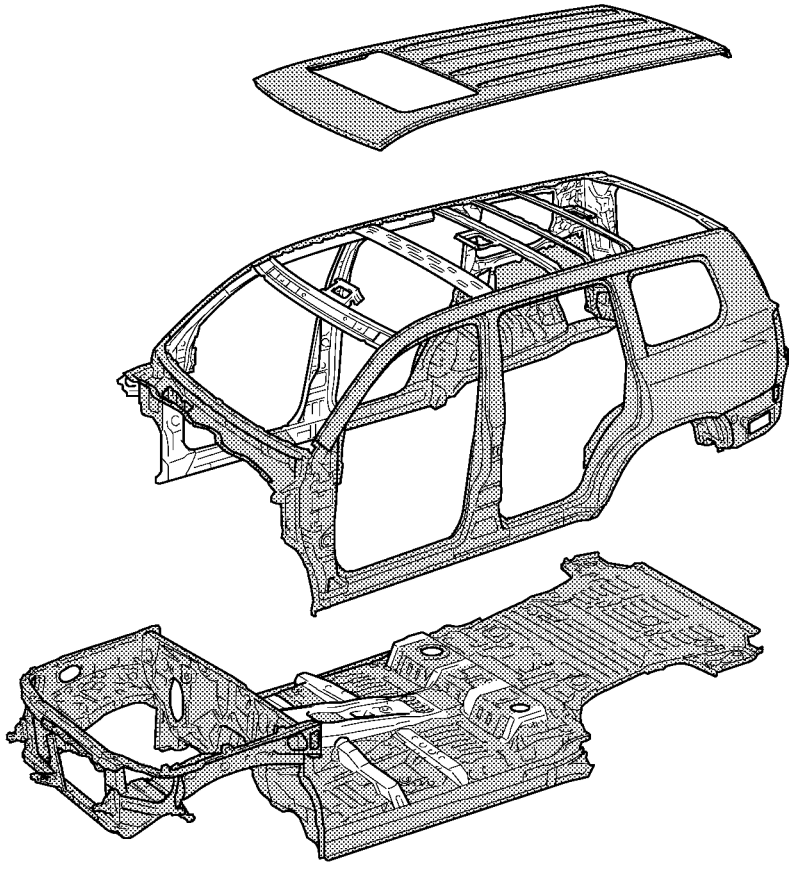
1. General

Rust-resistant performance is enhanced by extensive use of anti-corrosion sheet steel, as well as by an anti-corrosion treatment that includes the application of anti-rust wax, sealer and anti-chipping paint to easily corroded part such as the hood and fender.

2. Anti-corrosion Sheet Steel

Anti-corrosion sheet steel is used as the following illustration.

: Anti-corrosion Sheet Steel



08FBO003Y

3. Wax and Sealer

Wax is applied to the edges of the door lower portion, door hinge and fuel filler lid hinge to improve rust-resistant performance. Sealer is applied to hemmed portions of the door panels and engine hood.

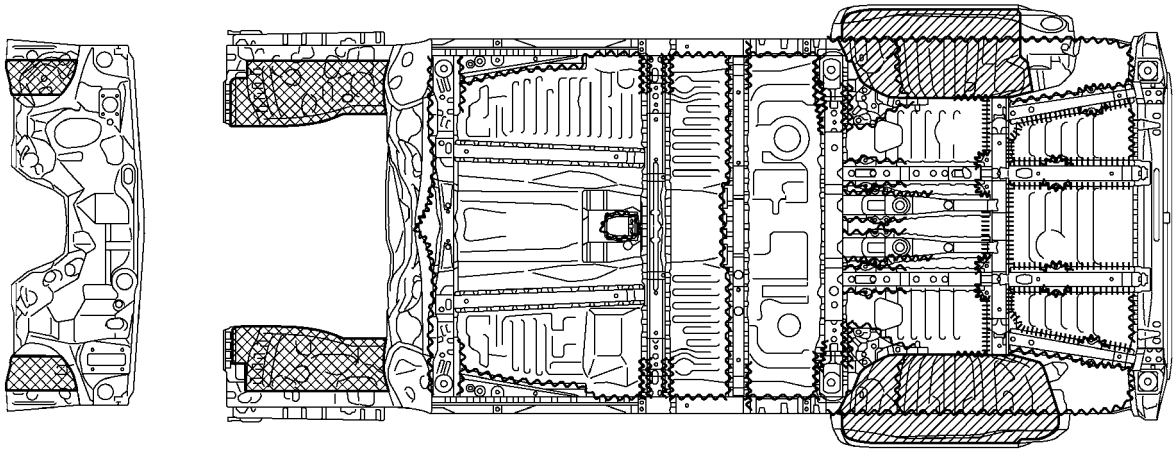
4. Under Coat

Acrylic acid resin is applied to the under side of the body and the inside of the wheel housing and other parts that are susceptible to damage from stone chips, thus improving the rust resistance of these areas.

: Edge Seal

: Acrylic Acid Resin Coating Area

: Acrylic Acid Resin Coating Area (Thick Coating)



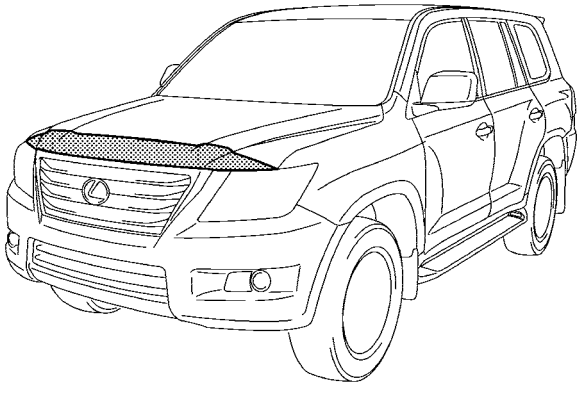
View from Bottom

08FBO025Y

5. Anti-chipping Application

A soft-chip primer is used on the front end of the hood in order to minimize paint damage due to chipping and improve the anti-corrosion performance.

