

2007 Explorer Sport Trac Safety

- Meets all known federal frontal- and side-impact crash requirements through 2010
- Seven class-exclusive safety features, four of which are new adaptive technologies designed to meet Ford's stringent internal safety targets
- AdvanceTrac® with Roll Stability Control offers industry-exclusive active safety
- Safety Canopy with "roll-fold" technology and enhanced rollover and side-impact protection
- All-new stiffer frame, continues innovative bumper compatibility

The 2007 Explorer Sport Trac features the same class-leading safety package offered on the 2006 Ford Explorer, as a result, Sport Trac provides the most active and passive safety features in its class. Four of these are new adaptive technologies specifically designed for Ford's stringent internal safety targets.

"The 2007 Sport Trac offers the same impressive suite of safety features as the 2006 Explorer," says Sue Cischke, vice president, Environmental and Safety Engineering. "It offers active safety technology – including confidence-inspiring handling and braking combined with AdvanceTrac® with industry-exclusive Roll Stability Control (RSC®) – to help prevent accidents. In the case of an accident, the new Sport Trac offers enhanced rollover side-impact protection, and four new adaptive safety technologies that help tailor frontal-impact protection based on crash severity, occupant size and safety belt usage."

2007 Sport Trac's 10 Standard Advanced Safety Features

Advanced Restraints Module and Dual Front Crash Sensors	2006
Five-level Front-passenger Sensing System	2006
Adaptive Load-Limiting Safety-belt Retractors	2006
Front-passenger-seat Adaptive Air Bag Tether	2006
Adaptive Air Bag Venting	2006
Adaptive Stroking Steering Column	2006
Front-seat Side Air Bags	2006
Dual-stage Front Air Bags	2002
Driver-seat Position Sensor	2002
AdvanceTrac® with class-exclusive Roll Stability Control	2005

Model Year Introduced by Ford Motor Company

In fact, the 2007 Sport Trac is designed to meet all known federal frontal- and side-impact crash requirements through 2010.

"Ford Motor Company is building on a legacy of introducing industry-first safety technologies, with a comprehensive approach to help drivers avoid dangerous situations and help provide increased protection in accidents," says Cischke.

AdvanceTrac® with Roll Stability Control offers industry-exclusive active safety

The old adage that the best defense is a good offense is certainly applicable to automotive safety: The best accident protection is preventing the accident in the first place. Thus, Sport Trac offers a comprehensive active safety package to help prevent accidents from occurring.

Sport Trac's agile handling and confident braking provide an added measure of safety and security during emergency maneuvers. Contributing to its confident nature is Sport Trac's standard four-wheel, four-channel antilock braking system (ABS) with electronic brake force distribution (EBD). The ABS controls the front wheels independently and the rear wheels in tandem during heavy braking – to further help the driver maintain control of the vehicle. ABS with EBD employs dynamic proportioning, measuring braking force versus traction and allocating brake pressure to the wheels that have the best grip even before the ABS system kicks in. This helps reduce the braking distance.

Sport Trac's exemplary braking system is paired with standard Advance Trac® with Roll Stability Control – an exclusive active safety system not offered by any other manufacturer.

This active stability enhancement system offers a significant difference when compared to typical systems. While typical systems are designed to control yaw or spinout only, Ford's AdvanceTrac ® with Roll Stability Control goes one important step further.

It can enhance the vehicle's resistance to rolling over.

Most systems use one gyroscopic yaw-rate sensor as they work to control yaw. AdvanceTrac ® with Roll Stability Control utilizes a second gyroscopic roll-rate sensor to determine the vehicle's body roll angle and roll rate. If this unique roll-rate sensor detects a significant roll angle, the system applies additional countermeasures – such as applying brakes to one or more wheels or reducing engine power – to enhance vehicle rollover resistance.

AdvanceTrac® with Roll Stability Control is an integrated system of four major components that includes:

Anti-lock Brake System (ABS): ABS regulates brake pressure to help prevent wheel lockup when trying to stop the vehicle.

