

BODY

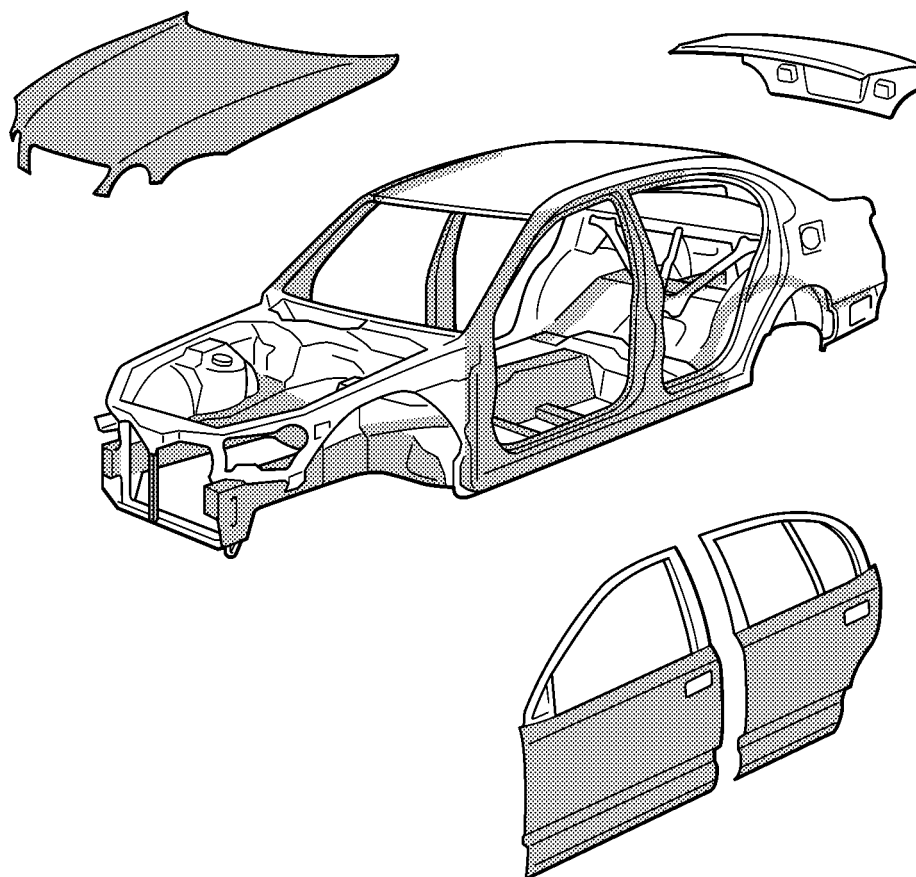
LIGHTWEIGHT AND HIGHLY RIGID BODY

The body of the GS300 has been made lightweight and highly rigid through the refinement of the shape and construction of each part, optimized allocation of reinforcements and members, and use of high strength sheet steel.

■ HIGH STRENGTH SHEET STEEL

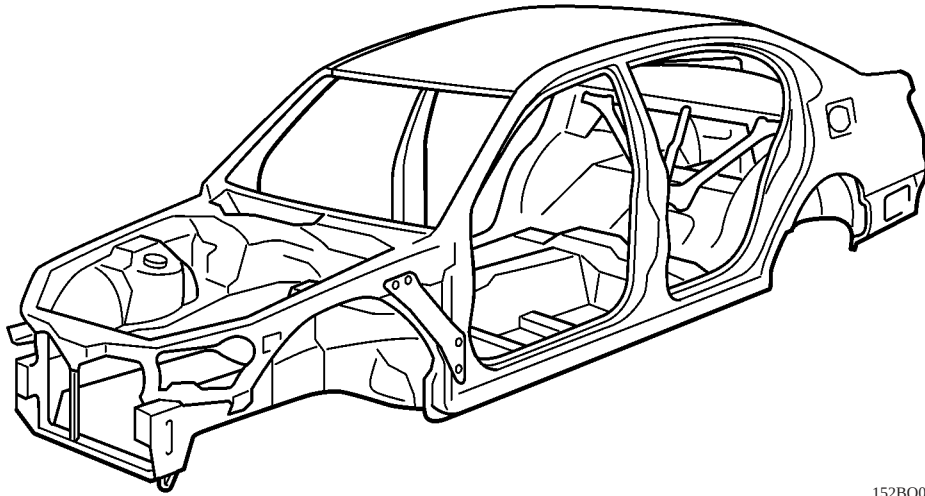
High strength sheet steel is used for the hood, door panels and members.

