System Description

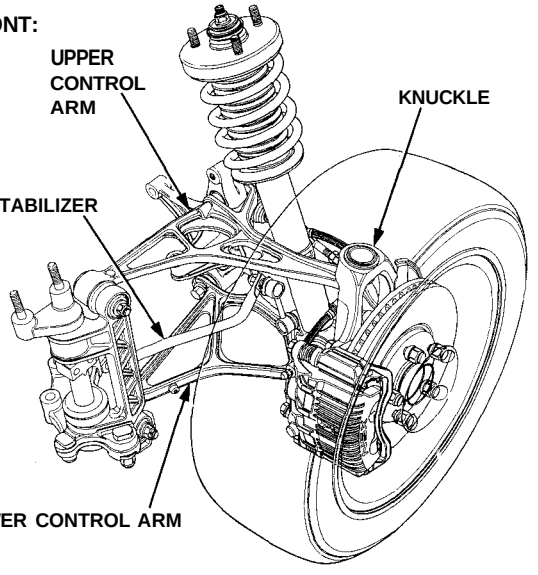
Suspension Composition

Outline

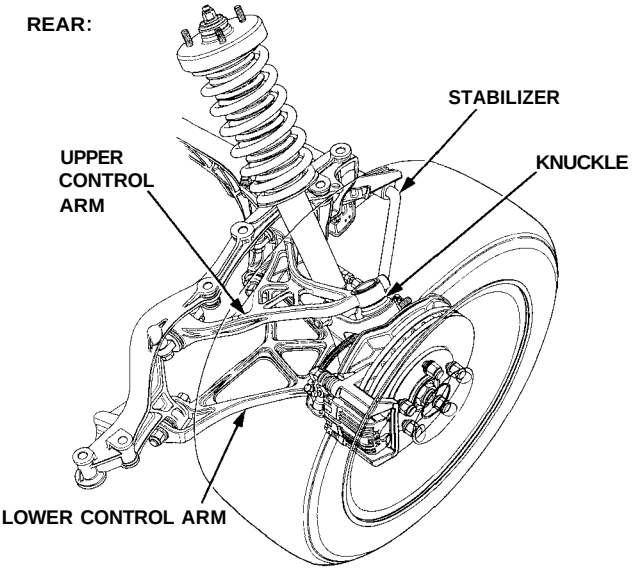
Double wishbone independent suspension has been selected for each of the four wheels. This eliminates damper friction along the steering axis, and permits suspension geometry that takes full advantage of the performance potential of the wide, low aspect ratio tires. The double wishbone design also allows the use of aerodynamically-efficient and aesthetically pleasing low fender lines.

The knuckles and the suspension arms are manufactured from lightweight, high-strength aluminum alloys. This gives a notable reduction in unsprung weight which results in increased traction and improved ride. It also allows the individual suspension components to be designed in detail for maximum strength and rigidity.

FRONT:



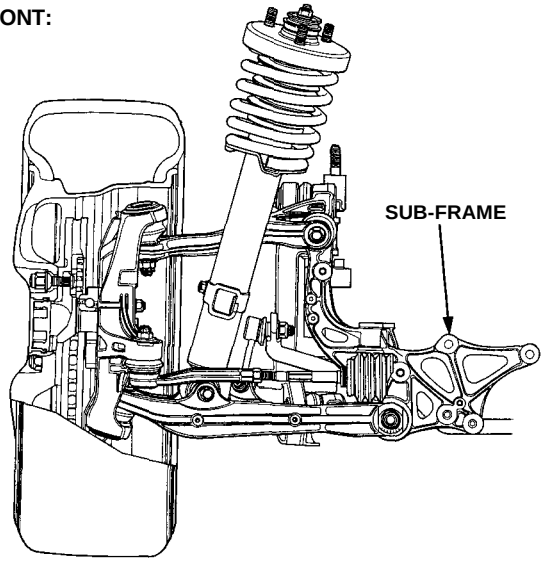
REAR:



To further increase suspension link rigidity, and to obtain optimum knuckle geometry, the knuckles and ball joints are contained within the wheel profile. At each corner of the vehicle, the individual suspension system is attached to the aluminum stressed skin chassis by a cast aluminum sub-frame. This design further reduces overall weight, and ensures that suspension loads are fed into the chassis at the most efficient points, and in the most efficient directions.

A large front caster angle combined with small trail distance improves straight-line stability and response without causing heavy steering effort.