: Soft-chip Primer



08FBO004Y

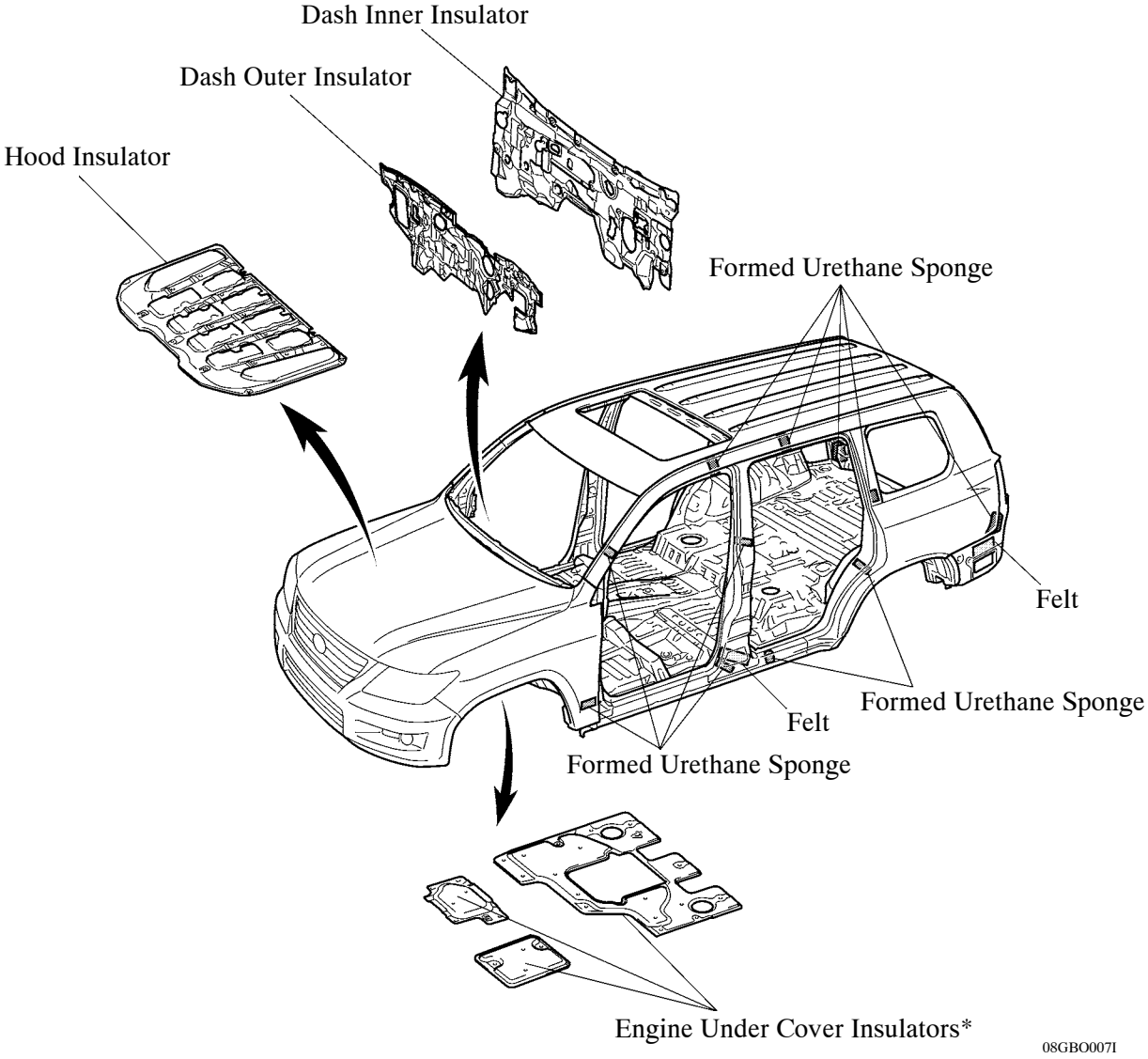
■ LOW VIBRATION AND LOW NOISE BODY

1. General

Effective application of vibration damping and noise suppressant materials reduces engine, wind and road noises.

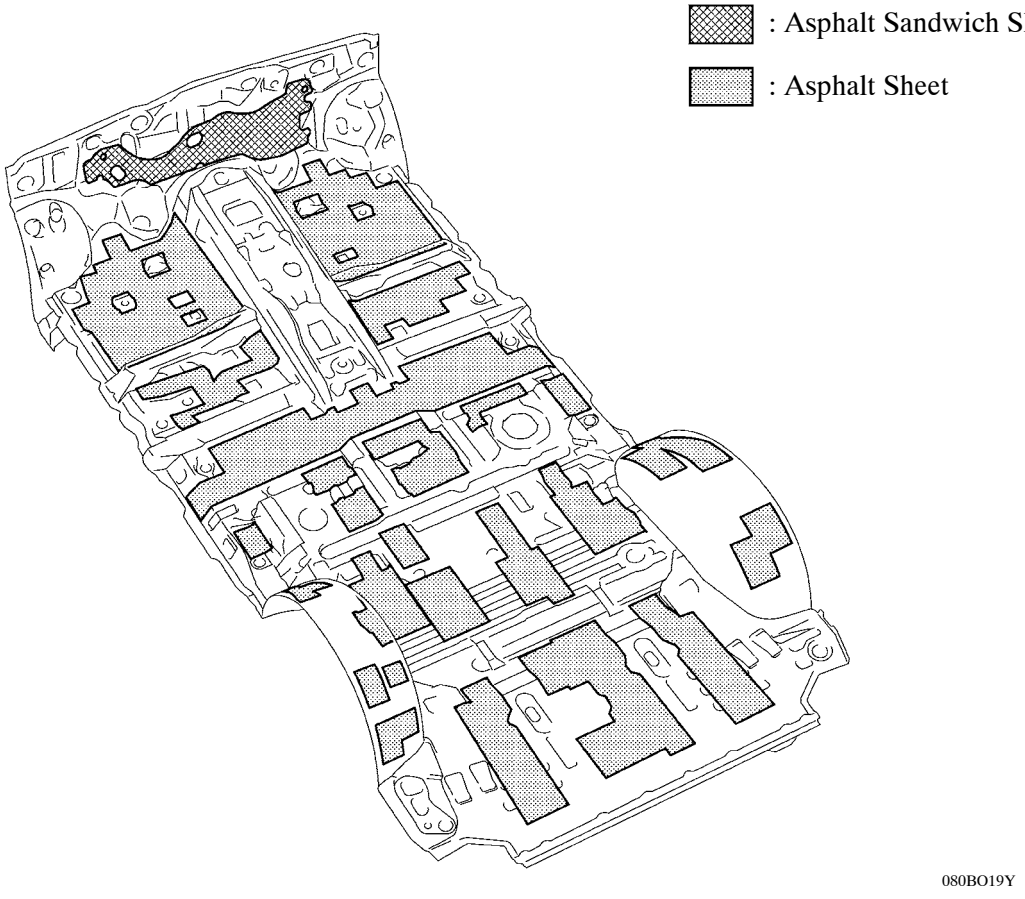
2. Sound Absorbing and Vibration Damping Materials

- Foamed urethane sponge and foamed sealing material are applied onto the roof side rail and pillars to reduce wind and road noises.
- A large-size dash inner insulator, dash outer insulator, and hood insulator are used to reduce engine and road noises to improve quietness inside cabin.
- A material having high sound-shielding property is used for the intermediate film of the laminated glass of the windshield to reduce wind noise.



*: Except G.C.C. Countries Models

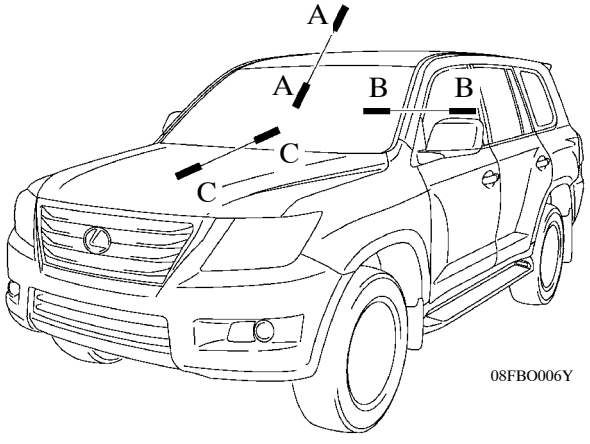
- The asphalt sheet has been optimized entirely, in terms of material, thickness, and allocation, in order to reduce the droning sound and road noise.