 : High Strength Sheet Steel



■ BODY SHELL

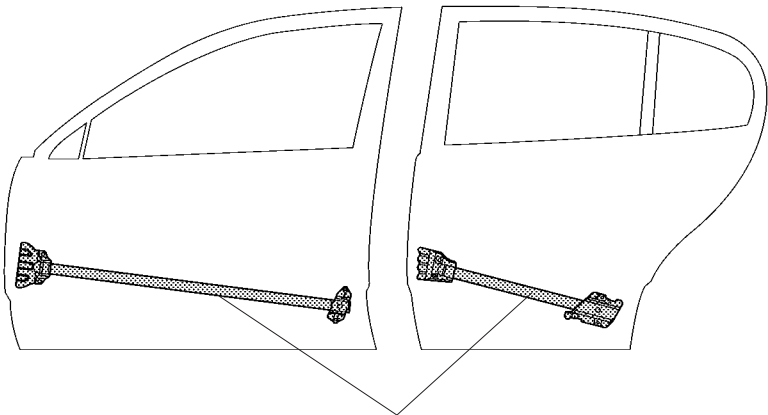
- The body of the new GS300 has been made highly rigid through the optimal allocation of materials and the revision of the joining construction of the pillars, reinforcements, members, etc., which helped realize excellent joint rigidity.



152BO02

■ DOORS

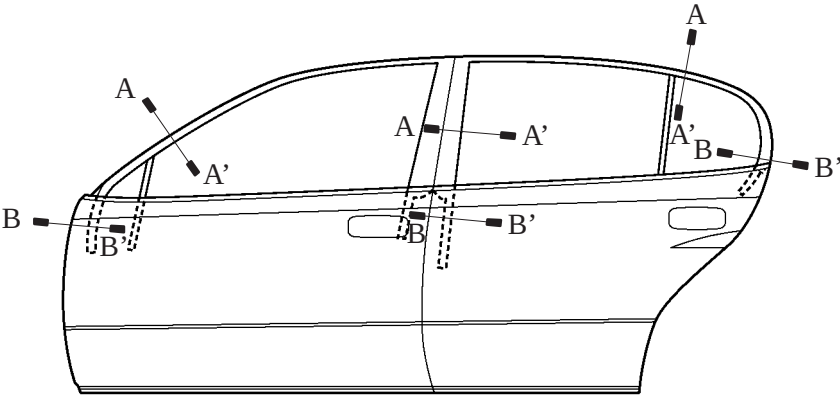
- A pipe type side impact protection beams are mounted at the bottom of the front and rear doors.



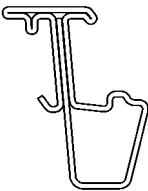
Side Impact Protection Beams

152BO04

- A variable door frame construction has been adopted, in which the cross section of the door frame is expanded gradually along the belt line.

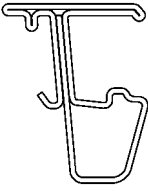


152BO05



152BO06

A – A' Cross Section



152BO07

B – B' Cross Section

■ IMPACT ABSORBING STRUCTURE

1. General

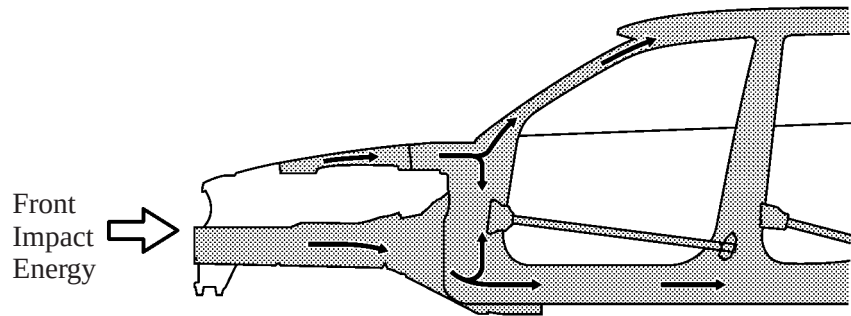
The impact absorbing structure of the new GS300 provides a body construction that can effectively absorb the energy of impact in the event of a front, rear, or side collision. Also, it realizes an excellent occupant protection performance through the use of reinforcements and members that help minimize cabin deformation.

2. Construction

Impact Absorbing Structure for Front/Rear Collision

In conjunction with the excellent impact absorbing structure for a front or rear collision, the underbody members, the reinforcements and members that surround the cabin have been optimally allocated. Accordingly, the underbody and cabin framework help absorb and dissipate the impact energy efficiently in case of a front or rear collision, thus realizing a body structure to minimize cabin deformation.

► Impact Absorbing Structure for Front Collision ◀



152BO08

Impact Absorbing Structure for Side Collision

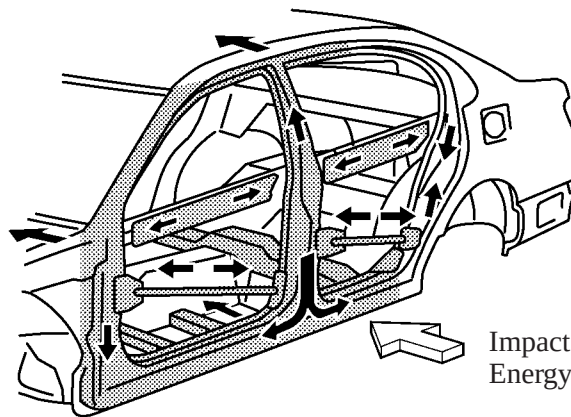
Impact energy of a side collision directed to the cabin area is dispersed throughout the body via pillar reinforcements, side impact protection beams, floor cross members, etc. This dispersion of energy keeps the energy directed to the cabin to a minimum level.

