



PHOTO: JIM STICKFORD

Ford VR specialist Elizabeth Baron shows SAE writer Bruce Morey the latest computer technology that allows designers to create more comfortable seats by showing what the driver sees through the use of VR headsets. Engineers can see what the driver sees through video streaming to the large viewing screen at the left of Baron.

Ford Builds More Comfort into Car Seats

By Jim Stickford
Special Writer

Part of standing out in today's competitive car market is doing the little things right.

"These days cars are made so well by manufacturers, the only way to differentiate yourself is through fuel economy, comfort and aesthetics," said Michael Kolich, Ford seat comfort engineer.

And seats, which aren't glamorous or even much thought about by consumers, are a great way to stand out and offer buyers the comfort they are demanding in today's automobile.

Ford's newest seat got its public debut at the Los Ange-

les Auto Show last month. It's the seat, labeled the F Gen 2 seat, that will be installed in 2012 Ford Escapes. It replaces the MS seat used in Focuses.

Elizabeth Baron, virtual reality advanced visualization technical specialist for Ford, said the company uses the latest in Programmable Vehicle Modeling (PVM) 3-D digital technology to design seats that offer the latest in comfort.

VR tech uses computer simulations that can interact with someone in the driver's seat to create realistic visuals that someone in the test driver's seat can view through special VR headset goggles. Engineers can see what the driver

sees on a computer screen linked to the goggles.

By using Virtual Reality (VR) tech, engineers and designers are able to quickly and efficiently create changes to potential designs as needed, Baron said. It's a lot easier than building prototypes. Additionally, it allows factors such as perceived quality, comfort and ease of use to be looked at from the customer's perspective.

Baron said the software is so sophisticated that the test driver, once the VR headset is attached, can manipulate the virtual set-up of the seat and see the inside of the car. They can even change the shape of the headset to see what kind of view a driver has.

"As the design progresses," Baron said, "we bring in man-

ufacturing people to see how manufacturing processes will affect final design. We can even use multiple VR goggles to get multiple perspectives inside a mock-up vehicle. So, we can see what the driver and passengers see."

Baron said Ford uses software purchased from Envis off the shelf. They have, however, customized it to fit the company's needs.

Kolich said that in 2005 Ford decided to bring seat design back in-house again. Prior to that, suppliers were doing a lot of the work. While they weren't doing a bad job, the result was a lot of different seats designed to meet the criteria set by the various suppliers, resulting in "dis-

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Ford Deicing Wires Save Hands on Frosty Mornings

COLOGNE, Germany – Stiletto heels, CD cases, credit cards and bare hands have one surprising thing in common – they've all been employed at some time by European motorists to scrape ice and snow off car windshields.

Ford customers, however, need not shudder at the thought of a frosty morning, thanks to the company's Quickclear windscreen technology.

Quickclear uses a mesh of very thin heating wires embedded between two layers of windscreen glass to provide rapid deicing and defogging, providing optimum visibility in a matter of seconds.

The patented system made its debut on the Ford Scorpio 26 years ago, yet remains a highly popular feature across

Ford's entire range of cars.

"Some technologies come and go, but Quickclear really has stood the test of time," says Ford fixed glass engineer Abidine Ould-Merzough.

"There's nothing worse than running out of your home, late for work on a frosty morning, to be confronted by a windscreen thick with ice.

"With Quickclear technology, you simply press a button and watch for a few seconds, as your windscreen's heating elements quickly clear the ice or snow.

"And because it heats the glass, the system also helps free frozen wipers, lengthening the life of the wiper blades and reducing stress on the wiper motor.

"Of course, Quickclear is al-



Ford Quickclear technology helps to clear windshields of ice at the click of a switch (right), which is more comfortable than scraping (left).

so helpful when your windscreen mists up whilst driving."

Driving with an iced-up windshield is not only danger-

ous, but also is a traffic violation. So what if your car doesn't have Quickclear and tem-

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USAutoScene.net Debuts on Web; Print Edition Comes to an End

U.S. Auto Scene is moving to a new electronic edition starting this week.

The issue you're reading is the last monthly print edition.

This change will enable us to make the news more timely and available to those many readers who've missed the print edition on a weekly basis, and who've been looking for a web version.

USAutoScene.net debuted Dec. 5 on the web.

The online edition will continue to provide coverage of news and events for

our readers in the Dearborn area. It will also respectfully continue to cover Ford and the Big Three automakers of Metro-Detroit, their people and suppliers.

Please continue to send us any news, story ideas or thoughts that you and your fellow readers may be interested in.

We thank you for your support over the past 19 years, and hope you'll continue to follow us online at USAutoScene.net.

– William Springer
publisher

TRW Makes Progress in Adaptive Airbag Systems

LIVONIA – TRW Automotive Holdings Corp., a global leader in automotive safety systems, last month announced its next generation of adaptive frontal passenger airbags.

TRW's dual contour passenger airbag is capable of adjusting both the airbag pressure and size to help tailor protection according to occupant size and other variables of a crash.

Norbert Kagerer, vice president of engineering for TRW's Occupant Safety Systems business, commented: "Adaptive occupant safety technologies began with the introduction of dual stage inflators over a decade ago and have progressed to include not on-

ly factors such as deployment force, but also the bag geometry, stiffness and shape as the bag deploys.

TRW's next generation adaptive airbags combine all of these elements to help enhance the safety of occupants according to their size, the speed and force of the crash, occupant position, belted versus unbelted, and more.

"For example, TRW is already in production with its 'SAVE' active venting system that adapts to the position of the passenger and will soften the airbag through supplemental vents in the airbag module to allow some of the gases to be expelled when the passenger is in closer proximity to the airbag when it deploys."

TRW is taking a further step with the dual contour airbag that utilizes sensor inputs to determine occupant size and can tailor the bag size and shape to smaller or larger occupants.

This airbag uses a tether activation unit that will present the right size and shape of the bag based on the particular crash variables.

TRW anticipates that its next generation of adaptive airbags will be ready for production by 2013.

With 2010 sales of \$14.4 billion, TRW Automotive ranks among the world's leading automotive suppliers.

Headquartered in Livonia, the supplier, through its subsidiaries, operates 185 facili-

ties in 26 countries and employs more than 60,000 people worldwide.

TRW Automotive products include integrated vehicle control and driver assist systems, braking systems, steering systems, suspension systems, occupant safety systems (seat belts and airbags), electronics, engine components, fastening systems and aftermarket replacement parts and services.

The company supplies more than 40 major vehicle manufacturers and 250 nameplates. It holds leading positions in all of its primary product categories.

More than 70 percent of TRW's sales come from outside of the United States.



TRW's dual contour passenger airbag is capable of adjusting both the airbag pressure and size to help tailor protection according to occupant size and other variables of a crash.

Industry Reacts to Raising CAFE for 2025 as EPA, DOT Explain

by Gerald Scott
News Dept.

Officials from the Environmental Protection Agency and the Department of Transportation recently elaborated on the aggressive, new CAFE rules first agreed to with the auto industry last July.

On Nov. 16, EPA Secretary Lisa Jackson and DOT Secretary Ray LaHood held a national phone press conference with media and auto writers to elaborate on the government's plan to raise CAFE to 54.5 mpg by 2025.

"Today, the Department of Transportation and the EPA are formally proposing to set those strong fuel economy and greenhouse gas solution standards – requiring performance standards equivalent to 54.5 mpg for model years 2017-2025 passenger cars and light trucks," Jackson said.

"By 2025, we expect the Clean Cars Program to reduce oil consumption by 2.2 million barrels each day, enough at current levels to offset almost a quarter of our foreign oil imports.

"These standards are also expected to save our nation's drivers \$1.7 trillion – with a 'T' – at the gas pump over the

lifetime of these vehicles.

"These standards will help prevent 6 billion metric tons of greenhouse gas pollution from going into our skies.

"EPA and DOT have worked closely with auto manufacturers, the United Auto Workers, the states, consumer groups and other stakeholders to ensure these standards are both achievable and effective."

Note that the proposed rule requires annual fuel-economy increases of 5 percent for cars. Pickups and sport-utility vehicles can raise fuel economy at 3.5 percent for the first five years the rule will be in effect.

Then, unless regulators decide differently in a midterm review, trucks also would have to boost fuel economy by 5 percent a year.

Speaking for the DOT and the National Highway Traffic Safety Administration it oversees was LaHood, who said, "We have worked very hard for almost three years to get where we are now. Lisa and I had the privilege of having lunch with the president recently and we both were reassured by him about how pleased he is that EPA and DOT have worked so closely together to make this happen. "Today, administrator Jack-

son and I are delighted to unveil the details of our proposal to increase fuel economy standards for cars and light trucks.

"By the year 2025, the average car's fuel economy will nearly double – rising to 54.5 miles per gallon.

"It means that American families will fill up their car every two weeks instead of filling it up every week.

"It means that a typical family will save up to \$6,600 in fuel costs over time.

"And, as President Obama has said, these standards aren't just about the bad things we'll prevent, they're about the good things we'll make possible.

"These standards will spur growth... they will ensure automakers have the regulatory certainty they need to make key decisions.

"Finally, we'll accomplish all of this with zero tradeoff when it comes to auto and roadway safety. Our No. 1 priority at DOT is safety. So we're very proud of this new standard and we're grateful for the support and partnership of industry, labor, environmental groups and the states getting it to this point."

What's the reaction to all of this from car dealers, the auto

industry and other constituents such as financial analysts, auto analysts and environmental groups?

Adam Lee, chairman of the Lee Auto Malls dealerships in Maine released this statement in response to the 2025 goal:

"As a third-generation auto dealer, all I can say is – it's

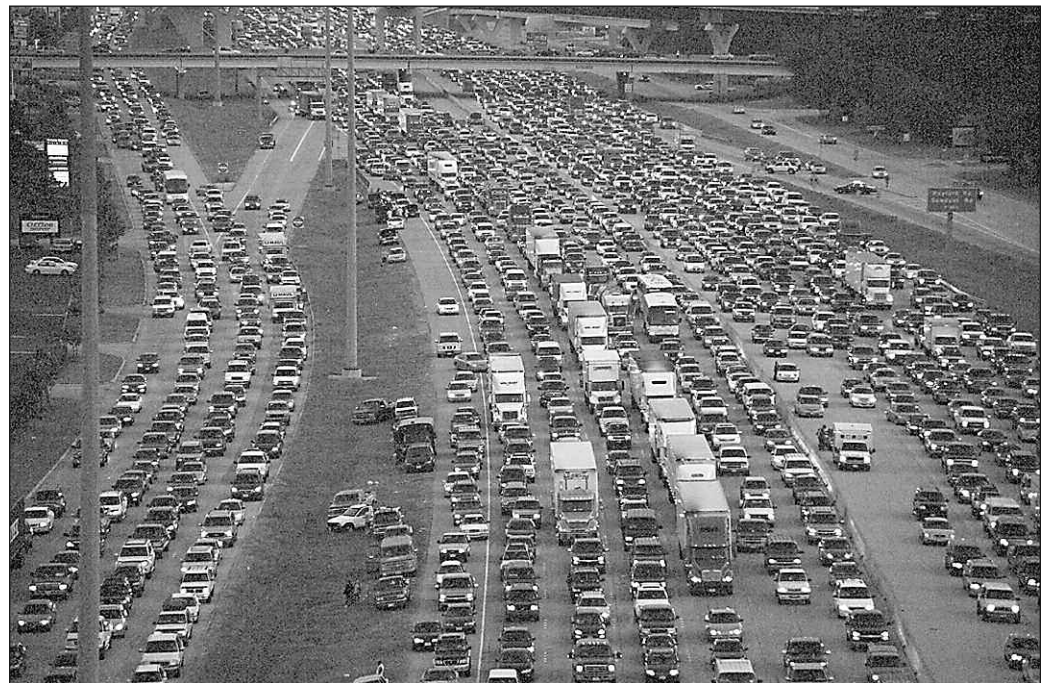
about time!" Lee said.

"In 2008, when gas prices skyrocketed to historic highs, I couldn't give away some of the gas-guzzling vehicles on my lots. Federal fuel economy standards and California emissions standards will drive the production of more efficient vehicles so that my industry

won't have to experience that same kind of gut punch again. Consumer groups, health advocates and environmentalists are all on board with the new standards.

"Still, some of my fellow auto dealers are balking at the

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Traffic fleeing ahead of Hurricane Rita in Houston in 2005. Note that every lane is heading in the same direction. The Detroit auto industry is discussing whether it can actually meet the new EPA CAFE target of 54.5 mpg by 2025.