

Ford puts air bags in seat belts to reduce injuries for rear riders

Updated 4d 19h ago

By **James R. Healey**, USA TODAY



Ford's rear inflatable seat belts will launch on the 2011 Explorer. The advanced restraint system is designed to help reduce head, neck and chest injuries for rear seat passengers.

ROMEO, Mich. — After more than a decade of development, Ford Motor (F) is about to launch the first back-seat safety belts with built-in air bags.

They'll be optional, about \$395, on the 2011 Explorer SUV that begins trickling into dealers in December. Ford detailed the bags at an Explorer briefing at its vehicle test center here. The bags are sewn inside special safety belts and pop out into sausage-shaped tubes in a crash.

Ford says they spread crash forces over five times as much area, reducing the impact on passengers.

"It's clever. It works," says Jim Hall, head of 2953 Analytics, an auto industry consultant. "You'll see it in other cars" as soon as competitors decide customers want the feature.

Ford says the design is its own, not — as often is the case in the auto industry— the brainchild of a component supplier.

SAVE ON GAS: [Ford touts amazing fuel mileage in next Focus](#)

DRIVE ON: [Ford's Ranger may be best small pickup you can't buy](#)

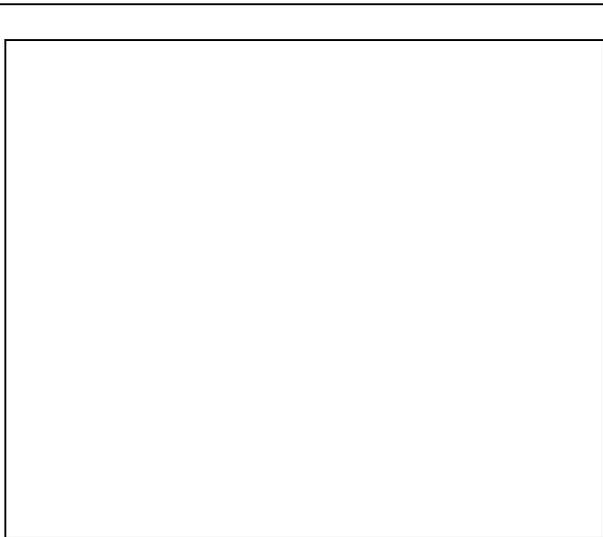
Automakers have mulled ways to give rear-seat passengers crash-safety features comparable to what front-seat occupants have. Side-impact and head-protection bags for rear passengers have been in cars for years. But protecting the fronts of rear riders has posed a bigger challenge.

The logical place for large, conventional front-impact bags is in the backs of the front seats. But front seat occupants slide seats back and forth for best comfort, denying automakers a fixed surface, such as the dashboard, in which to mount the bags.

Ford isn't arguing that the belt-mounted bags will do the same job as bigger front-crash bags do but says the belt bags should dramatically reduce chest and neck injuries.

Initially, the inflatable belts will be available only on Explorer and only in the two outboard seating positions in the second row of the three-row Explorer. Eventually, Ford plans to roll out the feature globally and possibly use it in other seating positions.

The breakthrough, Hall says, was developing a way to inflate the belt bags with cold gas, rather than the



heated gases that inflate other air bags. "People don't want a pyrotechnic event on their chests." Heated gas would be uncomfortable and potentially could burn occupants. Belt bags rest against the passenger without the space between bag and body that front-impact bags normally have.

Ford says it tried numerous ways to inflate the belt bags before settling on the final cold-gas system. A cylinder under the seat shoots its contents of cold gas through a special safety-belt buckle and into the bags in a crash.

Ford spokesman Wesley Sherwood says that more than 90% of those who tested the belts found them at least as comfortable as conventional belts because the thickness of the bag folded inside the belts makes them feel softer. That alone could be a safety feature, Ford says, if it encourages more rear-seat occupants to use belts.

Government data show 82% of front occupants use belts, while 61% of rear occupants do.