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REAR SUSPENSION

REAR SUSPENSION (MULTI-LINK TYPE)

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1. Rear Suspension (Multi-link Type)

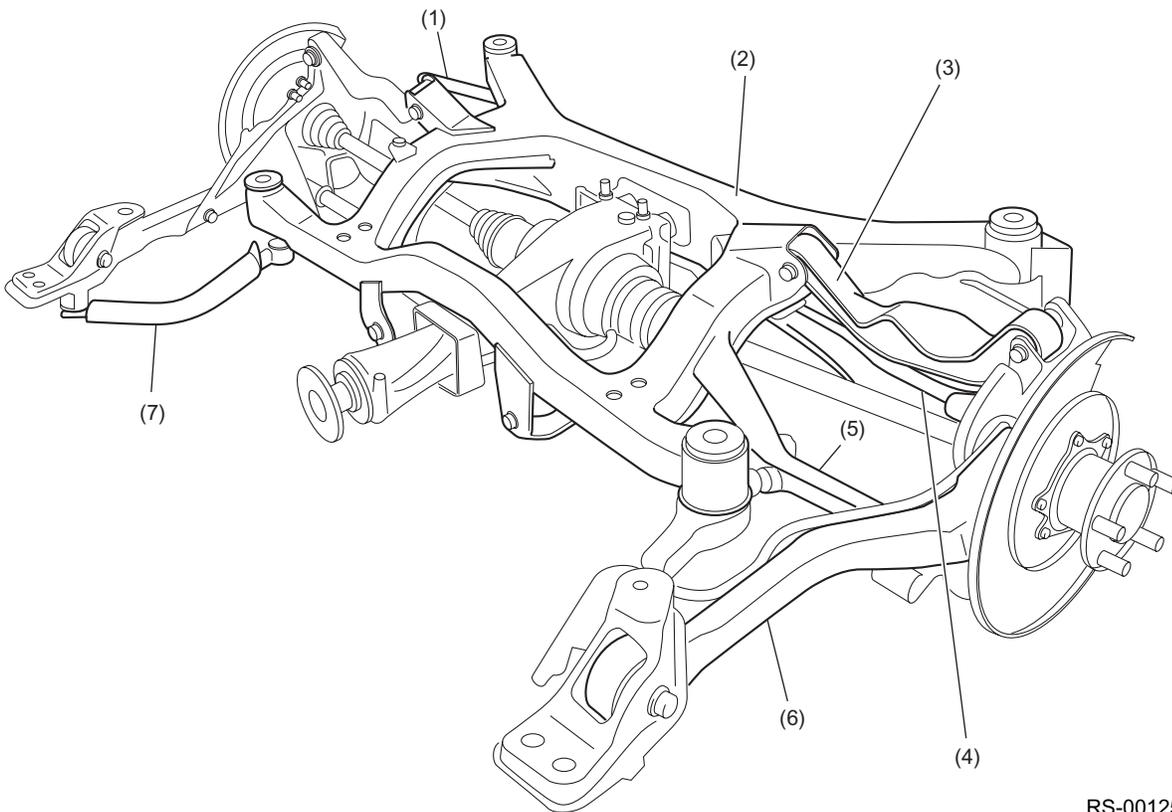
A: GENERAL

The rear suspension is a multilink type.

The suspension on each side consists of a rear arm, front link, upper link, rear link, sub frame support arm, shock absorber, and a coil spring.

The front link, rear link, and upper link are all attached to a sub frame which in turn is installed to the vehicle body through bushings.

This type of suspension is characterized by small changes in camber and toe-in against external input of vertical, longitudinal and lateral forces.



RS-00125

- (1) Rear stabilizer
- (2) Rear sub frame
- (3) Upper link
- (4) Rear link
- (5) Front link
- (6) Rear arm
- (7) Sub frame support arm