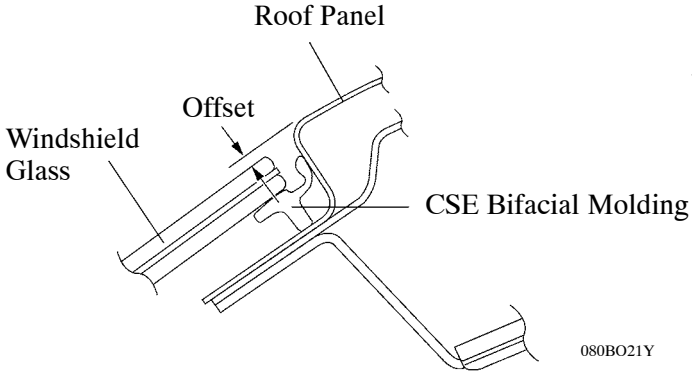


View from Top

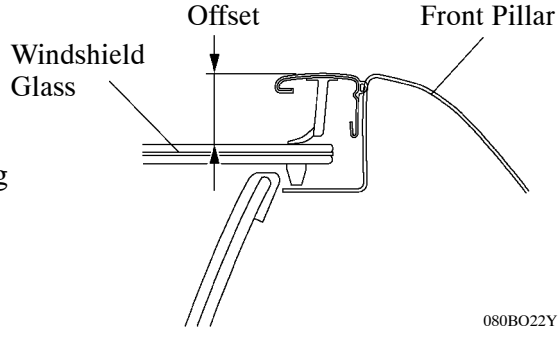
3. Reducing Wind Noise

- A foam material is optimally allocated inside the body side members, pillars, in order to reduce the wind noise created by air turbulence.
- CSE (Curved Seal Extrusion) bifacial molding is used around the windshield glass to minimize the offset between the windshield glass and the roof. This reduces air turbulence and wind noise (A – A cross section).
- The offset between the front pillars and the windshield glass has been optimized to minimize air turbulence, thereby reducing the wind noise (B – B cross section).
- Through a modification of the cowl louver shape, the course of airflow across the hood has been directed upward, and this prevents wind from interfering with the wipers. Therefore, air turbulence has been minimized, reducing the wind noise (C – C cross section).

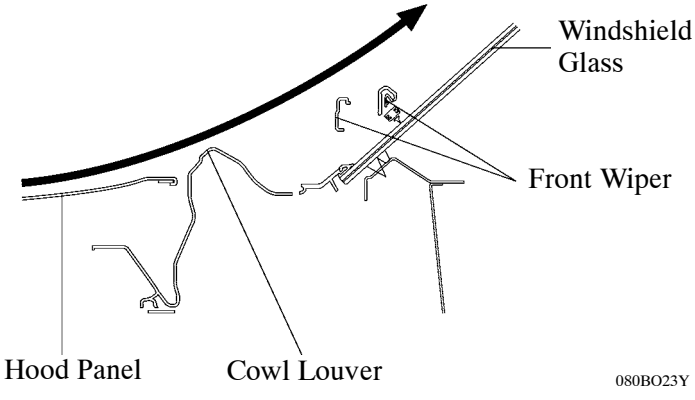




A – A Cross Section



B – B Cross Section

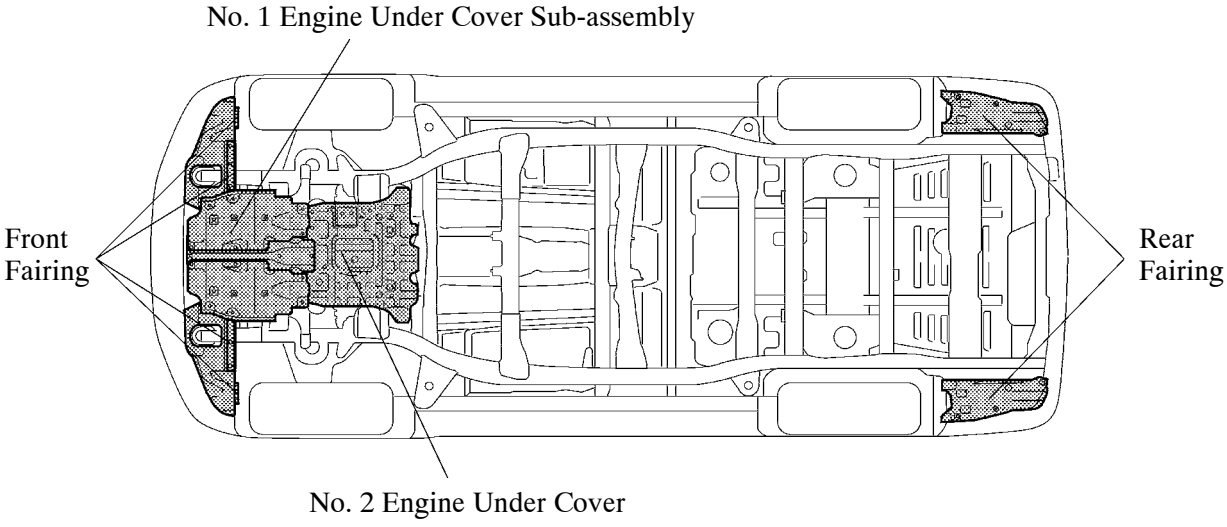


C – C Cross Section

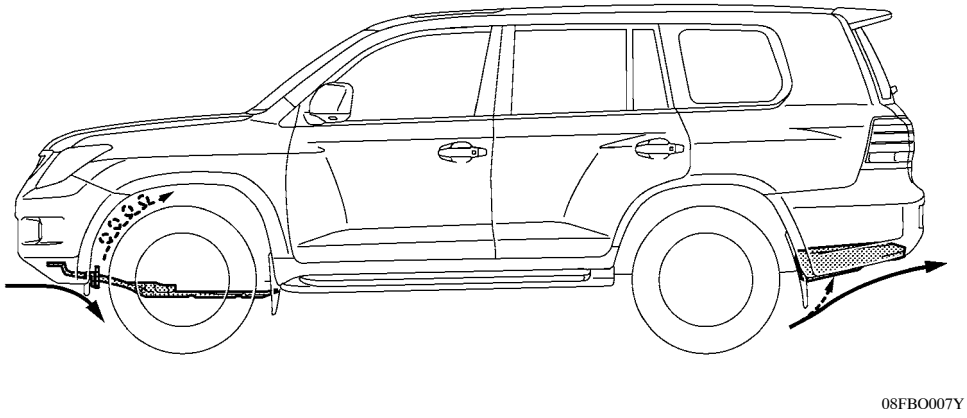
BO

■AERODYNAMICS

In order to ensure excellent aerodynamic performance and driving stability, airflow routing parts which smooth airflow have been provided in front of the front wheels and behind the rear wheels.



View from Bottom

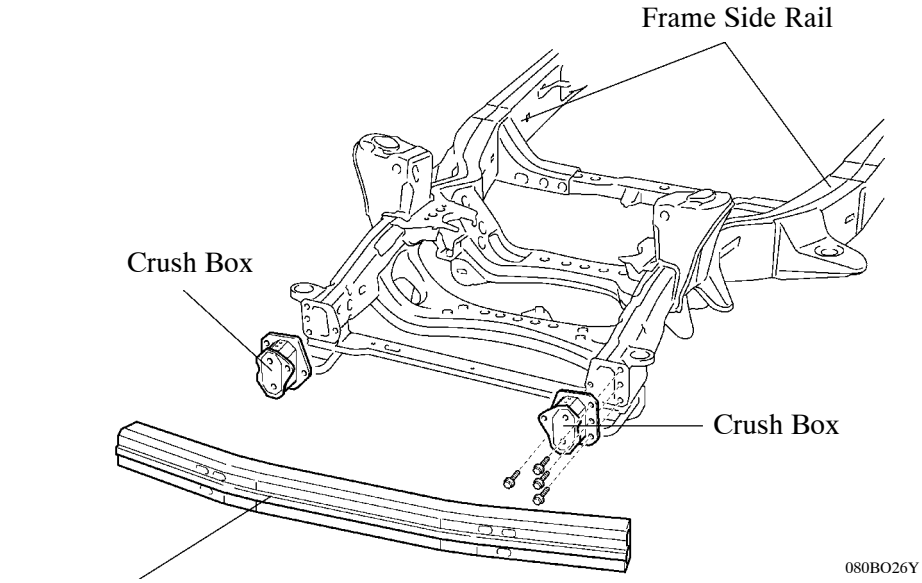


View from Side

ENHANCEMENT OF PRODUCT APPEAL

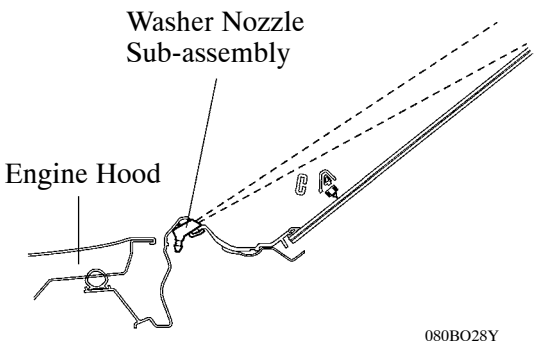
■ PARTS WITH LOW REPAIR COST

In order to minimize body damage during a minor collision and reduce the repair costs, crush boxes are fitted at the front ends of the frame side rails.

