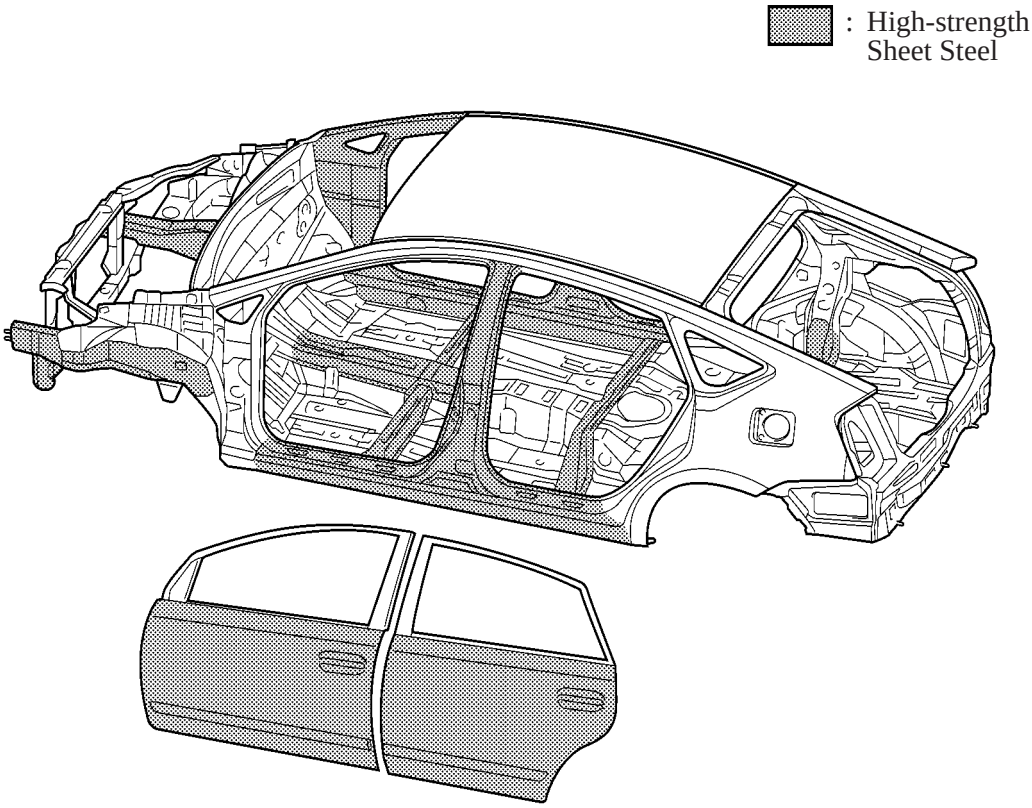
BODY

BODY STRUCTURE

■LIGHTWEIGHT AND HIGHLY RIGID BODY

1. High Strength Sheet Steel

The new Prius has high-strength sheet steel in order to realize excellent body rigidity and a lightweight body.

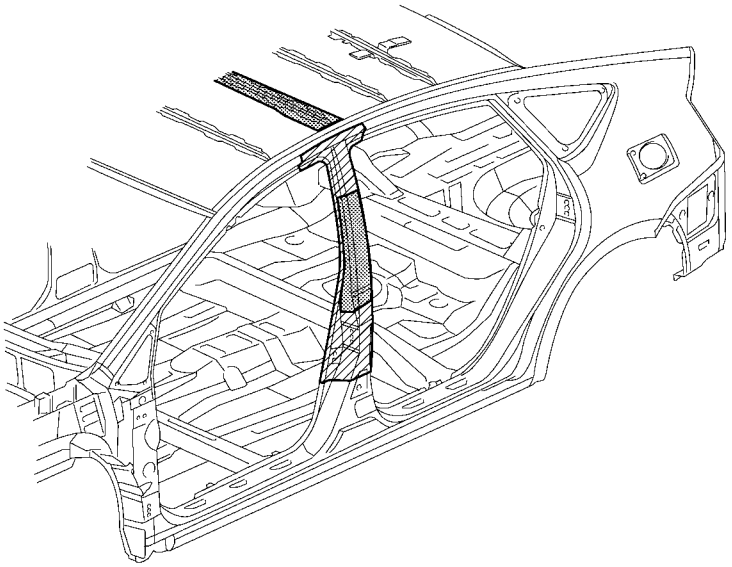


255BO01

- Ultra high-strength sheet steel and hot-stamp material have been adopted in the center pillar reinforcements and roof cross members in order to realize a lightweight body.
- Ultra high-strength sheet steel has approximately 1.6 times the strength of conventional high-strength sheet steel. Furthermore, the hot-stamp material is approximately 2.5 times stronger. Therefore, to provide the same strength of high-strength sheet steel, a weight reduction of approximately 40% can be realized with ultra high-strength sheet steel, and approximately 60% with the hot-stamp material.

