

Independent MacPherson-Strut Front Suspension

The Independent MacPherson-strut front suspension is a proven design that delivers an excellent balance of handling and steering response.

RIDE AND HANDLING

- Front struts feature a coil-over-shock design
- Each wheel reacts to road irregularities with little to no effect on the opposite wheel
- Suspension bushings are tuned independently for responsive steering and a smooth ride
- The stabilizer bar helps reduce the body roll of the vehicle during fast cornering or over road irregularities. It connects opposite wheels together through short lever arms linked by the torsion spring
- Compression damping increased for high-velocity impacts
- Front struts keep rebound damping low in order to allow wheel end to extend freely to catch vehicle when off-road
- Increased suspension travel designed to provide a better ride
- Redesigned and re-tuned springs, shock absorbers and stabilizer bars
- Extensive use of lightweight aluminum components
- Tuned by Ford Vehicle Dynamics team to perform over off-road events on off-road surfaces
- Tuned and tested at Borrego Springs, California, off-road trails



MORE DETAILS

- Front struts feature a coil-over-shock design that's more compact than double-wishbone front suspensions
- Provides more room in the engine compartment for powertrain components
- Coil-over-shock design locates the shock absorber in the center of the coil spring, which reduces offset and allows the spring and shock to move in precision. This also limits twisting or lateral forces that could bind the shock and cause a harsher ride
- A large bushing at the top of each strut mount helps resist vertical movements from uneven road surfaces and resists side deflection to deliver crisp steering feel
- Lightweight forged aluminum lower control arms
- Hollow front stabilizer bar is lightweight yet provides maximum torsional rigidity
- Front stabilizer bar mounting helps improve chassis stiffness and control
- MacPherson-strut design with a rearward-facing L-arm gives the maximum amount of room in front of the suspension to help improve crash performance
- Friction-reducing geometry helps engineers precisely tune the struts for remarkable ride and handling
- Use of hydrobushings in critical locations helps isolate the body from the suspension
- A hydrobushing at the rear of the lower control arm uses oil-filled internal chambers to dampen road forces before they reach the passenger compartment
- Stabilizer bar helps reduce body roll during cornering — 27.0 mm

MAKE THE POINT: RAMP TRAVEL INDEX (RTI)

Ramp travel index or RTI, is a way of measuring a vehicle's ability to flex its suspension, also known as axle articulation. The RTI rating is used in the off-roading industry to test and describe chassis limits of 4x4 vehicles.

The ramps vary between 15 and 30 degrees of angle for the vehicle to drive up. The vehicle is driven up a ramp with one front tire on the ramp. The vehicle is driven up slowly until one of the other three tires (usually the rear one on the same side as the tire on the ramp) begins to leave the ground.

The measurement is taken when the other three tires are still on the ground.

The distance traveled up the ramp is then measured and is divided by the vehicle's wheelbase and finally multiplied by 1,000 to give a final RTI score.

NOTE: For availability of product features, please see Availability by Model and/or the [Dealer Ordering Guide](#).

2021 Bronco Sport > Performance and Capability > Chassis

Control Blade Multilink Independent Rear Suspension

- Compact design minimizes intrusion into the cargo area
- Designed to deliver better comfort and less road noise
- Extensive use of lightweight aluminum components
- Increased suspension travel designed to provide a better ride
- Isolated rear subframe helps reduce interior vibration and harshness
- Independent design helps reduce impact of road imperfections into the passenger cabin
- Rear isolated subframe designed to provide better cushioning for rougher road
- Shock absorbers are monotube design
 - 46 mm diameter
 - Monotube forces tuned high in both rebound and compression to keep vehicle planted
- Short- and long-arm (SLA) rear suspension
- Stabilizer bar helps reduce body roll during cornering
 - 23.2 mm diameter
- Suspension bushings help improve NVH performance while maintaining excellent ride and handling characteristics
- Tuned by Ford Vehicle Dynamics team to perform over off-road events on off-road surfaces
- Tuned and tested at Borrego Springs, California, off-road trails



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