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FORD TO FIX AIRBAG ELECTRONICS PROBLEM ON ESCORT/TRACERS

Ford Motor Co. is recalling all 1997 Ford Escorts and Mercury Tracers to install a simple plastic shield over the cars' "integrated airbag monitor." The automaker says the current design is susceptible to fluid leaks or condensation from the heater case located within the dashboard.

In some cases, the problem has contributed to unintended airbag deployment, melted wiring and electrical fires, according to the company. The U.S. National Highway Traffic Safety Administration notified Ford of the problem earlier this year. The automaker has received more than 150 reports of unintended airbag deployment and faces several lawsuits filed by people claiming to have suffered minor injuries as a result of such situations.

The problem affects some 375,000 Escorts and 66,000 Tracers. Nearly 90% of the vehicles were sold in the U.S.

The location of the device in earlier model vehicles was farther away from the heater case and thus wasn't affected. In 1998, Ford says it switched to a sealed electronic single-point sensor with an integrated diagnostic monitor.

BODY-ON-FRAME PLATFORMS MAKING A COMEBACK?

Automakers have begun building more trucks and crossover vehicles on unibody car platforms. But that doesn't mean traditional body-on-frame truck platforms are dead, reports *Automotive Design & Production*. In some cases, it notes, automakers are considering reintroducing body-on-frame architectures for cars.

The advantages of a body-on-frame design include easy production process, superior noise and vibration characteristics, and the flexibility to build many models on a single common platform. A body-on-frame system also tends to be more durable and easier to service, making it especially attractive for trucks and high mileage cars such as taxis, limousines, police cruisers and rentals.

One example of how a body-on-frame system could work on a car is General Motors



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Corp.'s Chevrolet Bel Air concept convertible. Introduced at last year's Detroit auto show, the rear-wheel-drive vehicle rides on the same platform as the Chevy TrailBlazer—along with several other GM SUVs—and the new SSR sport pickup. One of the goals of the project was to produce a low-cost niche vehicle using existing components.

GM says it didn't expect to use a truck platform for the Bel Air but ultimately opted for the TrailBlazer/SSR chassis, which had proven it could be adapted to a variety of wheel-bases and engines. *AD&P* says GM is considering a production version of the concept.

Using the same platform for a car and truck presents several challenges, including maintaining traditional differences in vehicle proportions. GM notes that trucks typically have side rails located inside the rocker panels with the body sitting on top instead of between the rails. This improves front-end crash performance but creates a higher stance than most car designs.

Dana Corp. points out this could be overcome by using hydroforming dies to create separate side rails for cars and trucks. Such a system would allow the size of the rails to be quickly changed to accommodate either vehicle type while running on the same line. Both aluminum and steel also could be substituted as needed.

If designed in from the start, higher rails could benefit a car. For example, they would provide greater torsional rigidity, thus reducing the cowl shake that plagues many convertibles with unibody construction.

Drive-by-wire technology also could aid body-on-frame architectures by eliminating mechanical links between body and chassis, *AD&P* says. As a result, one basic frame could be mass produced to support an almost endless number of body styles.

CONSUMER RESEARCH PLAYS KEY ROLE IN DEVELOPMENT OF NEW NISSAN MICRA

In developing its new Micra supermini, Nissan Motor Co. says it used an unprecedented amount of research to determine what consumers wanted in the vehicle. As with its predecessor, which has tallied sales of 1.3 million units in Europe since its 1993 introduction, the all-new U.K.-made Micra targets female buyers.

To see how women stow shopping bags and luggage, Nissan engineers staked out supermarkets and airport parking lots. As a result, they developed a rear bench seat that slides forward and backward eight inches to increase trunk space or optimize rear-seat legroom. The automaker also increased the Micra's glove compartment to 781 cubic inches, and some models have a 732 cubic-inch storage tray under the front passenger seat.

Other convenience features include an "intelligent" key fob that automatically unlocks the door when someone carrying it is within three feet of the vehicle, headlights that remain on for 2 minutes after the ignition is turned off and the car is locked, and interior lights that automatically switch off if they are inadvertently left on when the motor isn't running. The vehicle also features rain-sensing windshield wipers and rear wipers that activate automatically when the car is put in reverse while the front wipers are on. Three new 16-valve four-cylinder gasoline engines (1.0- 1.2- and 1.4-liters) will be available at launch and a pair of common rail diesels will be added later in the year.

Available in three- and five-door models, the new car sits on a platform that was jointly designed with Renault SA, which will use it for its upcoming Clio small car. Prior to

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its introduction, Nissan loaned a small number of new Micras to driving instructors and nurses, then tweaked the design based on their input.

Nissan also makes the Micra in Japan, where it is sold as the March. In Europe, the car will compete against the VW Polo, Honda Jazz, Citroen C3, Seat Ibiza, Opel/Vauxhall Corsa, Hyundai Getz and the Ford Fiesta, as well as the upcoming new Citroen C2 and next year's Peugeot 107.

VOLVO TO DETAIL ACTIVE SAFETY SYSTEM AT SAE

Volvo Car Corp. says it has developed an active safety system to prevent unintended lane departures. Engineers from the automaker will discuss the system during a technical session on Monday, March 3, at the Society of Automotive Engineers' World Congress in Detroit.

Several other companies, including TRW, Siemens and Iteris, are developing similar systems. Volvo's approach consists of a camera with image-processing software that detects current lane position. The camera measures distances from the camera center-line to the left and right lane markings. If the vehicle appears to deviate from its course, a small amount of torque is applied to the steering wheel to guide the driver back onto the intended path.

The automaker says initial tests of the system have been successful and drivers don't perceive it as an "auto pilot." The SAE paper is entitled "Development of a Haptic Intervention System for Unintended Lane Departure."

FEDERAL-MOGUL BRINGS CERAMIC INSULATION CAPABILITY IN-HOUSE

Federal-Mogul Corp. is making a multi-million dollar investment in its Toledo, Ohio, Ignition Technical Center that will allow it to develop ceramic insulation systems for sparkplugs. The company previously outsourced this function.

Although ceramics have long been the insulation material of choice for sparkplugs, Federal-Mogul says the development process for ceramic insulators is rapidly changing. It says it is moving the process in-house to gain greater control and improve quality.

Federal-Mogul's new investment includes forming a ceramic group with employees who specialize in glass and aluminum oxide materials. Having this expertise within the company will facilitate face-to-face interaction with other Federal-Mogul product and process development engineers, as well as more contact with customers, according to the Southfield, Mich.-based company.

New equipment also is being added to enhance analysis, testing and development. As a result, Federal-Mogul expects to shorten lead times and identify the best ceramic blends and production methods for specific applications. The equipment can test for a variety of mechanical, electrical and other material properties. Some new equipment already is in place; the remainder is due to arrive by the end of April.

Federal-Mogul says it produces more than 1 million of its Champion sparkplugs per day and supplies them to virtually every OEM. The Toledo facility provides research-development and engineering support to all 10 of Federal-Mogul's ignition manufacturing plants, as well as to several outside licensees. The supplier also operates an ignition technical center in Upton, England.