Traction Control: When the system detects a loss of traction, this quickly responds by reducing engine power when necessary and selectively applying brake force to the slipping wheel while transferring power to the opposite wheel.

Yaw Control: When understeer (which leads to skidding) or oversteer (which leads to fishtailing) is detected, the system selectively applies individual brakes and modifies engine power to maximize control.

Vehicle Roll-motion Sensor: This is the Ford-exclusive gyroscopic roll-rate sensor that helps monitor vehicle roll motion approximately 150 times per second. If it detects a significant roll angle, it automatically engages AdvanceTrac ® with Roll Stability Control to help keep all four wheels safely on the ground.

The system is automatically engaged every time the vehicle is started. However, a switch allows the driver to turn the system off during those rare times when she or he may want the wheels to spin freely to help the tires “dig” for traction, such as during low-speed off-road driving or when traveling through deep snow or mud.

Ford is the first automaker to develop AdvanceTrac ® with Roll Stability Control technology, and has more than 80 patents and patent applications pending worldwide for its industry-leading Roll Stability Control system. Ford is making the technology available to other companies and automakers through licensing agreements because we believe this technology has the potential of producing significant real-world safety benefits.

Class-exclusive adaptive safety technologies allow for optimized occupant protection

To meet federal safety regulations and Ford's even more stringent internal safety targets, the 2007 Sport Trac offers the following advanced safety technologies as standard equipment:

Advanced Restraints Module and Dual Front-crash Sensors: An advanced restraint module is mounted at the center tunnel of the vehicle. It collects an array of input signals to detect both the impact severity and the seating position and size of the driver and front occupant. This information is processed using sophisticated computer algorithms to determine appropriate levels of protection by tailoring the adaptive technologies. Two crash sensors on the front structure allow for enhanced impact severity and crash mode discrimination.

Five-level Front-passenger Sensing System: Incorporated into the structure of the passenger seat, this advanced sensor is able to detect the size of the occupants based on five categories: empty seat, child presence, small adult presence, medium adult presence and large adult presence.

Adaptive Load-limiting Safety-belt Retractors: The adaptive load-limiting retractors are capable of providing up to three resistance levels. Based on input from the crash and occupant sensors, the advanced restraints control module electronically adapts the amount of belt resistance to help further enhance crash energy management while helping to reduce forces on the occupant.

Front-passenger Seat Adaptive Air-bag Tether: The passenger front air bag has an internal fabric tether that creates a smaller air bag size and shape when necessary. A pyrotechnically activated mechanism can release the tether when a full air bag is necessary.

Adaptive Air-bag Venting: Both front air bags are equipped with vents that divert some of the gas from the air bag inflator outside of the air bag. Adjusting the time the vents open adjusts the amount of gas vented, providing a less powerful air bag when it's sufficient to help protect the occupant.

Adaptive Stroking Steering Column: The energy-absorbing steering column collapses as force is brought to bear on the driver's air bag. Additionally, the adaptive "curl strap" offers tailored energy management protection based on the driver's seating position. The curl strap deforms as force is applied, acting as a damper to slow the stroke of the steering column. For less resistance – or more "give" – a pyrotechnic pin is actuated, releasing the center section of the curl strap, requiring less force to activate the stroke of the steering column. When crash conditions call for a higher resistance, the pin remains in place, engaging the full curl strap for maximum resistance.

Dual-stage Front Air Bags: Federal Motor Vehicle Safety Standard 208 (FMVSS 208) requires that both belted and unbelted front passengers be provided with significant levels of protection in the event of a frontal collision. To help balance the needs of what are two quite different situations, the 2007 Sport Trac uses dual-stage front air bags. These employ inflators that offer lower or higher inflation levels that help tailor the deployment of the air bags to the severity of the crash situation.

Driver-seat Position Sensor: This sensor monitors driver seat position to estimate the driver's size by his or her distance from the steering wheel. This information is used to determine inflator output, air-bag vent timing, safety-belt resistance level and the steering column energy absorption setting.