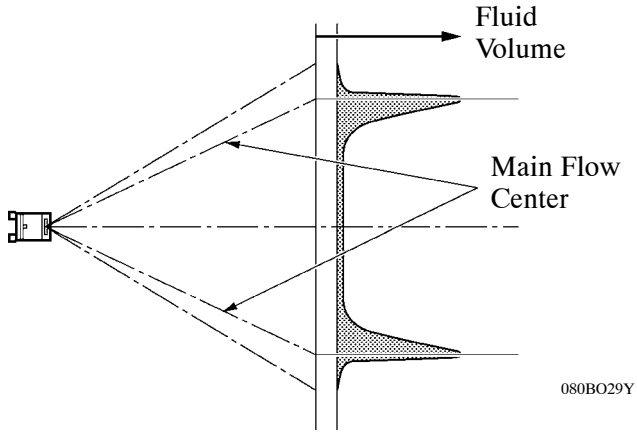


■WASHER NOZZLE

Spray type washer nozzles are located inside the cowl louver to ensure a good appearance. These nozzles can spray windshield washer fluid over a wide area by spraying it in a fan shape. The washer fluid volume has been reduced so as not to hinder the driver's view when washer system is operated.



080BO28Y



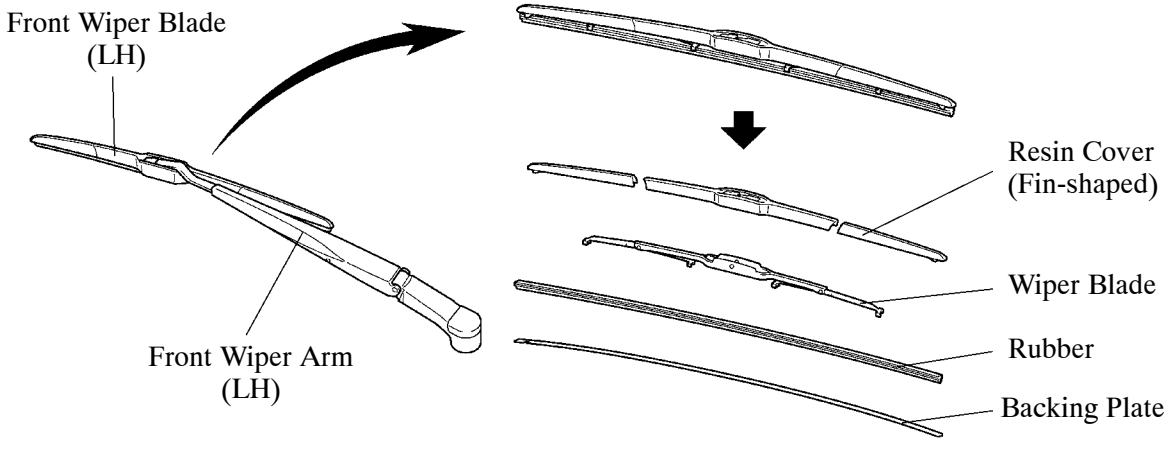
080BO29Y

Service Tip

Spray type washer nozzles cannot be adjusted because of their structure. Do not attempt to adjust the nozzles as it could damage them.
If adjustment is necessary, adjust the nozzles after replacing them with those selected from three part numbers with different spray angles. For details, see the LEXUS LX 570 Repair Manual (Pub. No. RM08G0E).

■WIPER ARM AND BLADE

The well-integrated, stylish wiper consists of a styled wiper arm and an aero-type wiper blade with a fin-shaped resin cover. Furthermore, graphite rubber is used in the blade to achieve good wiping characteristics, as well as to lessen the noise generated when the rubber flips during the wiper return movement. In addition, the low home position of the wiper contributes to a wind noise reduction.



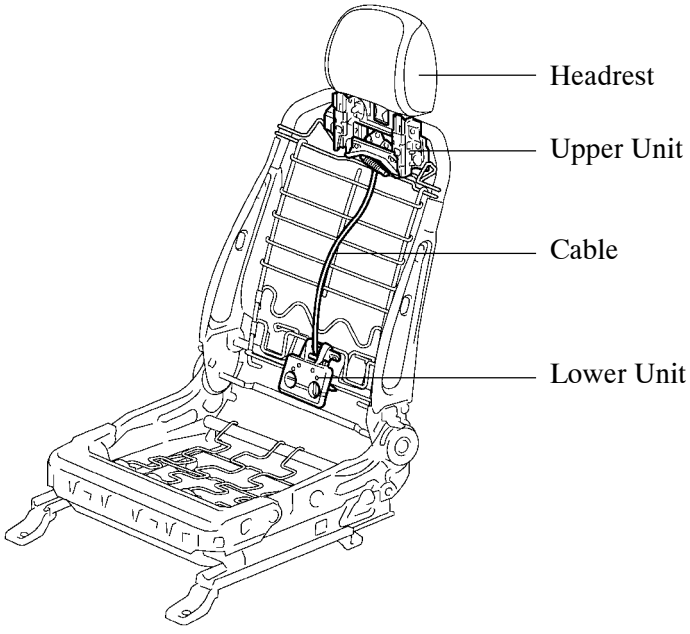
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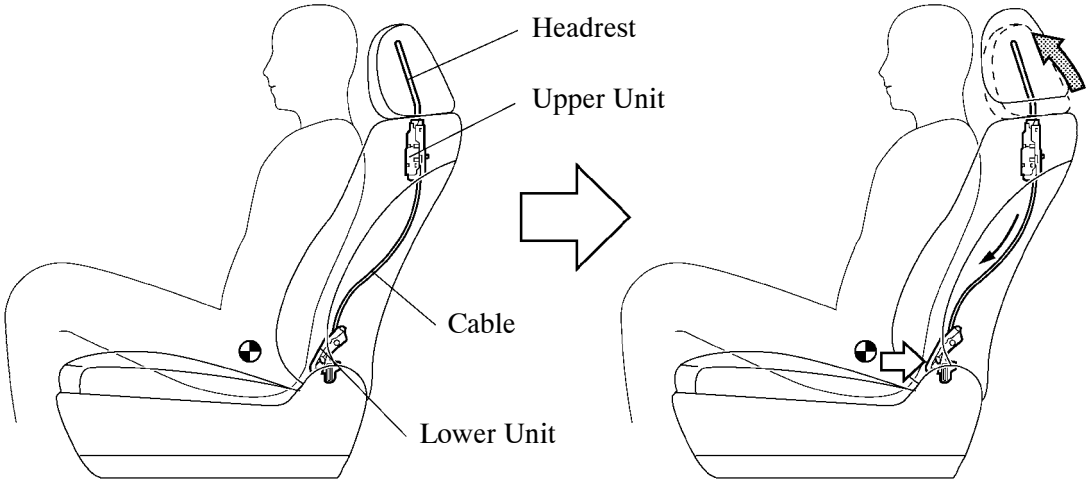
■SEAT

1. Front Seat

A seat frame structure and an active headrest mechanism have been provided, in which the seatback frame upper pipe has been shifted rearward, to help alleviate neck injury during a rear-end collision. Furthermore, by using high-strength sheet steel in the seat frame, weight has also been reduced.