B: CONSTRUCTION

1. REAR ARM

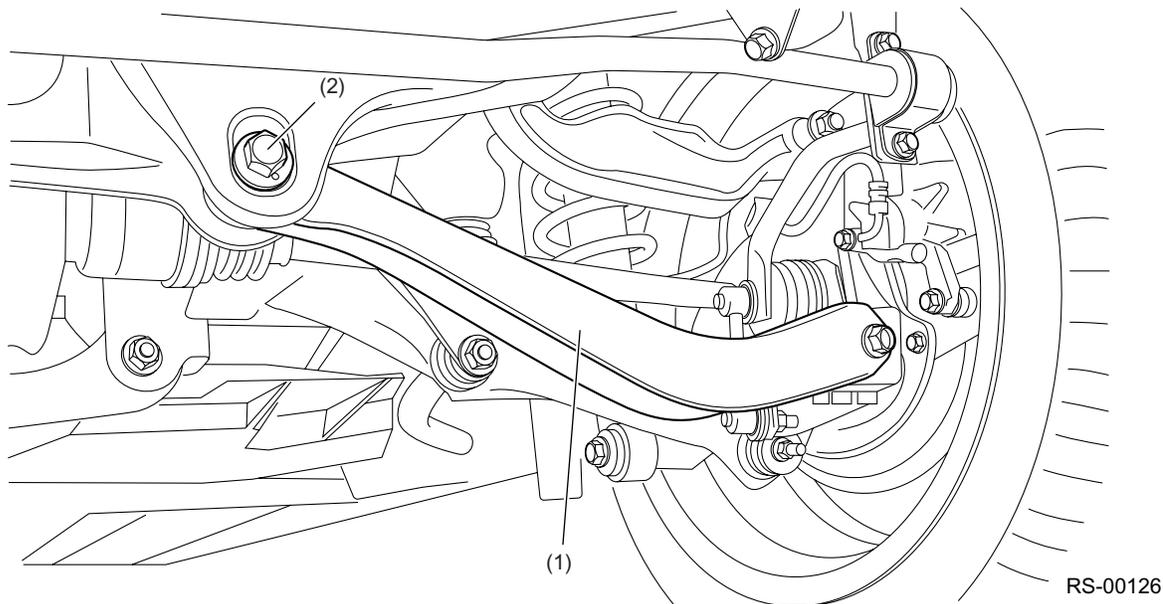
- Acts mainly on longitudinal loads.
- The rear arm bears the rear brake system and rear axle bearing unit.

2. FRONT LINK

- Acts on lateral loads.
- The link is made of steel pressed in a “U” section form, and the left and right ends of the link are connected to the rear sub frame and rear arm through rubber bushings.

3. REAR LINK

- Acts on lateral loads.
- The link is made of steel pressed in a “U” section form, and the link is connected to the rear sub frame and rear arm.
- A toe-in adjustment mechanism, which uses eccentric bolts, is provided at the joint between the rear link and rear sub frame.



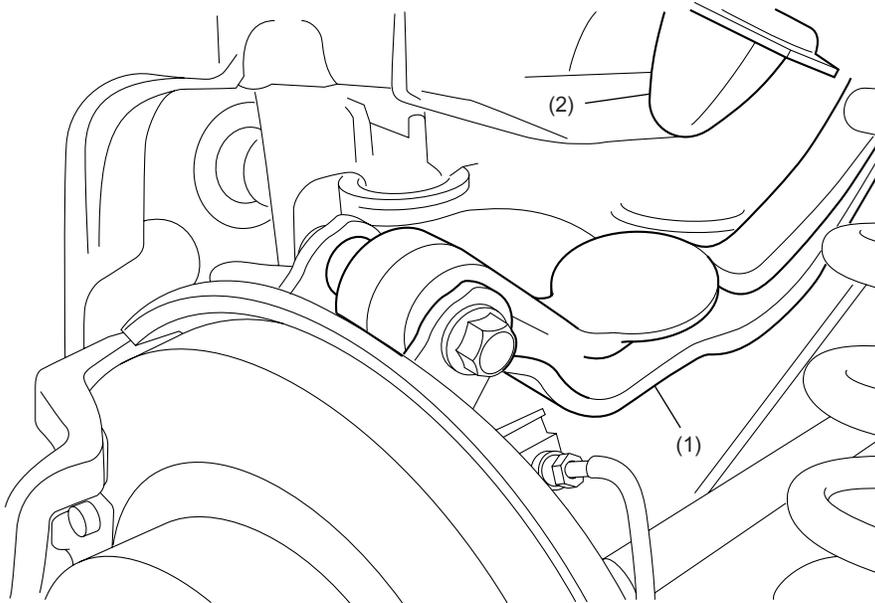
- (1) Rear link
- (2) Eccentric bolt

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4. UPPER LINK

- Acts on lateral loads.
- The left and right ends of the link are connected to the rear sub frame and rear arm through rubber bushings.
- This also supports the helper and prevents bottoming of the suspension.



