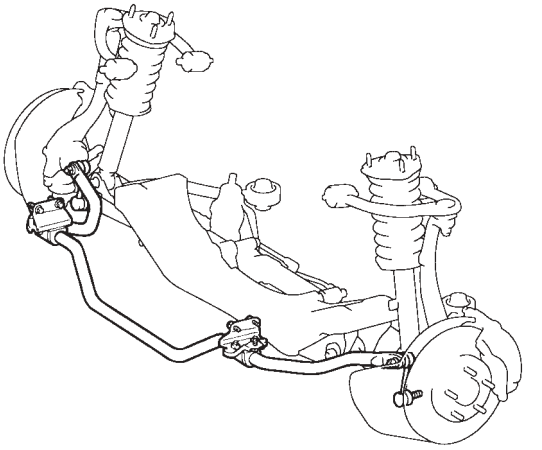
8. Stabilizer Bar

The stabilizer bar is made of a hollow bar, reducing the weight. A ball joint is used between the stabilizer link and the stabilizer bar, and between the stabilizer link and the lower arm. This helps reduce suspension friction and increase link rigidity. As a result, the ball joints perform effectively even for slight rolling and maintain stable roll feeling.

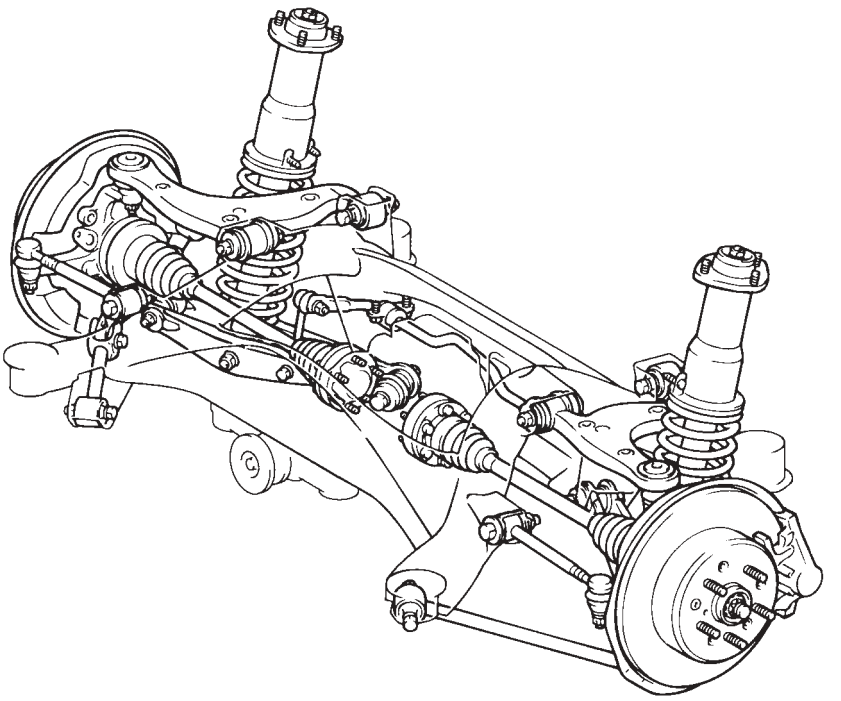


163CH73

■ REAR SUSPENSION

1. General

A double-wishbone type independent suspension has been adopted. It consists of coil springs that are located underneath, L-shaped upper arms, 2 non-parallel lower arms that are unequal in length, and toe control arms that determine the toe angle.
A larger luggage compartment has been achieved by locating the coil springs underneath.
By optimizing the location of the suspension arms, the roll center height has been finely tuned to minimize the vertical fluctuation of the vehicle's center-of-gravity height during cornering. As a result, excellent riding comfort and stability have been realized.

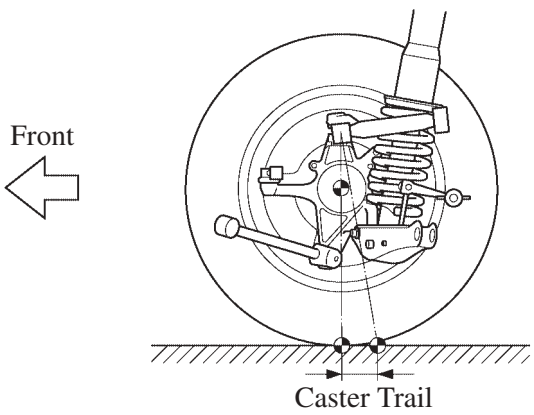


163CH66

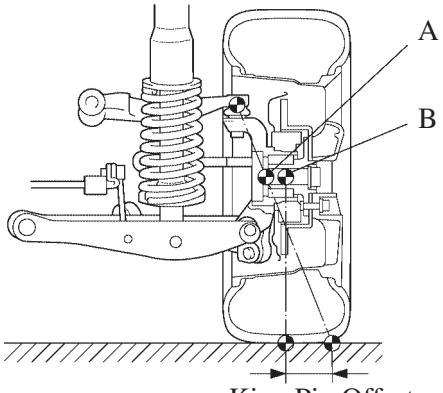
2. Virtual King Pin Axis

The upper arm and the 2 lower arms form a virtual kingpin axis, which provides the following characteristics:

- The caster trail has been brought to the negative side to achieve a toe-in tendency in relation to the lateral force that is applied to the tire-to-ground contact point.
- The king pin offset has been brought to the negative side to achieve a toe-in tendency during braking.
- The distance between points A and B illustrated below has been minimized in order to minimize the fluctuation of the toe angle that is associated with the changes in the drive force.