: Ultra High-strength Sheet Steel

: Hot-stamp Material



255BO02

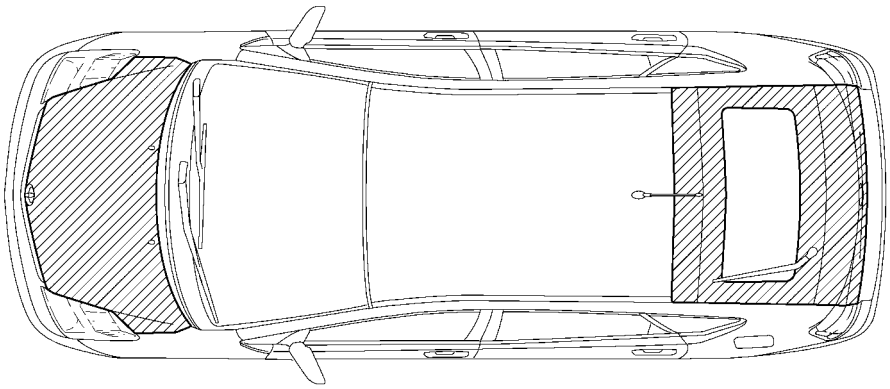
*— **REFERENCE** —*

Hot-stamp material: Heated high-strength sheet steel is stamped in a water-cooled stamping die and simultaneously quenched to achieve this high-strength sheet steel.

2. Engine Hood and Back Door

Aluminum has been adopted as the material for the engine hood and the back door panel. As a result, a weight reduction of 36% (3.2 kg, 7.0 lb.) has been realized with the engine hood, and 43% (6.0 kg, 13.2 lb.) with the back door, as compared to the same parts made of steel.