FRONT:



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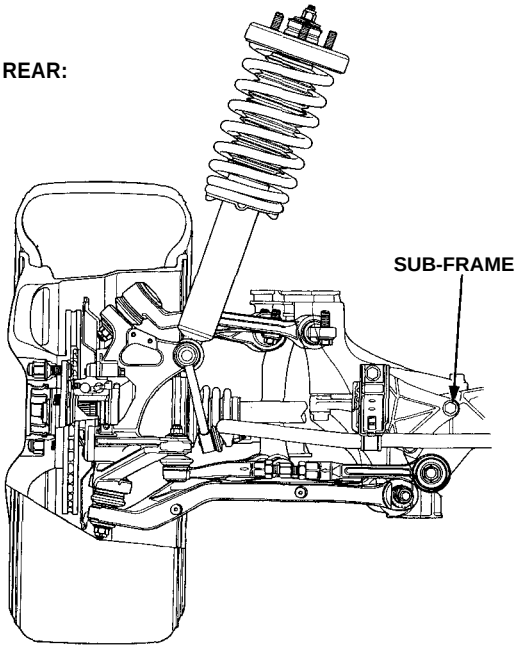
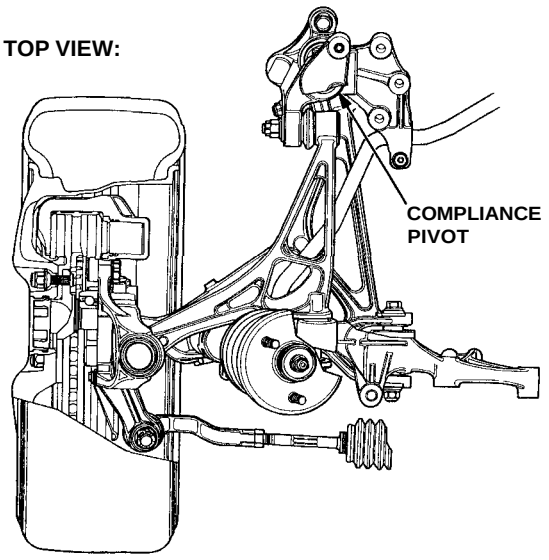
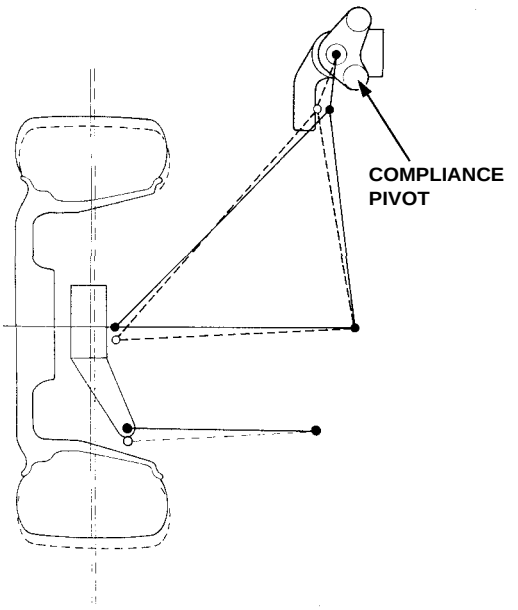


(Front Compliance Mechanism)

To avoid the usual compromise between ride quality and handling characteristics, a pivot-type "compliance mechanism" has been designed as an integral part of the front suspension. When one of the front wheels is subjected to a rearward movement by an uneven road surface or by heavy braking, the load produced has two separate effects. As with any suspension system, the load acts in the vertical direction to compress the suspension spring and reduce the ride height. On the NSX/NSX-T the load also acts through both the upper and lower control arms to twist the compliance pivot. This allows the wheel to move rearward by a controlled amount, thus absorbing energy. The result is an outstanding ride quality with only minimal changes to track width and wheel geometry. In cornering, the compliance pivot does not come into play, and the lateral suspension stiffness required for maximum roadholding and optimum control response is maintained.

TOP VIEW:





(Rear Toe Control Arm)

Many conventional passenger-vehicle independent rear suspension systems are subject to undesirable changes in toe-in angle with wheel movement. This results in instability both in cornering and in acceleration. In the NSX/NSX-T, the design and pivot locations of the rear toe control arm produce a slight controlled increase in toe-in during bump travel. As a result, the NSX/NSX-T is extremely stable under heavy cornering loads and over bumpy road surfaces.

TOP VIEW: