

SIDE ROLL PROTECTION



When it comes to air bags, we didn't stop at the Side Roll Protection System.

FRONTAL AIR BAGS

We're never satisfied when it comes to occupant safety in Pierce® apparatus. The logical evolution in 360° protection was the offering of frontal air bags - another industry first in custom chassis.



The Pierce Side Roll Protection System.

We tackled the leading cause of firefighter traffic accident deaths head-on with a system that significantly reduces head and neck injuries.

To find out even more about our commitment to your 360° Protection From Every Angle™, including video footage of the Side Roll Protection System, visit www.piercemfg.com.



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PERFORM. LIKE NO OTHER.™

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P-0036 SROLLBR 8/07



60% of all firefighter traffic accident deaths are caused by truck roll-overs.

Pierce Side Roll Protection System
Head and neck injuries are significantly reduced with the Side Roll Protection System.



When it senses a roll, the Side-Roll Protection System:

- 1 tightens your seat belt
- 2 lowers the seat to its lowest position
- 3 locks the seat down to eliminate movement
- 4 inflates tubular side airbags



Seat in normal position



Seat in lowered position

REAR SIDE AIR CURTAIN

Optional crew cab air curtains are attached to ABTS seats in the crew cab. During a roll, these deploy across the window and side of the vehicle interior to protect occupants' heads during impact. This reduces movement, lowers the chance of head contact with the roof, and increases the survivable space.



A LIFETIME OF PROTECTION IN A FRACTION OF A SECOND

How does it work?

In the Side Roll Protection System a roll sensor monitors the movement of your rig. *When it senses an imminent roll, it automatically kicks in occupant protection devices for the driver's and officer's positions.*

A "decision table" factors the speed, angle and rate of roll. And it matches the response to the situation, releasing the devices exactly when they're needed. Faster, on a fast roll. Slower, on a low speed event.

In milliseconds your seatbelt tightens and your seat lowers and locks to eliminate movement.

A pair of tubular side air bags are then deployed across both the driver- and officer-side windows, instantly providing a cushion where there used to be hard surfaces. The air bags cut down on your movement, make it less likely for you to whack your head against the roof, and keep your arms and torso inside the cab.

In total, *the system activates in about the time it takes to swing a baseball bat.* And it stays inflated for ten seconds – long enough for even slower rolls.



PIERCE EXCLUSIVE PS6™ SEATS WITH BUILT-IN SIDE ROLL PROTECTION

WHEN IT COMES TO DESIGNING FOR SIDE ROLLS, NO DETAIL IS TOO SMALL

We thought of all passengers. Sidewall padding has been placed to reduce head injuries for rear passengers. And the system design was tested not simply for an average occupant but with crash dummies ranging from 5th percentile females to 95th percentile males.

The evolution of our PS6™ seats, allow for the side roll air curtains to be fully integrated into the seating system rather than deploying from the wall, another first in the industry.

And we thought of possibilities which might never occur to you, unless you've been in a side roll yourself. For example, a combination of high-pressure stored argon and oxygen (and a pyrotechnic charge for initiation) inflates the bags to a relatively cool 120° Fahrenheit, protecting the occupant from the burns that are possible with hot air inflators.

System deployment during side roll crash test

Stages shown from early product development; prior to PS6™ seat development.