In addition, the body construction has been optimized by providing the center pillar reinforcement with a vertical two-split construction, enlarging the cross section of the roof side rail, and by using front floor cross members with higher rigidity.

And, in order to make the door energy absorbent, a closed cross section configuration is provided at the belt line area of the front and rear doors and side impact protection beams are optimally allocated.

Also, a Head Impact Protection Structure has been adopted. With this type of construction, if the occupant's head hits against the roof side rail and pillar in reaction to a collision, the inner ribs of the roof side rail and aluminum pipe of front pillar collapses to help reduce the impact.

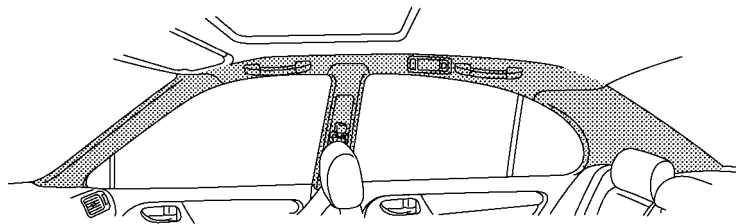
► Impact Absorbing Structure for Side Collision ◀



152BO09

► Head Impact Protection Structure ◀

 : Head Impact Protection Structure



152BO10

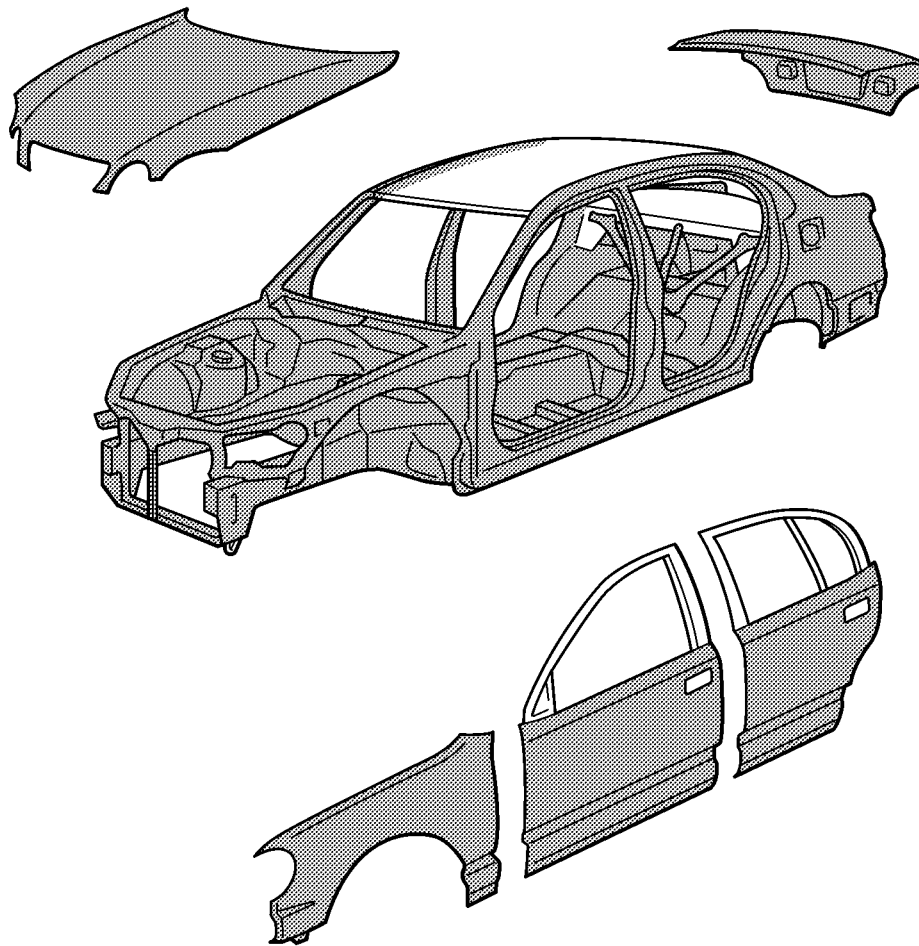
RUST-RESISTANT BODY

Rust-resistant performance is enhanced by extensive use of anti-corrosion sheet steel, applying the wax, sealer and under coat and adopting outside moulding and rocker panel moulding.

■ ANTI-CORROSION SHEET STEEL

Anti-corrosion sheet steel is used in all areas other than the roof and interior parts.