RS-00127

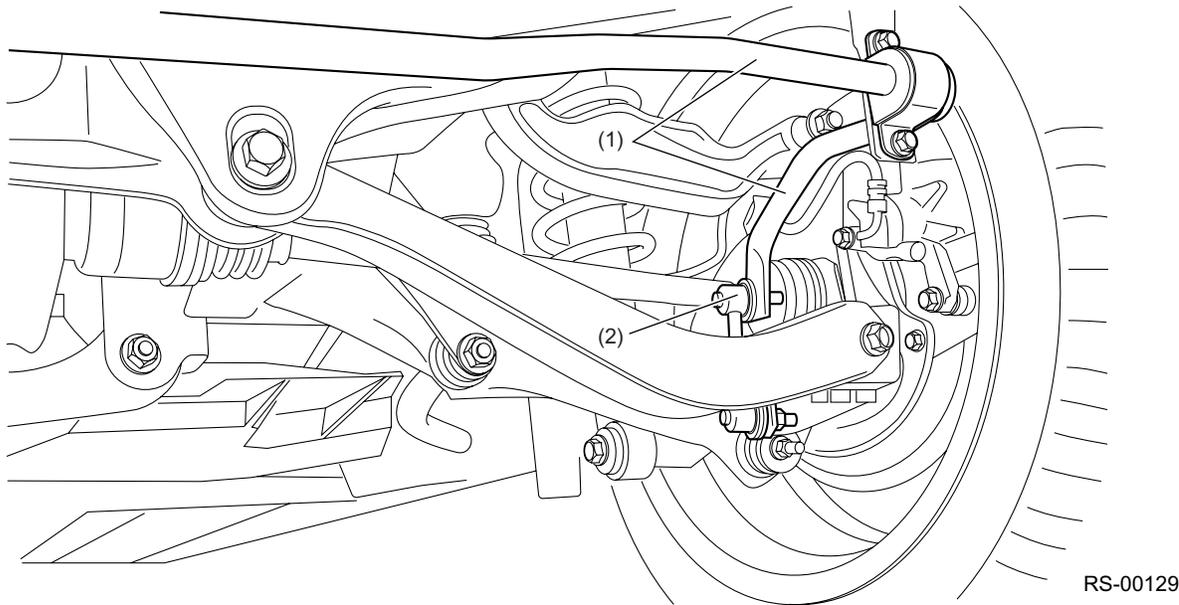
- (1) Upper link
- (2) Helper

5. SHOCK ABSORBER

- Acts on vertical loads together with the coil spring.
- The shock absorber is a cylindrical double-acting low pressure gas filled type and it attenuates shock from the road surface.

6. STABILIZER

- The solid round rod stabilizer is attached to the rear sub frame through rubber bushings and its right and left ends are connected to the rear arm through ball joints of the stabilizer link.
- The attitude change of the vehicle during a turn is controlled by the bar's torsional resistance.



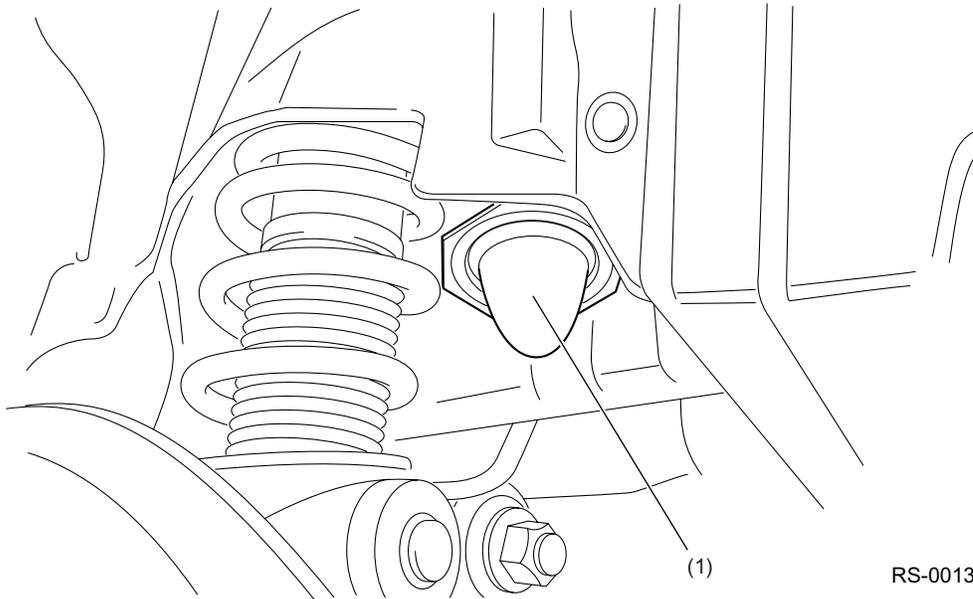
- (1) Stabilizer bar
- (2) Stabilizer link