- Active headrests are provided, which move up and forward almost instantly in the event of a rear-end collision when the force of the occupant body is applied to the seatback and reduce the distance between the occupant's head and the headrest.
- The active headrest consists of the lower unit, cable and upper unit.
- When the lower unit built into the seatback is pressed by the occupant's lumbar as the occupant's body slides down during a rear-end collision, the cable is pulled and the headrest is moved up and forward by the upper unit, reducing the distance between the occupant's head and the headrest.

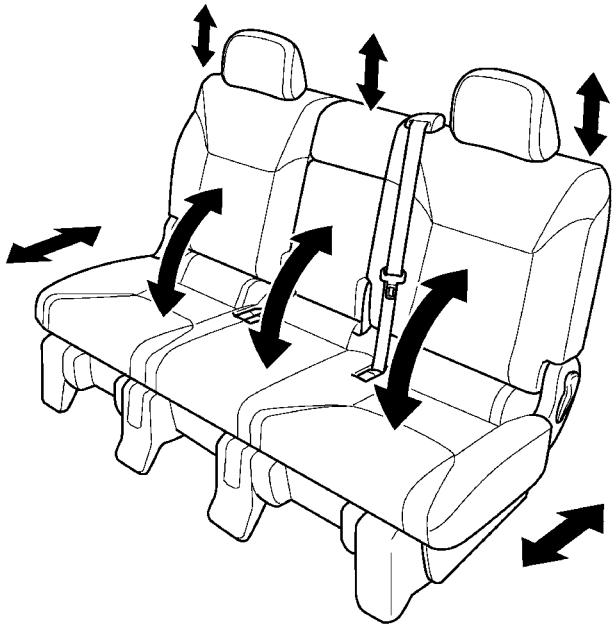




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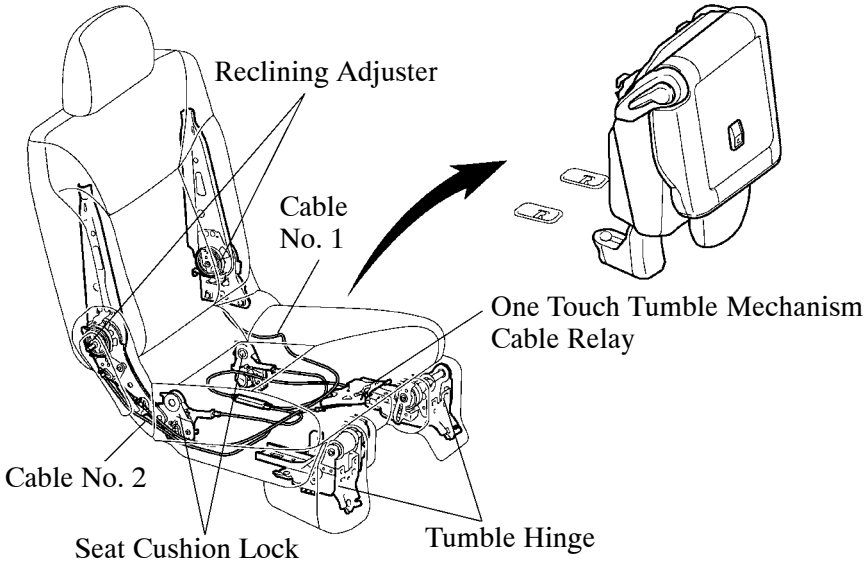
2. Rear No. 1 Seat

- A 60/40 split type rear No. 1 seat with 40/20/40 split seatback is standard equipment.



08FBO009I

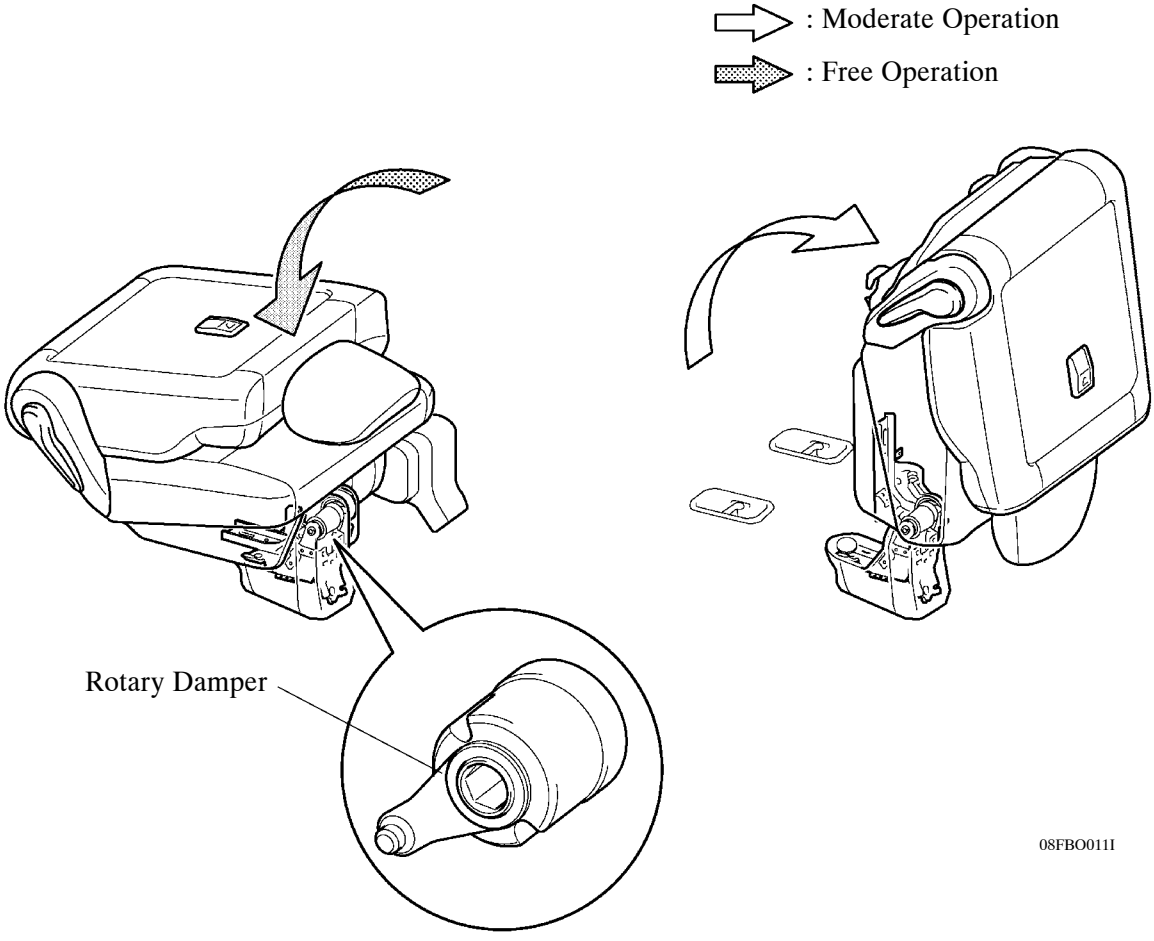
- A one touch tumble mechanism has been provided on the seat immediately behind the front passenger seat to make it easier to get in and out of the vehicle. The one touch tumble mechanism releases the seat lock when the seatback is folded, allowing the seat itself to fold down.



08FBO010I

One Touch Tumble Mechanism

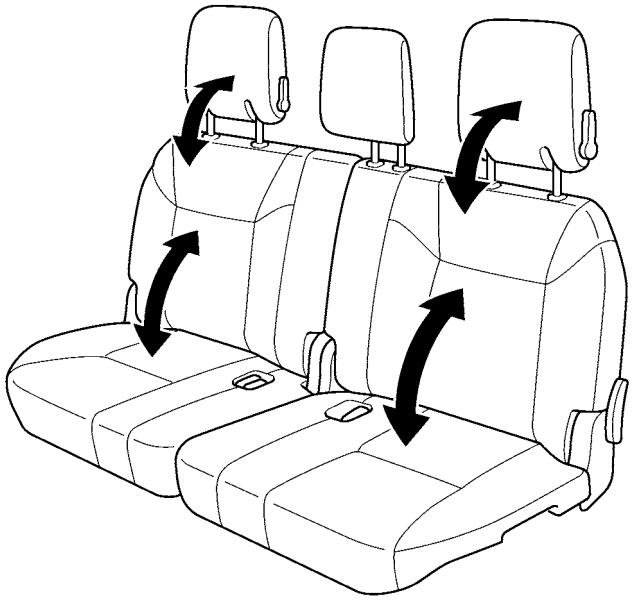
- The tumble hinge is provided with a rotary damper, enabling a moderate tumble operation. The one-way construction used in the rotary damper frees the seat from the effects of the rotary damper while the seat is being folded down.



One Touch Tumble Operation

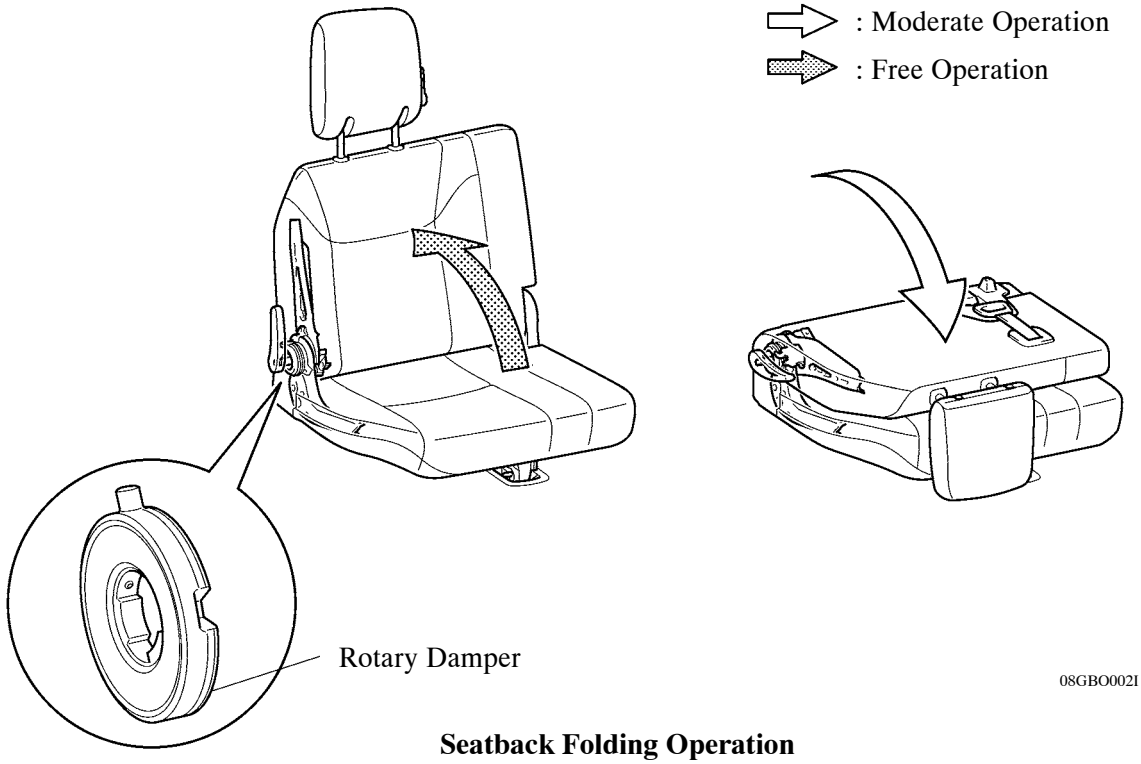
3. Rear No. 2 Seat

- A 50/50 split type rear No. 2 seat with manual folding-up function is standard equipment.



08GBO001Y

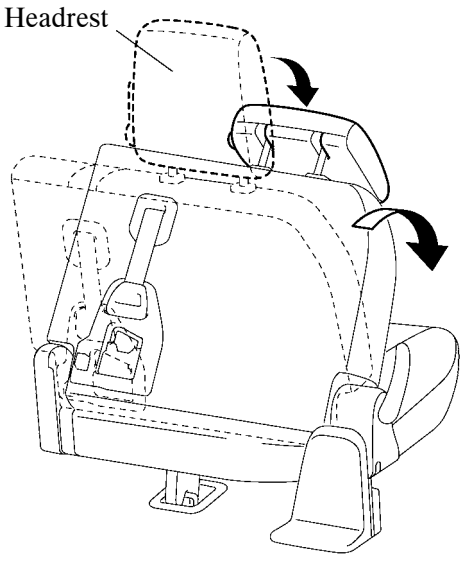
- The reclining adjuster hinge is provided with a rotary damper, enabling a moderate folding operation of the seatback. The one-way construction used in the rotary damper frees the seatback from the effects of the rotary damper while the seatback is being placed upright.



08GBO002I

Seatback Folding Operation

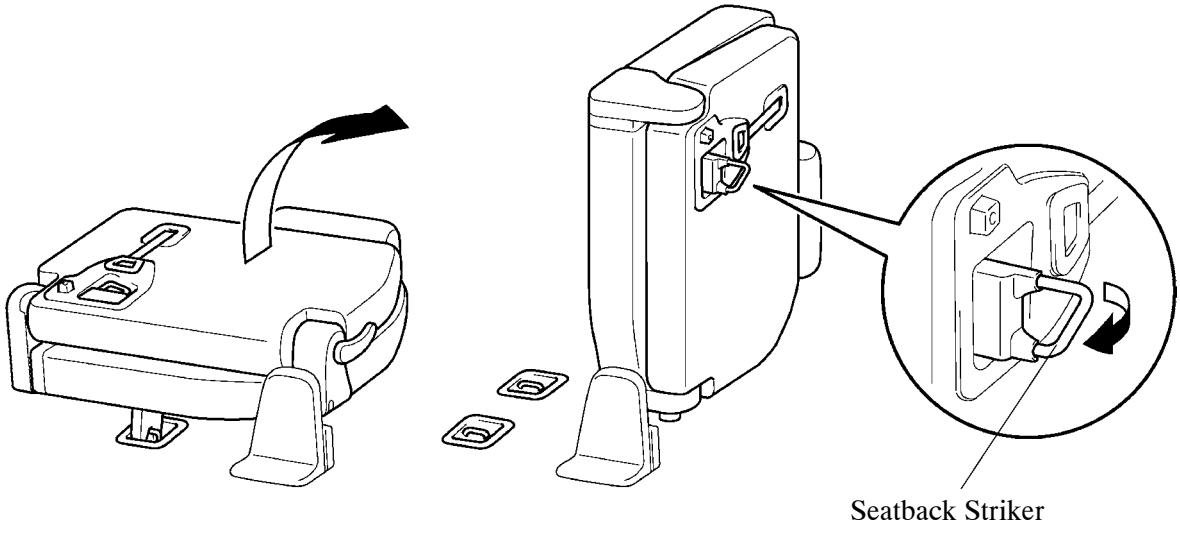
- Both outer headrests fold automatically in conjunction with the forward folding movement of the seatback.