 : Anti-Corrosion Sheet Steel



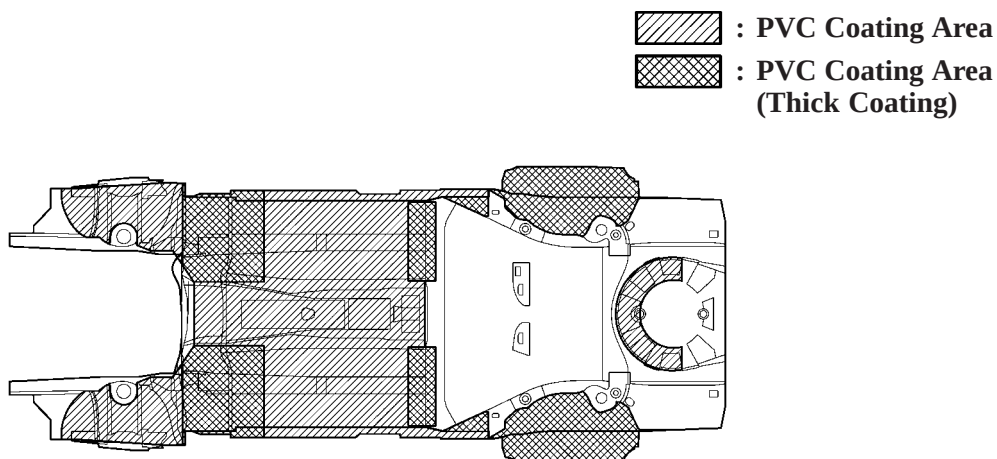
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■ WAX AND SEALER

Wax and sealer are applied to the hemmed portions of the hood, door panels and luggage compartment door to improve rust-resistant performance.

■ UNDER COAT

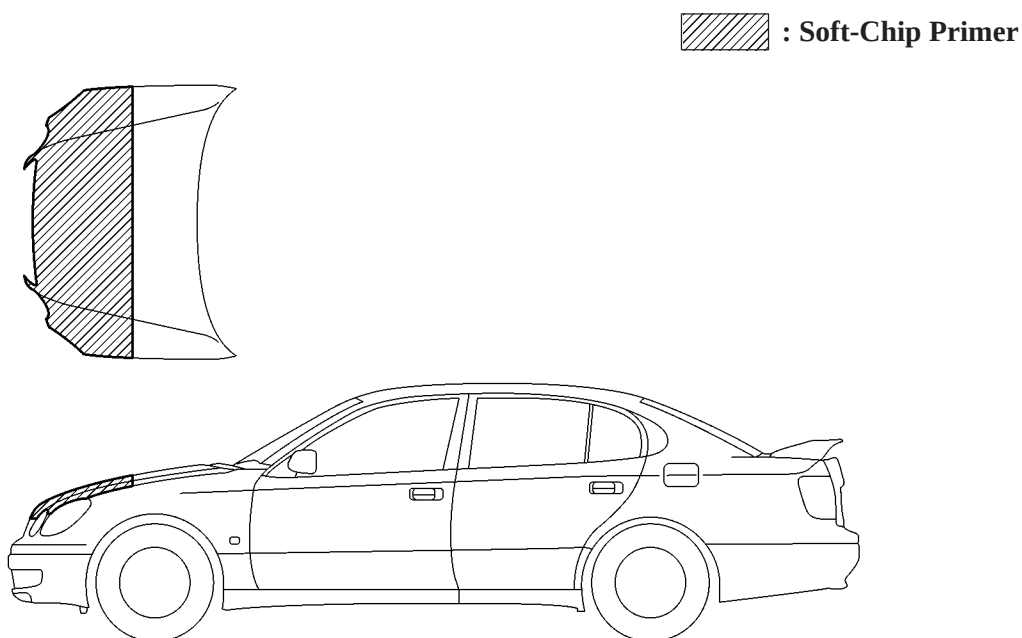
PVC (Polyvinyl Chloride) coating is applied to the under side of the body. A thick coating to improve rust resistant performance is applied to the bottom side of the fender apron and other parts which are subject to damage by flying stones, etc.



152BO12

■ ANTI-CHIPPING APPLICATION

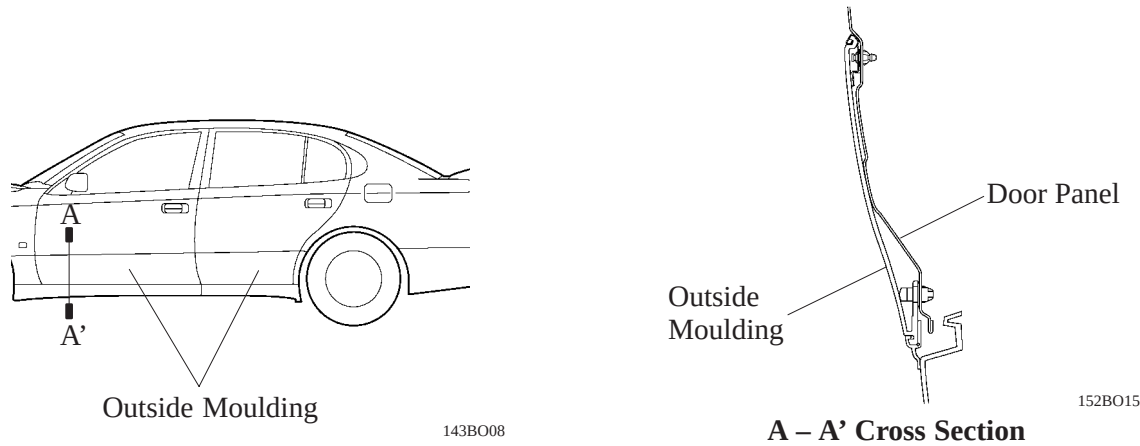
Soft-chip primer is applied to the hood.



143BO07

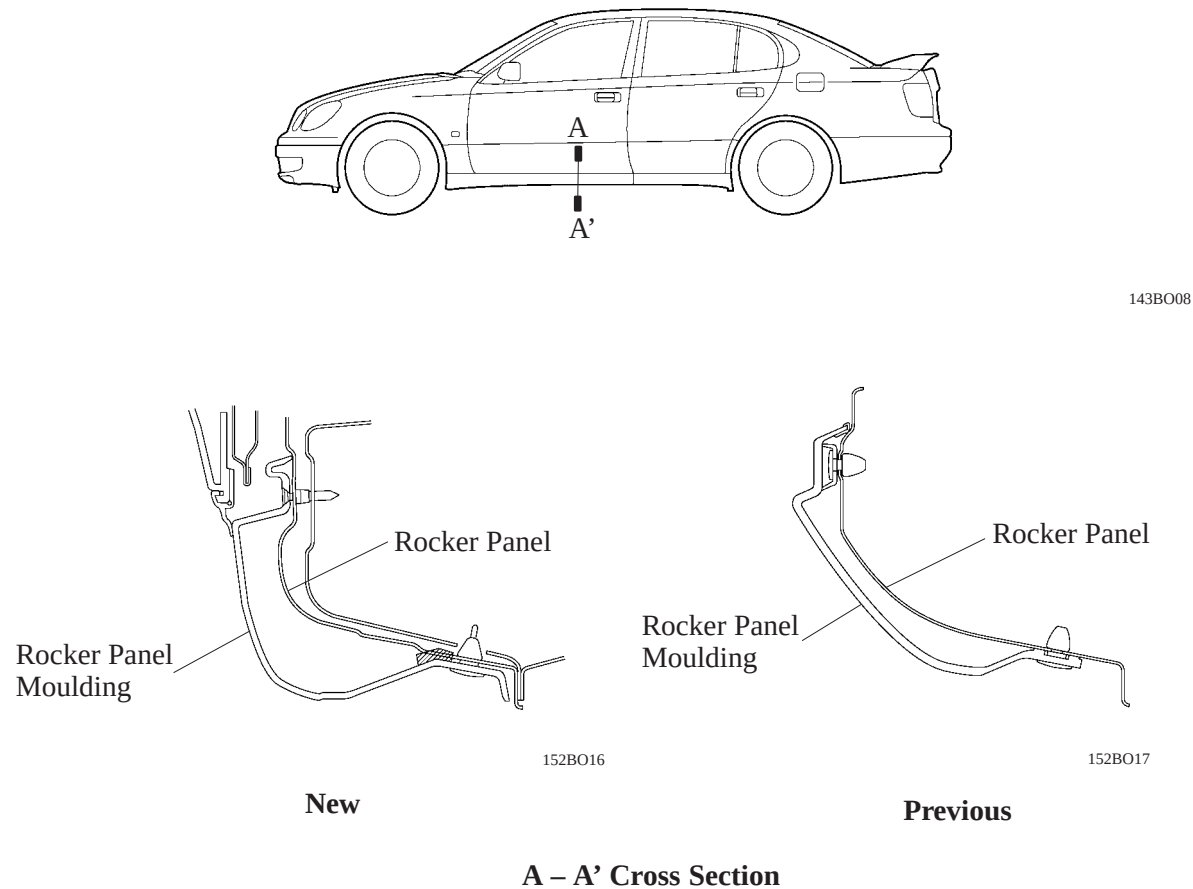
■ OUTSIDE MOULDING

Outside mouldings made of TSOP (The Super Olefin Polymer) have been provided to protect the bottom of the doors from chipping by flying stones.



■ ROCKER PANEL MOULDING

A rocker panel moulding has been provided to protect the rocker panels from chipping by flying stones. This moulding is a fore-aft integrated type that offers a seamless, attractive design.