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7. HELPER

- The helper acts as a bump stopper together with the upper link by limiting the shock absorber stroke when the vehicle encounters a bump.



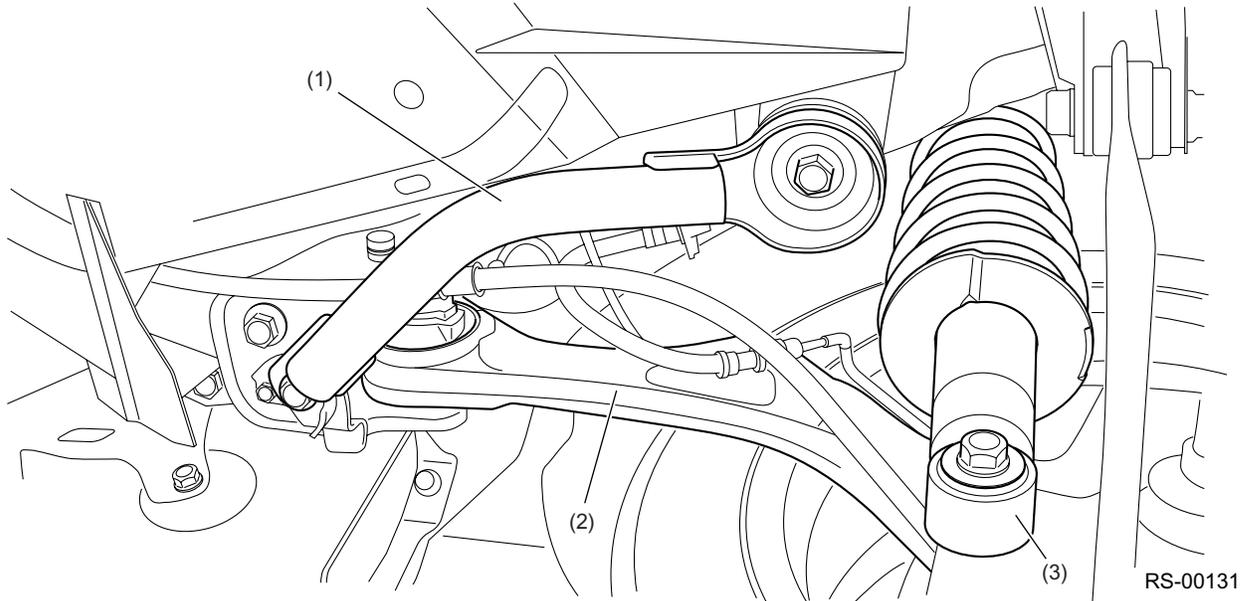
RS-00130

(1) Helper

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8. SUB FRAME SUPPORT ARM

- Made of steel pipe whose both ends fixed to the rear arm bracket and rear sub frame.
- Restricts the twist between the rear sub frame and vehicle body.



- (1) Sub frame support arm
- (2) Rear arm
- (3) Rear shock absorber

REAR SUSPENSION (DOUBLE WISHBONE TYPE)

REAR SUSPENSION

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2. Rear Suspension (Double Wishbone Type)

