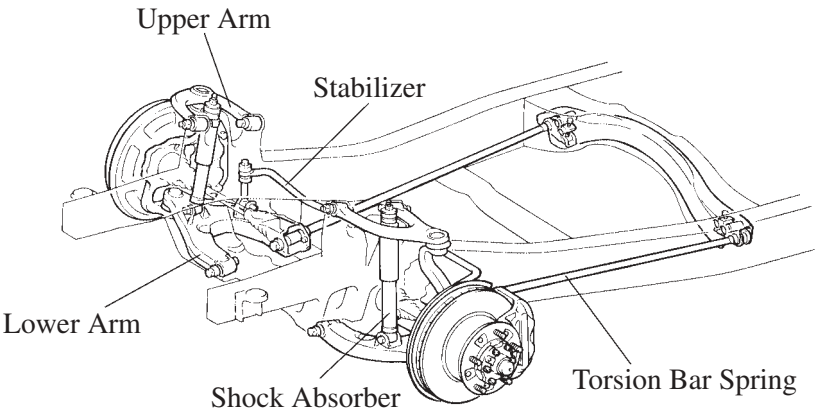
■ INDEPENDENT FRONT SUSPENSION (IFS)

1. General

A lower torsion bar type double-wishbone independent suspension is used.
The vehicle's offroad drivability is maintained by optimizing the allocation of the various components, resulting in excellent riding comfort, stability, and controllability.



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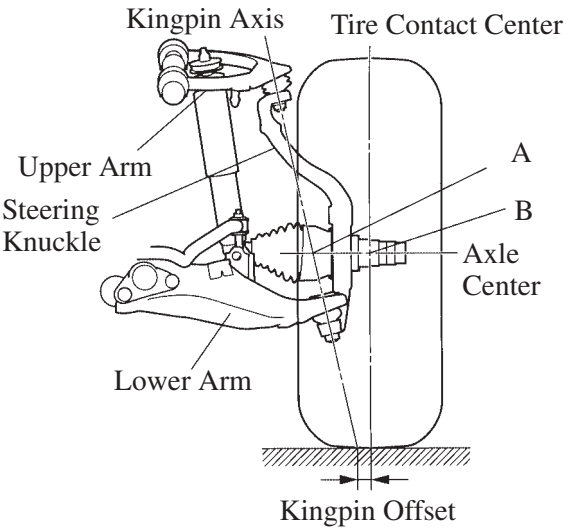
2. Geometry

The allocation of the upper and lower arms has been optimized to lower the roll center height during cornering. Accordingly, a stable postural behavior has been ensured during cornering and excellent cornering performance has been realized. In addition, the front suspension has adopted an anti-dive geometry to suppress the front dive during braking.

3. Steering Knuckle

- A steering knuckle that positions the upper arm higher has been adopted to maintain offroad drivability while providing excellent riding comfort, stability, and controllability.
- Through the adoption of this steering knuckle, the A-B distance between the kingpin offset and the axle center has been reduced. Accordingly, the rotational torque that is generated at the kingpin axis has been reduced, thus ensuring the vehicle's stability during braking. In addition, the generation of flutter has been restrained.



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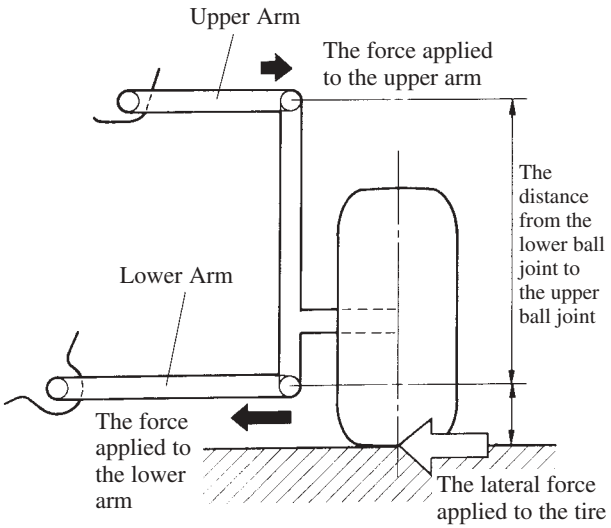
- During cornering, the force from the tire is applied to the arms as illustrated.
  This force, which is applied to the arms, influences the distance between the upper and lower arms, and has a tendency to decrease with the increase in the distance between the arms.
  Through the adoption of the steering knuckle that positions the upper arm higher, the force that is applied to the arms has been reduced. In addition, it enabled the suspension system to sufficiently withstand the lateral force even though a softer suspension arm bushing has been adopted. This resulted in excellent riding comfort, stability, and controllability.