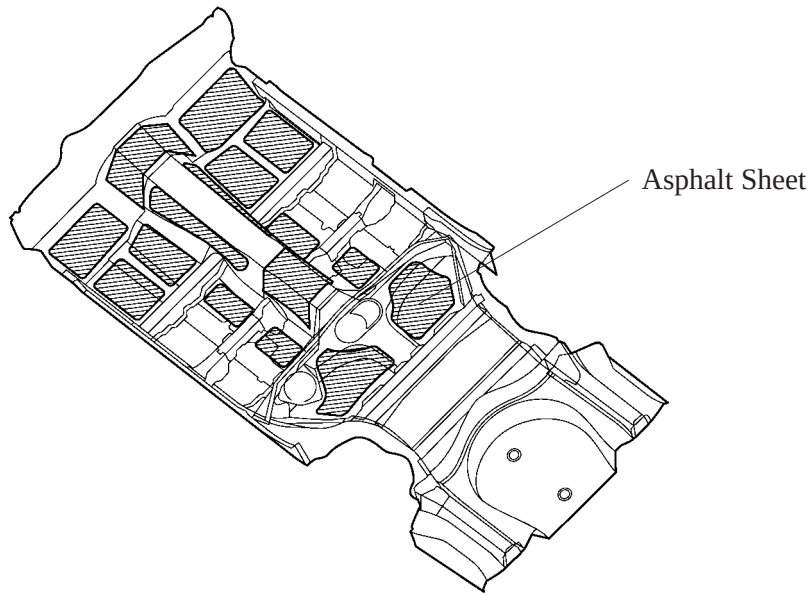


LOW VIBRATION, LOW NOISE BODY

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

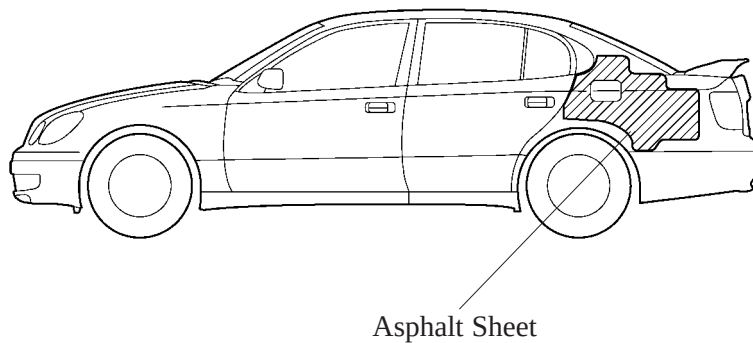
■ SOUND ABSORBING AND VIBRATION DAMPING MATERIALS

- The floor panel construction has been revised, the asphalt sheet material has been changed, and the allocation of the asphalt sheet has been optimized to reduce noise and vibration and to improve the vehicle's quietness. At the same time, the amount of asphalt sheet that is used has been reduced.



152BO18

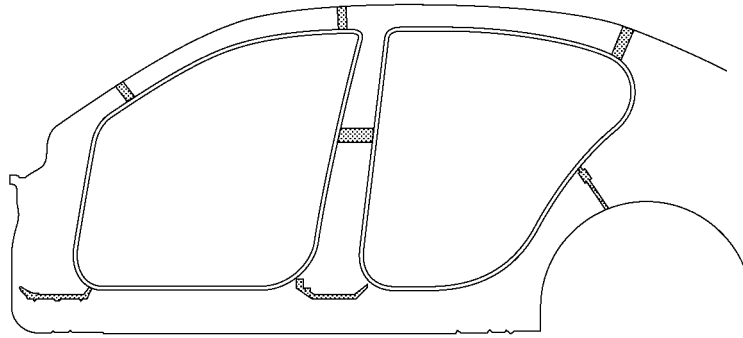
- Asphalt sheet is affixed to the quarter panel to reduce the droning noise during driving.



152BO19

- Foamed material is provided inside the pillar and the roof rail and resin formed hollow foamed material is provided at the bottom of the pillars. As a result, the wind noise and the road noise that are transmitted to the rockers and the pillars have been reduced.

 : Foamed Material



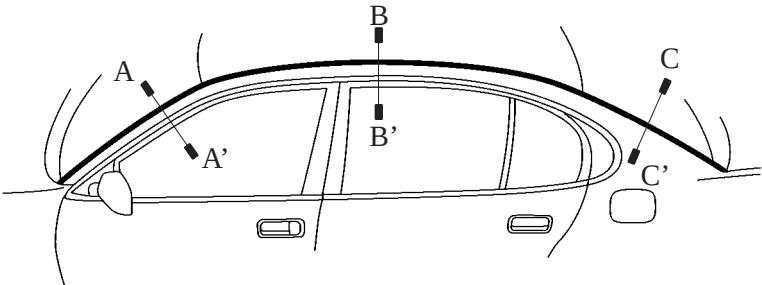
152BO20

■ ROOF MOULDING

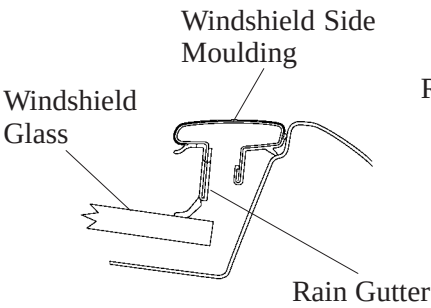
The new model has adopted a roof moulding in which the windshield side moulding and the back window side moulding are integrated.

This moulding ensures a smooth airflow from the windshield to the roof to reduce wind noise.

In addition, a rain gutter is provided along the side of the windshield to prevent the rainwater or the washer fluid on the windshield from flowing to the side window.