08GBO003Y

Headrest Folding Operation

- The seatback striker rises automatically in conjunction with the folding-up operation.



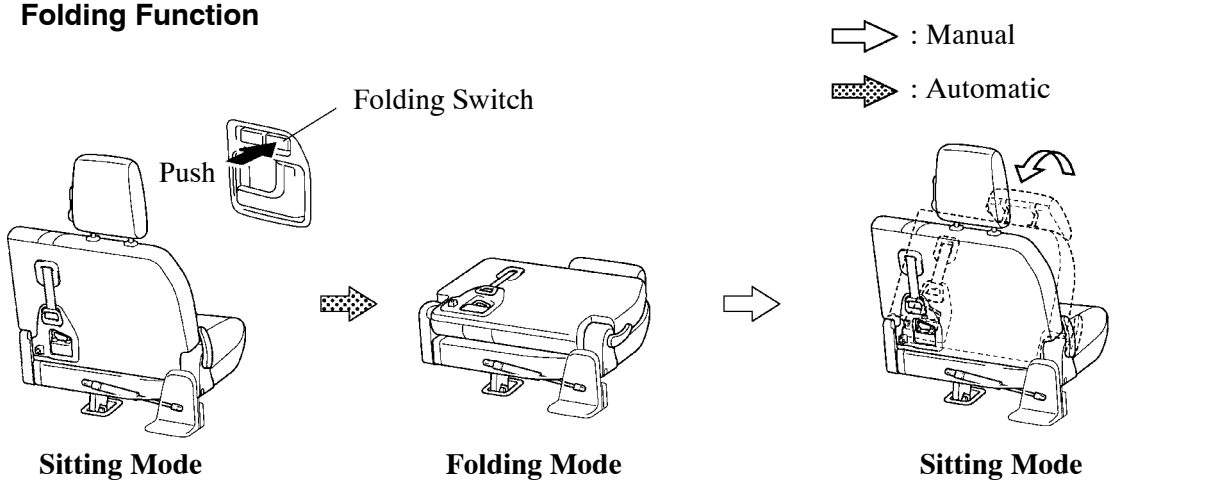
08FBO015Y

Seatback Striker Rising Operation

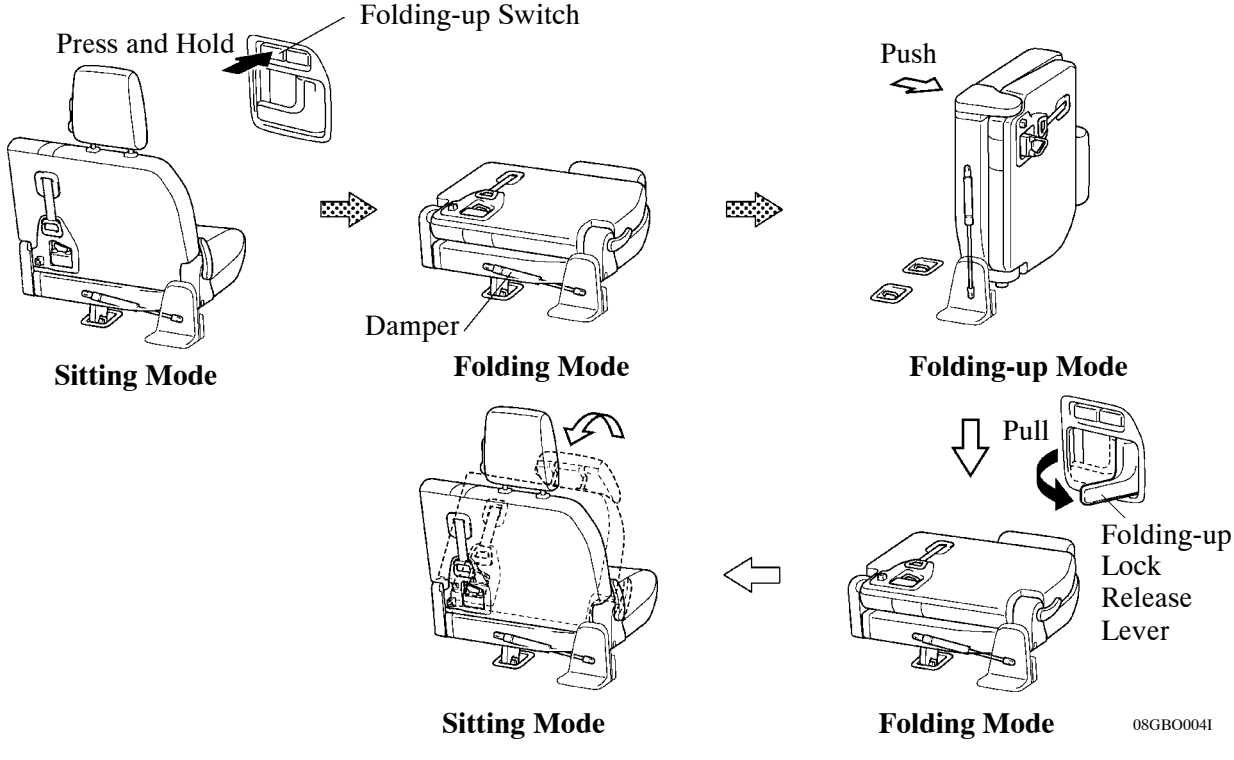
▶ Manual Folding-up Function ◀

- When the seat is in the sitting mode, pressing the folding switch will cause the seatback to fold forward automatically. Thus, the seat transfers to the folding mode.
- To return the seat from the folding mode to the sitting mode, the seat must be pulled up manually.
- When the seat is in the sitting mode, pressing and holding the folding-up switch causes the seat to move on to the folding mode. Then, the force of the damper transfers the seat automatically to the folding-up mode (then, the seat must be locked manually to the body).
- To return the seat from the folding-up mode to the sitting mode, the folding-up lock release lever must be pulled, allowing the seat to automatically assume the folding mode. Then, the seat must be pulled up manually.