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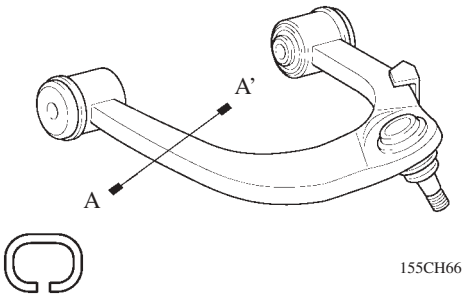
4. Upper Arm

By mounting the upper arm higher, the force that is applied from the road has been reduced. Furthermore, by adopting the type of ball joint that is pressed into the arm, the offset between the ball joint center and the upper arm center has been minimized, thus reducing the torsional force that is applied to the upper arm.
Accordingly, the construction of the upper arm has been simplified to that of a pressed single-sheet product.



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A – A' Cross Section
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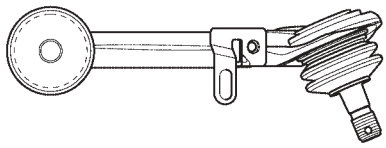
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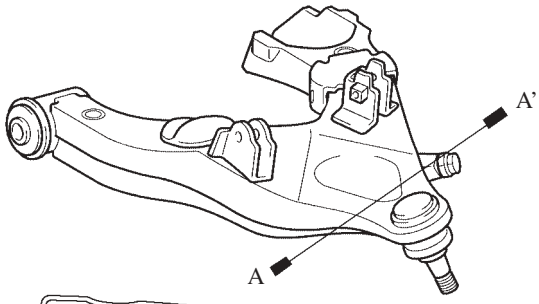
5. Lower Arm

To ensure a long suspension stroke, a long lower arm has been adopted. Also, to prevent road interference, the lower arm has been mounted higher.
The lower arm has adopted a closed cross section to minimize damage in case of road interference.
As in the upper arm, the lower arm has adopted the type of ball joint that is pressed into the arm, thus minimizing the offset between the ball joint center and the lower arm center and reducing the torsional force that is applied to the lower arm.



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A – A' Cross Section
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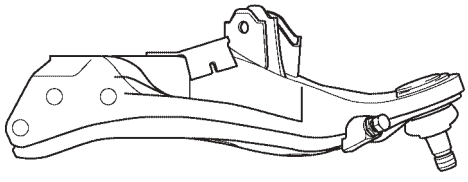
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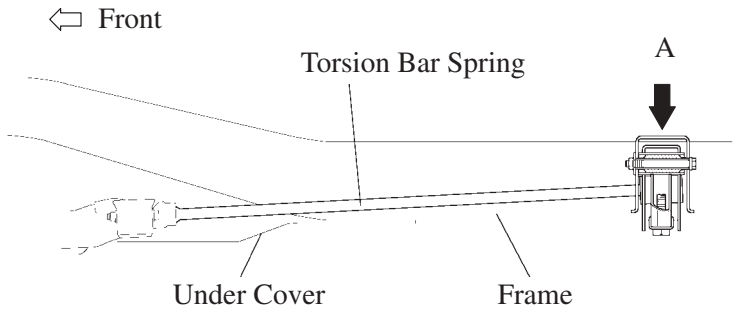
6. Torsion Bar Spring

To obtain a longer suspension stroke a lower torsion bar spring has been adopted.
To prevent road interference, the torsion bar spring has been positioned higher than the under cover and the bottom of the frame.
An anchor arm bracket, which is provided with an anchor arm, has been float-mounted to the anchor member via a rubber bushing. Accordingly, a longitudinal compliance of the front suspension has been ensured to provide excellent riding comfort.



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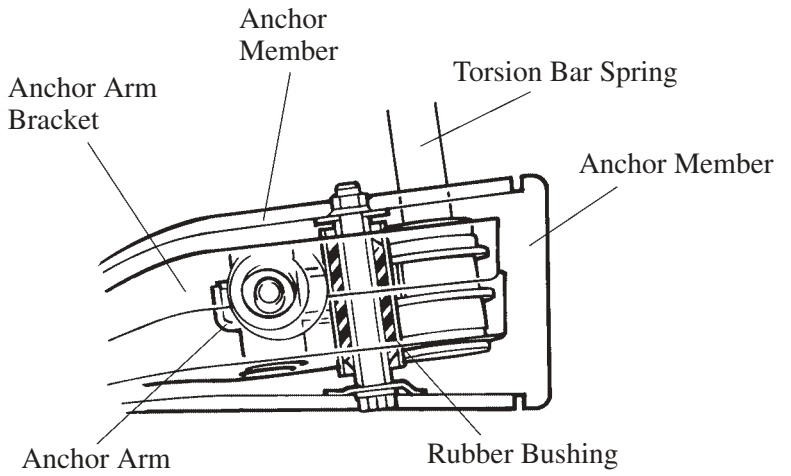

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View A

7. Stabilizer

A solid bar type stabilizer is used to provide excellent riding comfort, stability and controllability.

8. Shock Absorber

As in the previous model, the shock absorbers inhibit cavitation and offer outstanding damping force characteristics through the use of low-pressure nitrogen gas for models without active height control suspension and skyhook TEMS.