152CH49



152CH50

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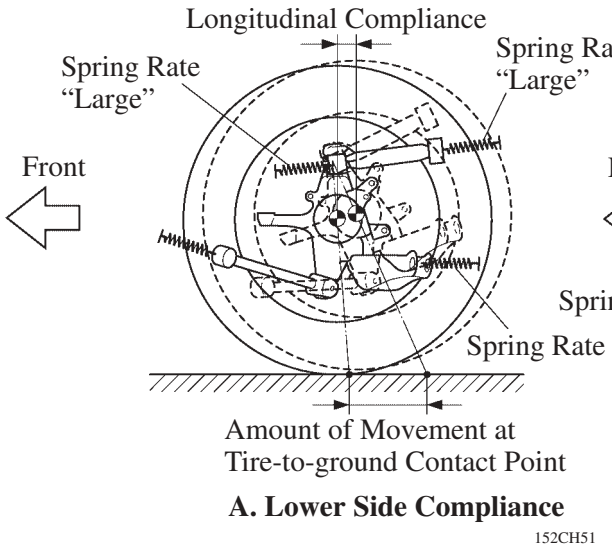
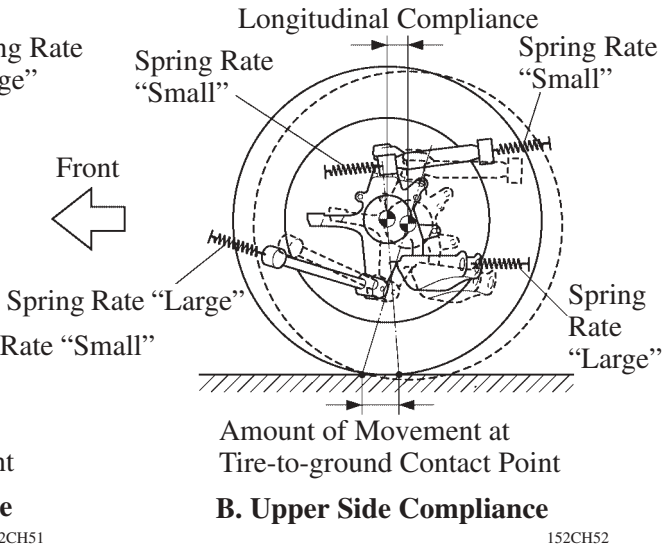
3. Longitudinal Compliance

When a resistance created by the bumps on the road is encountered, this suspension system relieves the wheels longitudinally to improve the riding comfort on rough roads.
The longitudinal compliance is the amount of movement of the axle center per given load. Increasing this amount generally results in a soft ride.
The methods for achieving longitudinal compliance are broadly divided into the following two types:
With the same amount of longitudinal compliance, the lower side compliance "A" results in a greater amount of movement of the tire-to-ground contact point than the upper side compliance "B". If this situation occurred during actual driving, it will cause the tire's rotational speed to fluctuate frequently and affect the riding comfort.
The IS200 has adopted the upper side compliance "B" to improve the vehicle's riding comfort on rough roads.



A. Lower Side Compliance

152CH51

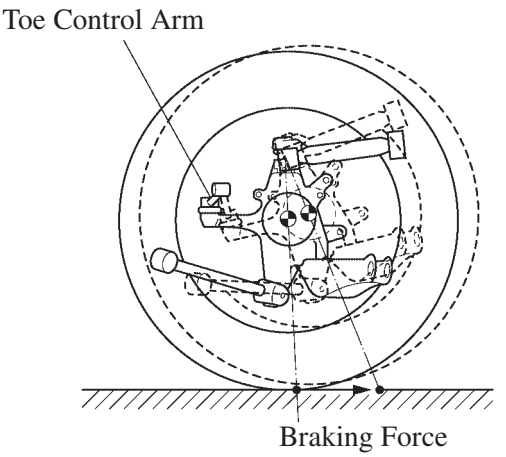


B. Upper Side Compliance

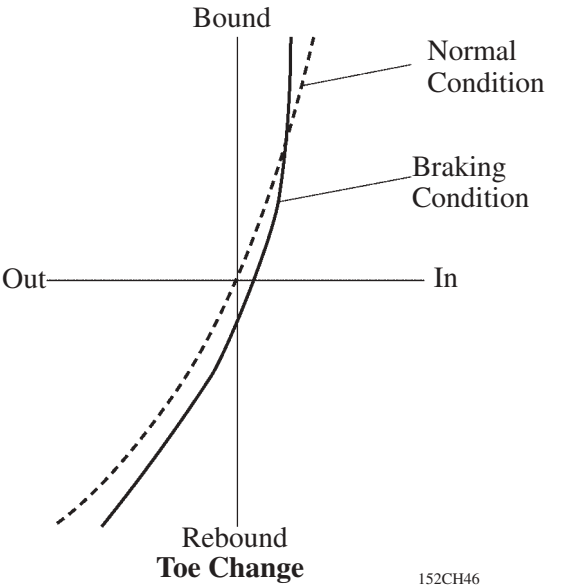
152CH52

4. Toe Change

During braking, a braking force that pulls the tire-to-ground contact point rearward is generated as illustrated below. This causes the rear axle carrier to rotate and changes the angle in which the toe control arms and the like are mounted. If the suspension is moved vertically in this state, the line graph of the change of the toe angle will differ from that of the normal operation.
Therefore, the suspension of the IS200 has increased the torsional rigidity in relation to the braking force to minimize the toe angle fluctuations during braking. As a result, excellent rear suspension stability has been realized when the brakes are applied during cornering.



152CH53

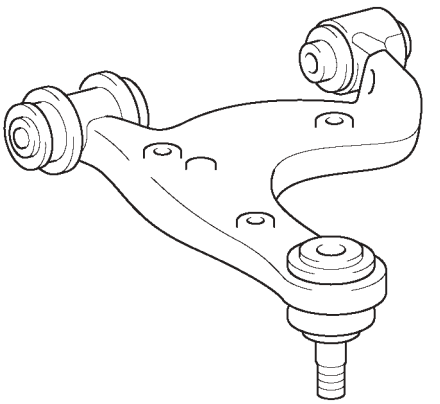


Toe Change

152CH46

5. Upper Arm

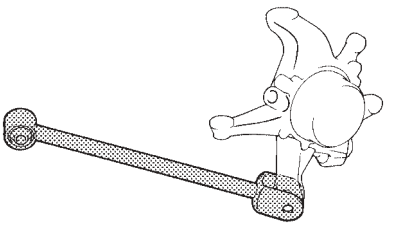
An L-shaped upper arm are made of stamped sheet steel.



163CH67

6. No.1 Lower Arm

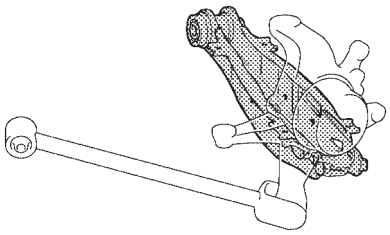
The No.1 lower arm is made of hollow bar to reduce the weight and to realize excellent rigidity.



152CH55

7. No.2 Lower Arm

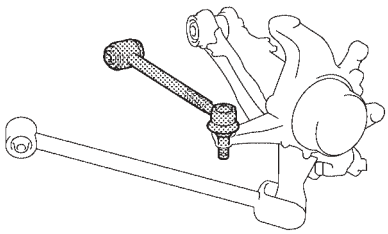
The No.2 lower arm is made of pressed sheet steel to reduce the weight and to realize excellent rigidity.



152CH56

8. Toe Control Arm

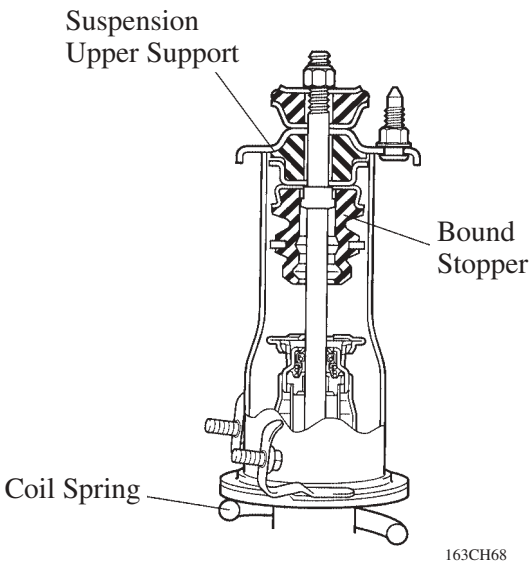
The toe control arm is made of hollow bar to reduce the weight and to realize excellent rigidity.



152CH57

9. Suspension Upper Support

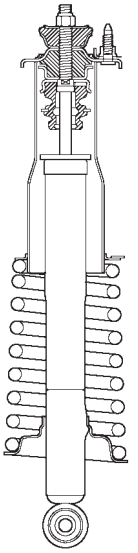
As in the front suspension, the suspension upper support separately bears force from the shock absorber and the coil spring, thus uprating riding comfort and reducing noise and vibration.



163CH68

10. Coil Spring and Shock Absorber

No matter how precisely the coil spring is constructed, a lateral force is created in the coil spring due to the contraction and the elongation of the spring, which differs from the vertical force for which the coil spring was originally intended.
When the lateral force is great, it prevents the smooth travel of the shock absorber and affects the riding comfort. As illustrated below, the amount of bending moment that is applied to the shock absorber varies according to the position of the spring seat.
On the IS200, to reduce the amount of bending moment that is applied to the shock absorber, the spring seat has been located at the bottom. As a result, the smooth travel of the shock absorber has been realized.



152CH47