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NEWS RELEASE

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NEW AIRBAG SYSTEM TO PROTECT OCCUPANTS' HEADS IN SIDE IMPACTS MAKES IMPRESSIVE CRASH TEST SHOWING

ARLINGTON, VA — A new airbag system designed to protect people's heads in serious side impacts made an impressive showing in a crash test yesterday by the Insurance Institute for Highway Safety. "This new BMW head protection system is a clear advancement. It will save lives by preventing head injuries in crashes that, without this system, would be fatal," Institute President Brian O'Neill points out.

To demonstrate this, the Institute, working with BMW, conducted two crash tests of BMW 5-series cars, a 1998 model in which the new Head Protection System (HPS) is standard equipment and a 1997 model without HPS. In each test, the car was propelled sideways at 20 mph into a rigid pole. The pole is relatively narrow, so there was major penetration into the side of each car. In the impact without HPS, the crash dummy's thorax was protected but its head hit the pole with more than enough force to cause death in a real-world impact. The head injury criterion was 4720, or more than four times the reference value (1000) used to indicate the likelihood of a serious head injury like a skull fracture.

Head Injury Measures Much Lower with New Head Protection System

In contrast, the head injury criterion in the same crash test with HPS was 620. "It was a survivable impact despite the major intrusion," O'Neill says. "This kind of airbag restraint system will protect people in many serious side impacts including two-vehicle crashes in which there's intrusion in the area near occupants' heads. Vehicle side structures cannot provide much crush space, so door and restraint system designs must be the keys to preventing serious occupant injuries in side impacts."

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BMWs are the first production cars with airbags to protect people's heads in side impacts, and other manufacturers are developing similar systems. For example, Volvo has announced it will offer "air curtains" to provide head protection in side impacts. The federal government estimates systems like these in all cars could prevent about 600 deaths from head injuries in crashes each year.

Federal Standard Needs Amending to Allow New Head Protection Systems

One reason for yesterday's crash test was to demonstrate the superiority of an inflatable head protection system while the federal government is considering changes to relevant safety requirements to facilitate the introduction of this type of technology. Federal Motor Vehicle Safety Standard (FMVSS) 201, which requires interior padding, has been amended to include padding or other energy-absorbing designs in areas where people's heads are likely to hit in crashes. But FMVSS 201's new test requirements, which all new cars must meet by the 2003 model year, were developed before side airbags and other crash deployable systems became available. If this standard isn't amended, it could prevent the use of inflatable head protection systems in the future because the deployment of such systems would prevent manufacturers from using padding that's thick enough to comply with FMVSS 201.

The National Highway Traffic Safety Administration is considering amendments to the federal standard to incorporate an optional 18 mph pole impact to assess compliance of vehicles with inflatable head protection systems. The Institute has told the agency it "strongly supports" such amendments, "which would provide necessary relief from specific test requirements for manufacturers who demonstrate that their deployable systems provide superior protection."

Broadcast-quality videotape and photographs of both side impact crash tests are available.