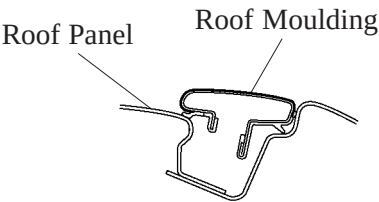


152BO21



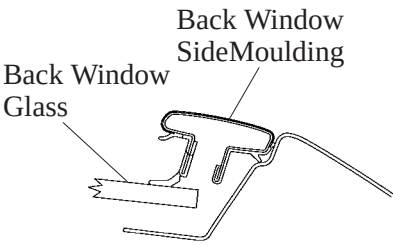
152BO22

A – A' Cross Section



152BO23

B – B' Cross Section



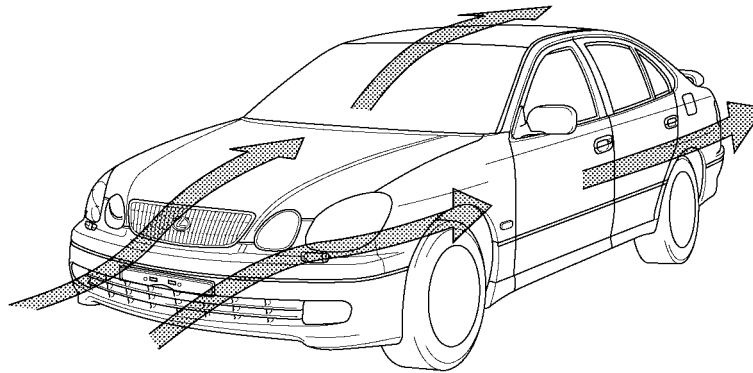
152BO24

C – C' Cross Section

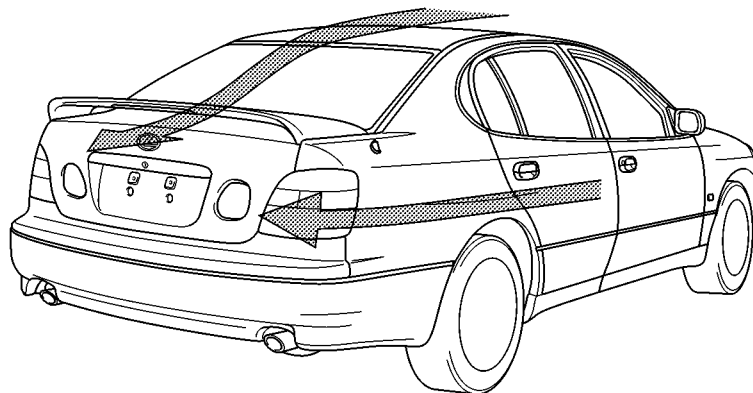
AERODYNAMICS

To improve aerodynamic performance, the following measures have been taken.

- ① A rain gutter that is integrated with the roof moulding has been adopted to ensure a smooth airflow from the front to the roof.
- ② The front edge of the hood and the area around the headlights offers a smooth shape with minimal level differences for smooth airflow characteristics.
- ③ The under shape of the front bumper collects the flow of air under the floor.
- ④ The shape of the door mirror has been improved to minimize the wind noise that is generated in the vicinity of the door mirror.
- ⑤ A back window moulding that is integrated with a fin-shaped roof moulding and a stepped quarter pillar construction restrains the airflow turbulence to ensure a smooth airflow along the side of the body.
- ⑥ The flattened underbody smoothly guides the under-the-car air flow towards the rear.



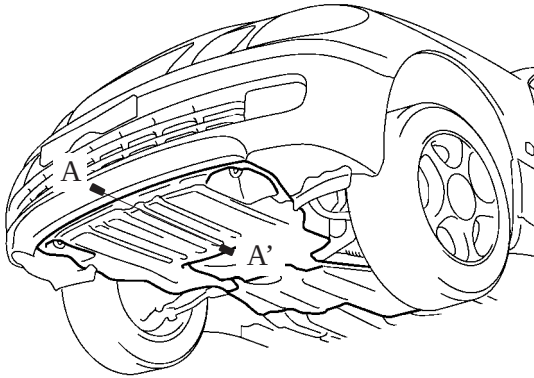
143BO01



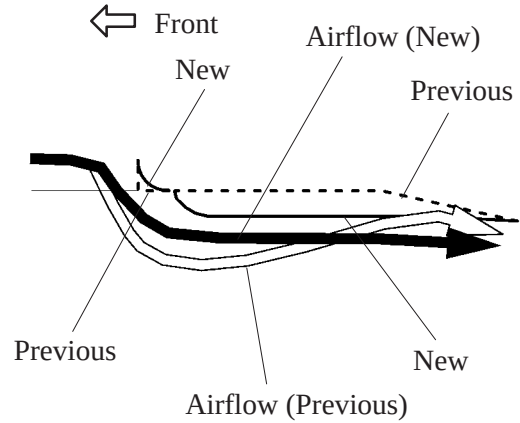
143BO02

■ ENGINE UNDER COVER

The bottom edge of the bumper and the front edge of the engine undercover have been rounded. As a result, the separation of the airflow at the front edge of the bumper has been restrained to reduce the air resistance. Furthermore, by ensuring the smooth airflow under the floor, the vehicle's fuel economy has been improved and a high level of high-speed straightline performance has been achieved.