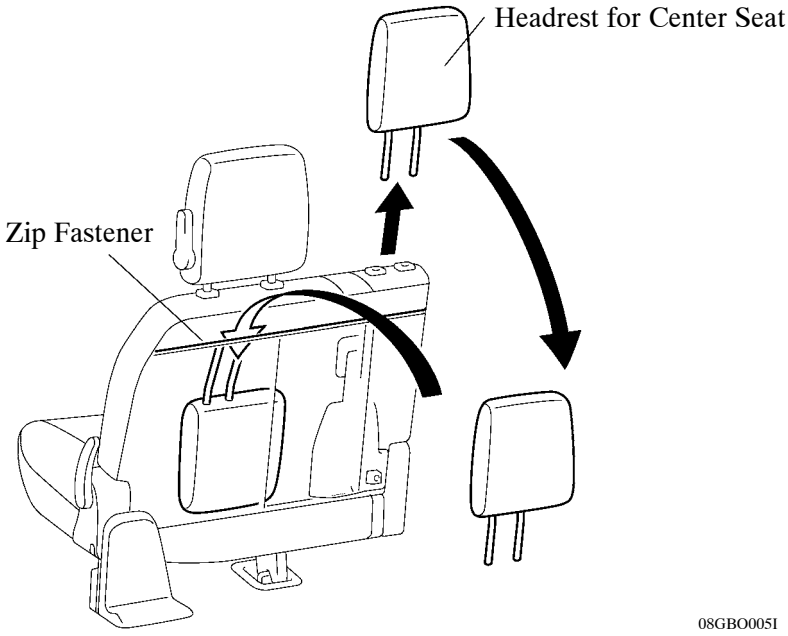
Folding Function



Folding-up Function



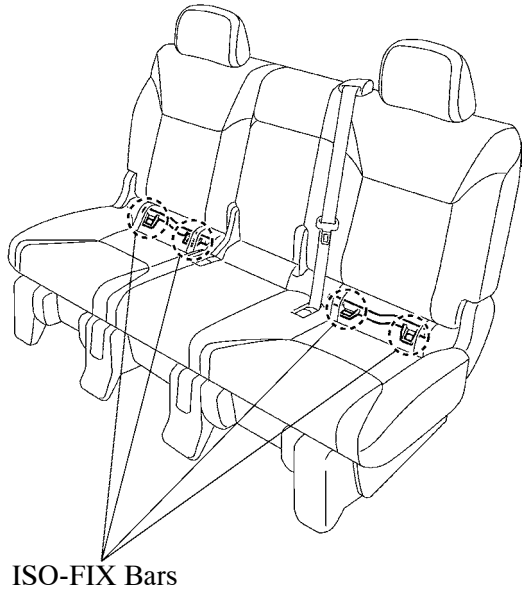
- When the headrest for the center seat is not being used, it can be stored inside the seatback to ensure excellent rear visibility.



Headrest Storage Structure

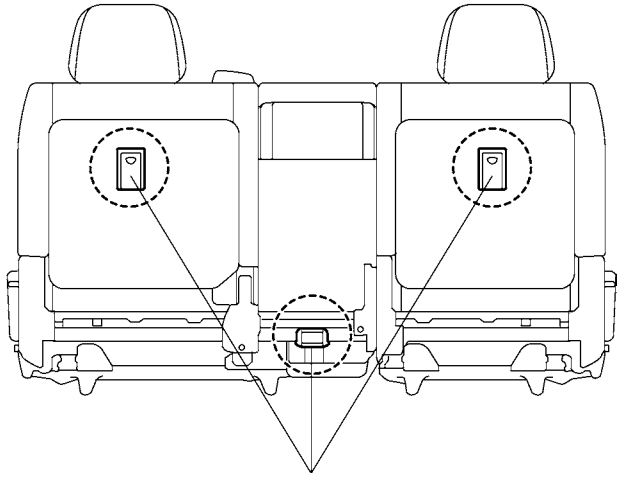
■CHILD RESTRAINT SYSTEM

ISO-FIX bars for securing child seats are provided behind the seat cushion of the rear No. 1 seat. Three CRS anchor brackets for securing a child seat are provided on the seatback.



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ISO-FIX Bars



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CRS Anchor Brackets

■SEAT BELT

1. General

The following types of seat belts are provided.

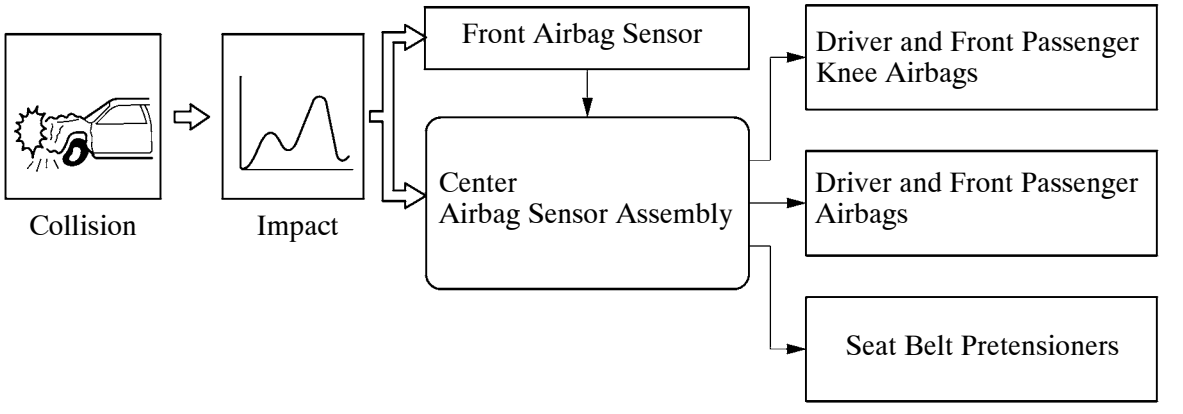
Seat Position	Seat Belt Type	Remarks
Front Seat (Driver & Front Passenger)	3-point ELR*1	Electrical Sensing Type Pretensioner, Force Limiter and Tension Reducer
		Pre-collision Seat Belt (Option)
Rear No. 1 Seat	3-point ELR*1 & ALR*2	Electrical Sensing Type Pretensioner*3
Rear No. 2 Seat	3-point ELR*1	—
	3-point ELR*1 & ALR*2, 4	—

*1: Emergency Locking Retractor
*2: Automatic Locking Retractor
*3: Seats other than rear center seat
*4: Only for Australia Models

2. Pretensioner and Force Limiter

In accordance with the ignition signal from the center airbags sensor assembly, the seat belt pretensioner is activated simultaneously with the deployment of the SRS airbags for the driver and front passenger.
In the beginning of the collision if the tension of the seat belt applied to the occupant reaches a predetermined level, the force limiter is activated to control the force.

▶ Front Airbag Operation ◀

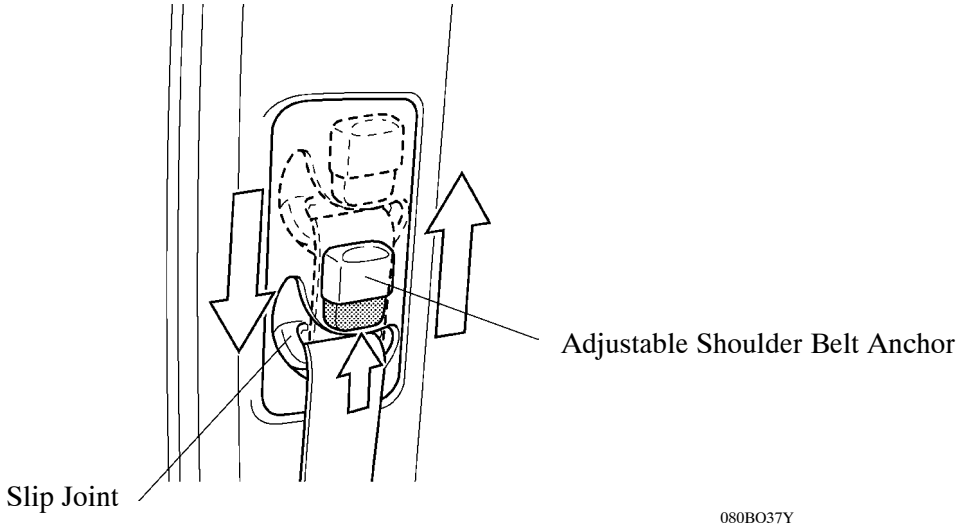


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3. Shoulder Belt Anchor

A pillar-built-in adjustable shoulder belt anchor has been provided on the front seat belts and rear No. 1 outside seat belt to enhance safety and improve appearances.



4. Rear No. 2 Seat Belt

A 3-point seat belt is provided for the rear No. 2 center seat, with the slip joint and belt retraction box located on the ceiling, thus realizing an excellent appearance and the usability of the seat when the seat belt is not used.