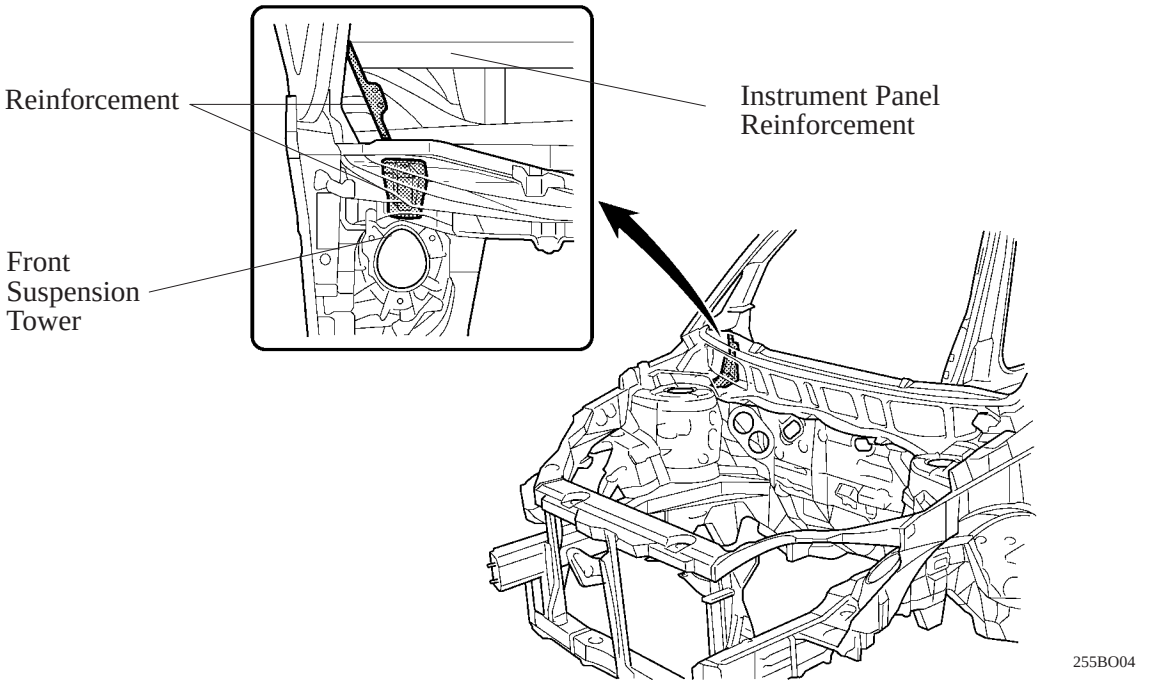
: aluminum



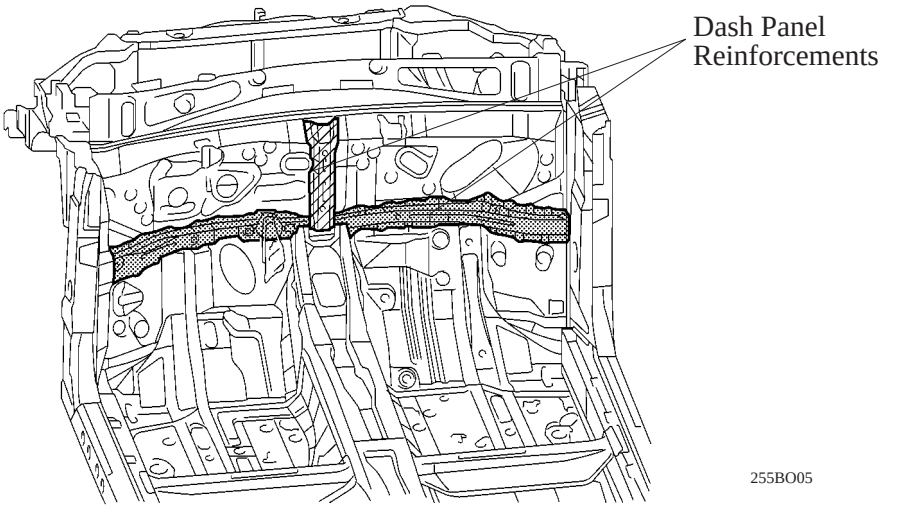
255BO03

3. Body Shell Construction

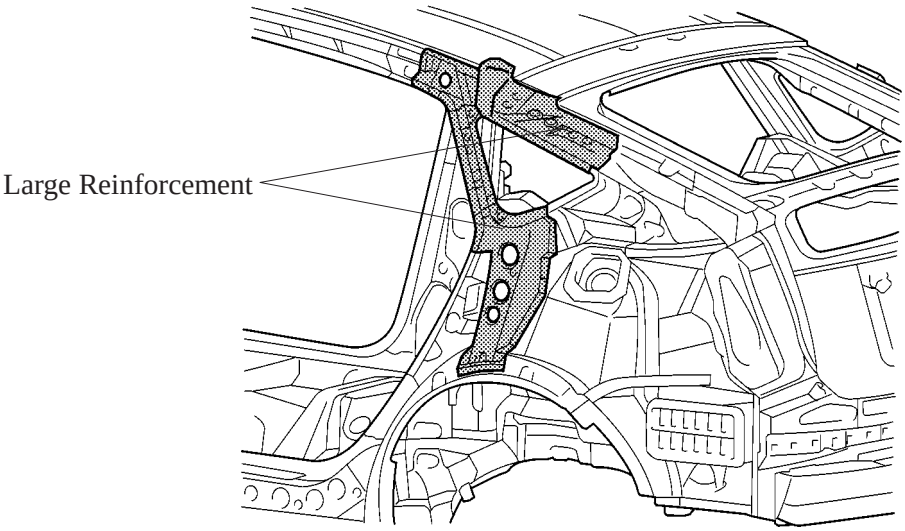
- The new Prius has realized excellent driving stability and a highly rigid body by optimizing the allocation of the frames and panels and their joining construction.
- To increase the rigidity around the cowl, reinforcements have been provided to join the front suspension tower and the instrument panel reinforcements, with the front cowl placed between them.



- The dash panel reinforcements join the cowl with the upper area of the floor tunnel, as well as the right and left front side members. This improves the rigidity of the cowl and restrains the vibration of the dash panel.

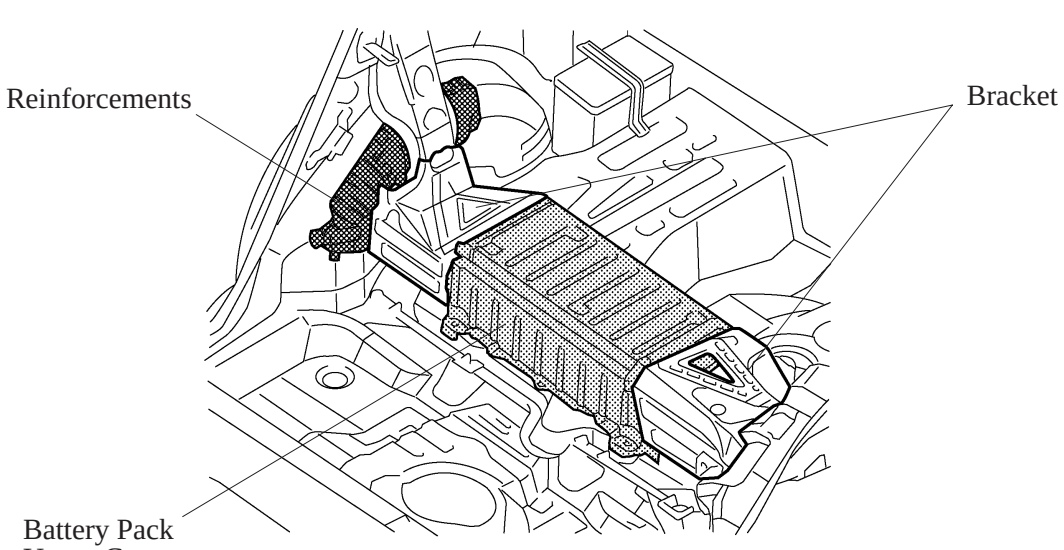


- Large reinforcements have been provided around the quarter window to achieve a construction that dissipates the force that is applied from the rear suspension tower, thus ensuring rigidity.



255BO06

- Reinforcements have been provided around the rear wheel house. In addition, brackets to join this area to the upper battery case have been adopted in order to improve the torsional rigidity of the vehicle. As a result, the excellent driving stability has been realized.



255BO07