143B003

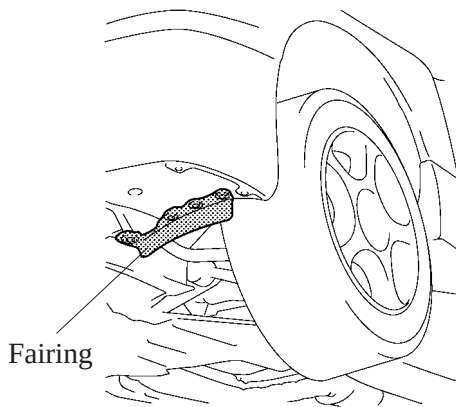


152B028

A – A' Cross Section

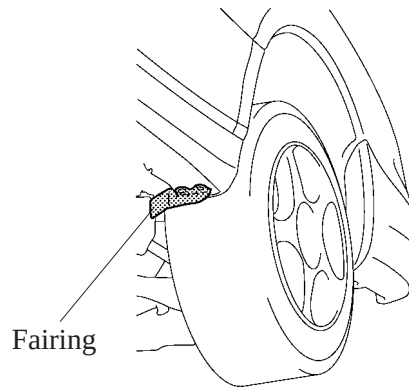
■ FAIRING

A fairing has been provided ahead of the front and rear tires to rectify the airflow around the tires in order to reduce air resistance and wind noise.



143B004

Front Tire

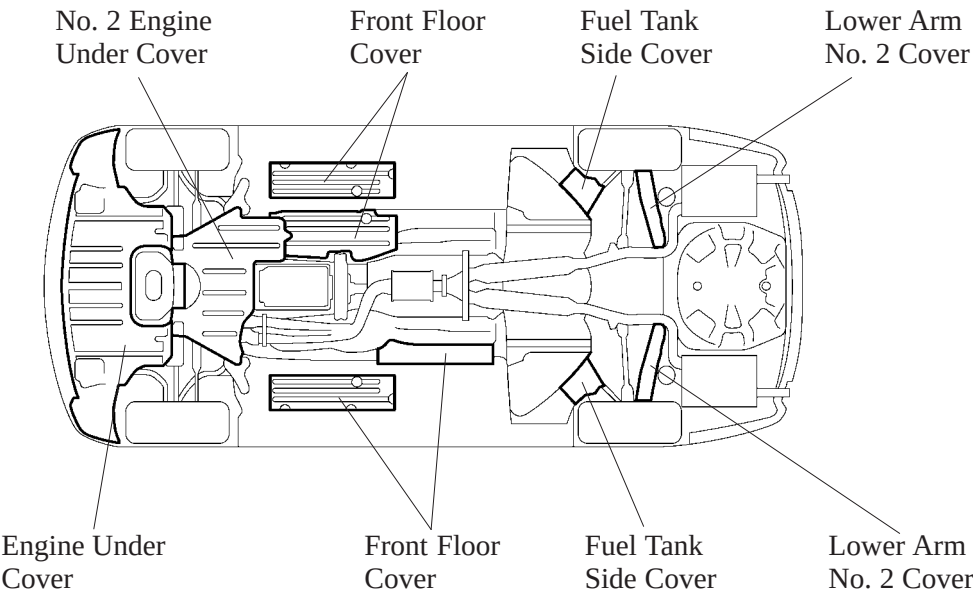


143B005

Rear Tire

■ UNDER-FLOOR AIRFLOW RECTIFIER ITEMS

The under-floor airflow rectifier items described in the following table are provided by destination. Together with the engine undercover and the fairings that are located ahead of the front and rear tires, the under-floor airflow rectifier items guide the airflow smoothly under the floor. As a result, the air resistance and the under-floor wind noise have been reduced, thus improving the comfort during high-speed driving.



143BO06

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Destination Item	Europe	Australia	G.C.C. Countries
No. 2 Engine Under Cover	○	—	○
Fuel Tank Side Cover	○	○	○
Front Floor Cover	○	—	○
Lower Arm No. 2 Cover	○	—	○

ENHANCEMENT OF PRODUCT APPEAL

■ SEAT BELT

1. General

- The front seats are provided with an electrical sensing type seat belt pretensioner and a seat belt force limiter.

In the beginning of a collision, the seat belt pretensioner instantly takes up the seat belt, thus providing the excellent belt's effectiveness in restraining the occupant.

When the impact of a collision causes the tension of the seat belt applied to the occupant to reach a predetermined level, the force limiter restrains the tension, thus controlling the force that is applied to the occupant's chest area.

- According to the ignition signal from the airbag sensor assembly, the seat belt pretensioner activates simultaneously with the deployment of SRS airbags for the driver and front passenger.

The basic construction and operation are the same as in the LS400.