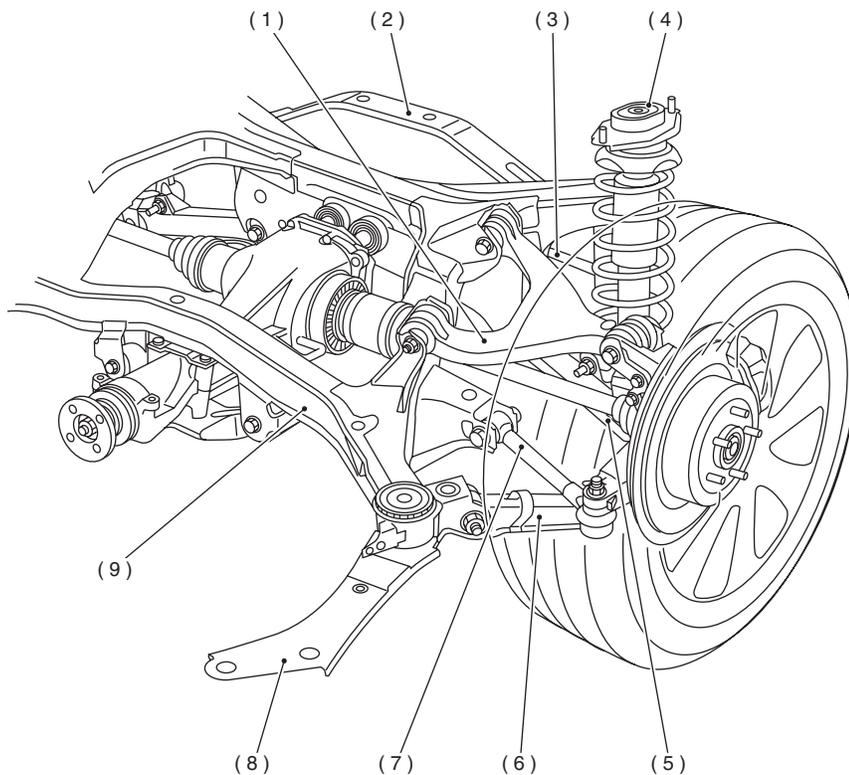
A: GENERAL

A new, double wishbone type suspension has been developed as the rear suspension for this 7-seat SUV.

This double wishbone type suspension consists of the upper arm, the front lateral link, the rear lateral link, the trailing link, the shock absorber, and the coil spring.

Without changing the drive advantage of the multi-link type rear suspension that was used in Legacy, the following measures have been taken to greatly improve the comfort of long-distance driving.

- Revision of the wheel stroke direction during the bump stroke
During the bump stroke, the wheels are set to move toward the rear of the vehicle to reduce the harshness when driving over bumps.
- Revision of the damper lever ratio
The lever ratio has been greatly reduced to 1.2, there is plenty of damping force even with a minute stroke, and a more flat feeling is given.
- Full floating type
All the suspension arms and links are attached to the sub-frame, so the noise picked up by the tires is insulated by the bushing.



RS-00210

REAR SUSPENSION (DOUBLE WISHBONE TYPE)

REAR SUSPENSION

- (1) Upper arm
- (2) Rear sub-frame support plate
- (3) Rear stabilizer
- (4) Shock absorber
- (5) Rear lateral link
- (6) Trailing link
- (7) Front lateral link
- (8) Front sub-frame support plate
- (9) Rear sub-frame

REAR SUSPENSION (DOUBLE WISHBONE TYPE) (FROM '08MY)

REAR SUSPENSION

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3. Rear Suspension (Double Wishbone Type) (From '08MY)

A: FEATURE

Double wishbone rear suspension optimizes the camber angle in relation to the ground while increasing the amount of change in camber angle. This makes the tires grab the ground vertically at all times, providing the best result of the tire performance.