"Simply put, all safety features help manage the forces on the occupants during an impact," says Jeff Laya, Sport Trac crash safety supervisor. "These new adaptive safety features all work together to estimate the size of the occupant and impact severity, and are then tailored to manage those forces. If you think of it in a slow-motion sequence, the safety belts absorb some of the energy, then the air bag absorbs more, and then the stroking steering column absorbs even more. We can provide enhanced protection for a wide variety of circumstances and tailor the protection to each individual event."

Safety Canopy ä with "roll-fold" technology and enhanced rollover and side-impact protection

In addition, the new Sport Trac features a comprehensive list of improvements to help further protect occupants during rollover or side-impact.

For the first time, the Sport Trac is available Safety Canopy™ side air curtains that deploy in certain side-impact collisions, or if an impending rollover is detected to help protect front- and second-row outboard occupants. Safety Canopy™ side curtains remain inflated for several seconds after deployment to enhance protection during an extended crash event.

The air curtains feature "roll-fold" technology. If an occupant is improperly seated and resting his

head against a window, the Safety Canopy™ is designed to slide between the glass and occupant as it inflates. An integrated front “sail panel” of fabric attached to the A-pillar further positions the Safety Canopy™.

Also new for Sport Trac are standard side-impact air bags for the driver and front passenger. Mounted in the outboard side of each front seat, these air bags further enhance protection for the occupant’s chest in the event of a side collision.

The interior door armrests and the door trim also have been designed to help cushion the abdomen and lower torso during a side impact. And a four-inch-thick foam block installed between the exterior and interior door panels further helps manage side impact forces on the occupant’s hips.

All-new stiffer frame, continues innovative bumper compatibility

Contributing to the safety enhancements of the 2007 Sport Trac is its all-new frame. Its increased strength and rigidity provide increased levels of refinement and resistance to noise, vibration and harshness. The all-new frame works with Ford’s industry-exclusive adaptive safety technologies to help provide greater protection for vehicle occupants. For example, the front crush rails are designed to help absorb and manage to the force of an impact.

In addition, the 2007 Sport Trac continues Ford Motor Company’s bumper compatibility standard. Ford was the first to market with crash structures on SUVs that are compatible with passenger cars. When the Explorer was redesigned for the 2002 model year, the front bumper was dropped nearly two inches, to better align with the crash structures of passenger cars. The 2006 Explorer and 2007 Sport Trac retain that design, which helps to reduce damage to cars in common slow-speed incidents and allow lower vehicles' energy-absorbing bumpers to do their work.

Tradition of safety leadership continues

Another standard safety feature is a tire pressure monitoring system (TPMS) that uses sophisticated system utilizing radio-frequency transmitters. These transmitters are mounted inside the wheel, monitoring actual tire pressure every 30 seconds. If a low-pressure situation is detected, a warning is illuminated on the Sport Trac’s instrument panel message center. Further, as it monitors each wheel independently, the new TPMS is able to detect pressure loss before it affects vehicle handling and safety.

In addition, Sport Trac is available with a number of safety and security features, completing its safety packaging, including:

BeltMinder™: The most effective way to help save lives on the roadways is one of the simplest safety technologies on the market – the safety belt. Ford’s standard BeltMinder™ system provides drivers with a gentle reminder (in the form of a flashing icon on the instrument panel and an audio tone) to buckle up. According to federal estimates, every percentage point improvement in safety belt usage nationwide can save an estimated 280 lives a year.

SecuriLock™ Passive Anti-theft System: Sport Trac comes standard with SecuriLock™, designed to help prevent the engine from being started unless a coded key programmed to the vehicle is used. There are 72 million billion possible key code combinations.

Keyless Entry: The standard keyless entry permits door locking or unlocking from outside the vehicle with just the touch of a button. The driver’s-side remote keypad is available for additional security and convenience, as are approach lamps in the exterior mirrors that illuminate the area around the front doors.

About Ford Motor Company

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