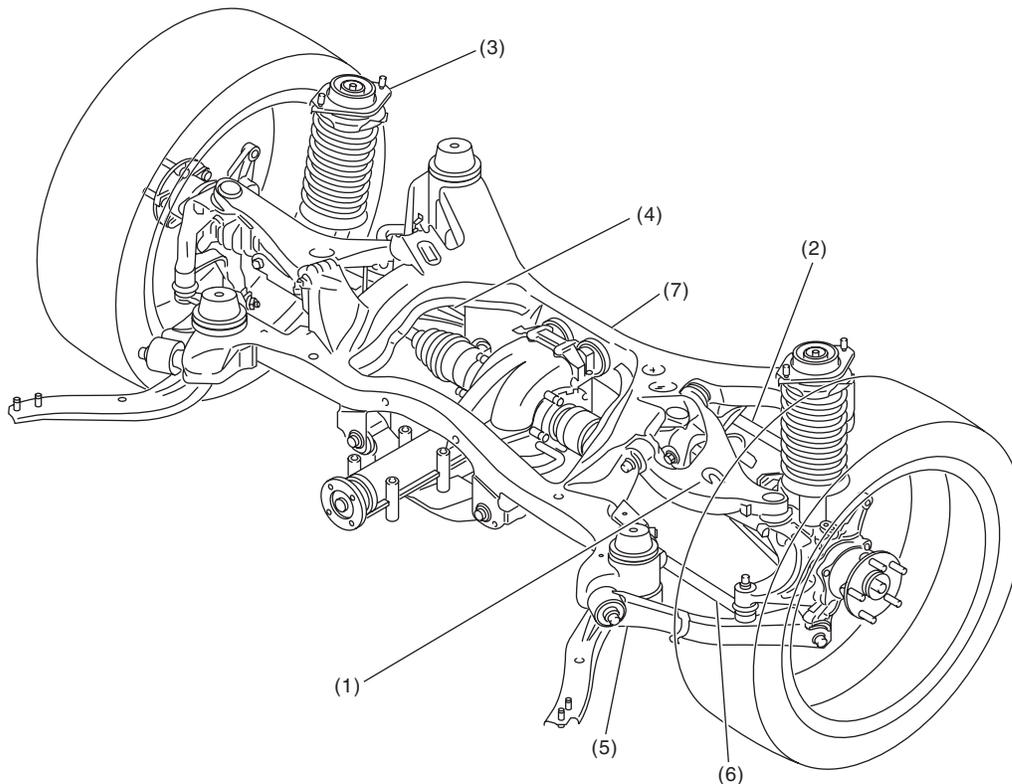
Length of each link is set as long as possible to eliminate an excessive toe change, providing more moderate bump toe-in. This suppresses behavior changes due to conditions on the road surface or body roll, assuring stable drivability.

B: STRUCTURE

Double wishbone rear suspension is mainly consists of A-shaped upper arms on top of both right and left sides, two lateral links underneath of the both sides, and the trailing links positioned in the longitudinal direction.

All link arms and rear differential system are attached to the sub frame and mounted on the body via bushings.

The rear lateral links are attached with the shock absorbers with coaxially-arranged coil springs and the stabilizers.



RS-00292

- | | | |
|---------------------|-----------------------|------------------------|
| (1) Upper arm | (4) Rear lateral link | (6) Front lateral link |
| (2) Rear stabilizer | (5) Trailing link | (7) Rear sub frame |
| (3) Shock absorber | | |

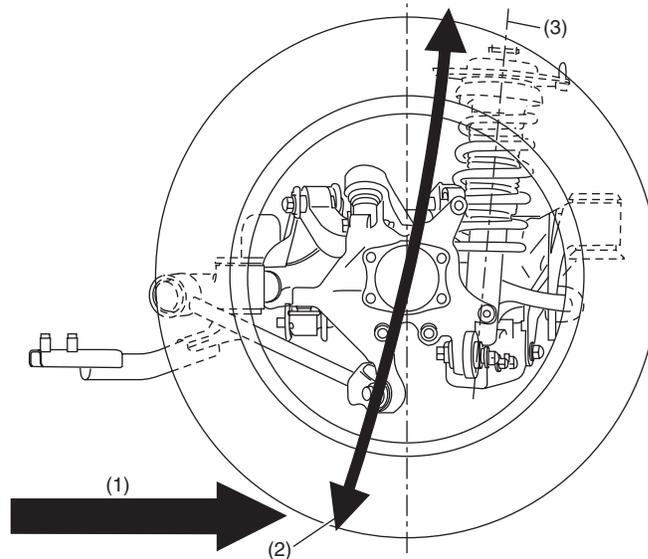
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C: OPERATION

The wheel center lateral trajectory is set to lean toward rear as shown in the figure below, providing arrangement that reduces inputs from road surface such as vibration and noise by diverting them rearward when the suspensions make strokes.

The shock absorbers are arranged in the same direction as the wheel center lateral trajectory to prevent the top mounts from twisting during strokes, receiving inputs from road surface directly into shock absorbers' axial direction.

In this design even small inputs are absorbed well, providing both drivability and ride quality at a high level.



RS-00288

(1) Input

(2) Wheel center lateral trajectory

(3) Shock absorber axis