

INSURANCE INSTITUTE FOR HIGHWAY SAFETY

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SIDE IMPACT CRASH TEST RESULTS: CAMRY AND ACCORD WITH SIDE AIRBAGS RATED GOOD, MALIBU ACCEPTABLE; 10 OTHER MIDSIZE CARS RATED POOR IN TESTS SIMULATING CRASH WITH SUV

ARLINGTON, VA — The Toyota Camry and Honda Accord equipped with optional side airbags are the only inexpensive midsize cars to earn good ratings in side impact crash tests conducted by the Insurance Institute for Highway Safety. The Chevrolet Malibu



The Institute's side impact crash test represents what happens when a passenger vehicle is struck by a pickup truck or SUV.

with optional side airbags is rated acceptable. Ten other midsize car designs earned the lowest rating of poor (Attachment 1: ratings of all 13 midsize cars). The test simulates what happens when a pickup or SUV strikes a passenger vehicle in the side at 31 mph.

The Camry, Accord, and Malibu without side airbags are rated poor for side impact protection. Other car models that earned poor ratings are the Suzuki Verona, Mazda 6, Dodge Stratus/Chrysler Sebring, Nissan Altima, Saturn L Series, Hyundai Sonata/Kia Optima, and Mitsubishi Galant. The Institute's side impact test results are a relatively new addition to the frontal offset crash test ratings the Institute has been providing to consumers since 1995. This is the first set of Institute side impacts involving cars.

"Manufacturers have made major improvements in the protection vehicles provide to occupants in frontal crashes," says Institute president Brian O'Neill. "Most new vehicles

— MORE —

do well in the Institute's 40 mph frontal offset crash test. We believe this new test will drive similar improvements in protection for occupants in side crashes."

Side impacts are the second most common fatal crash type after frontal crashes. About 9,600 people were killed in side impacts in 2002, and in crashes between two passenger vehicles more driver deaths now occur in vehicles struck in the side than in the front. This contrasts with the past situation when there were many more deaths in frontal crashes.

"We simply haven't made the same progress in protecting people in side impacts as we have in frontal crashes," O'Neill points out.

Compared with federal test, Institute test produces higher risks for occupants of side-struck vehicles: In the Institute test, a moving deformable barrier strikes the driver side of a passenger vehicle at 31 mph. The barrier weighs 3,300 pounds and has a front end shaped to simulate the front end of a typical pickup or SUV. In each side-struck vehicle are two instrumented dummies the size of a short (5th percentile) female or a 12-year-old child, one positioned in the driver seat and one in the rear seat behind the driver. This is the first consumer test program to use a dummy that represents small women.

The federal government's side impact test uses a barrier representing a car's front end. In this test, there's no chance that the heads of the dummies in a struck vehicle will be hit by the intruding barrier. But in serious real-world side impacts, people's heads often are struck by intruding vehicles, especially if the striking vehicle is a pickup or SUV with a high hood. The Institute's barrier is taller than the government's to mimic the high hood heights of SUVs and pickups.

Top performers are Camry and Accord with side airbags: The Institute tested the Camry and Accord twice, with and without optional side airbags. (If a vehicle has side airbags as an option, the Institute's policy is to test the vehicle without the option. The manufacturer may request a second test with the optional airbags if it also reimburses the Institute for the cost of the vehicle.) In the tests of the Camry and Accord with side airbags, most injury measures for the front and rear passenger dummies were low. Both cars were equipped with side curtain airbags that deploy from the roof to protect people's heads plus torso airbags for the front-seat occupants.

"The Camry and Accord with side airbags are the only good performers in this group of midsize cars," O'Neill says. "The structure of the Camry did a reasonably good job of minimizing intrusion into the occupant compartment, and the curtain airbag prevented the dummies' heads from being hit by any hard structures, including the intruding barrier. The structure of the Accord didn't hold up quite as well as the Camry's, but injury measures were low and the Accord also earns the highest rating of good. Neither of these vehicles was quite good enough to earn a 'best pick' for side impact protection."

In contrast, the performances of the Camry and Accord without side airbags were poor. The heads of the driver dummies were struck by the intruding barrier, resulting in high injury measures.

"In a real-world crash of similar severity without side airbags, there would be a high likelihood of serious head injuries and rib fractures," O'Neill says. "In contrast, occupants of the Camry and Accord with the optional airbags would be much more likely to survive a severe crash like this without serious injuries."

Malibu with side airbags is rated acceptable: The Malibu's performance wasn't as good as the Camry's or Accord's, so this car earned the Institute's second highest rating in the side impact test. "The optional curtain airbag did a good job of reducing the injury measures recorded on the dummies' heads, but the torso injury measures for the driver dummy were too high and there was too much intrusion," O'Neill points out.

Vehicle side structure should prevent intrusion: There were major differences in how the structure of the sides of the cars performed in the test.

"In frontal crashes, well-designed vehicles have front ends that crumple to absorb energy and strong occupant compartments that resist intrusion," O'Neill explains. "This allows restrained occupants to be decelerated without injury. In contrast, there is virtually no crush space on the sides of vehicles. So in serious side crashes some intrusion is inevitable, but it should be minimized."

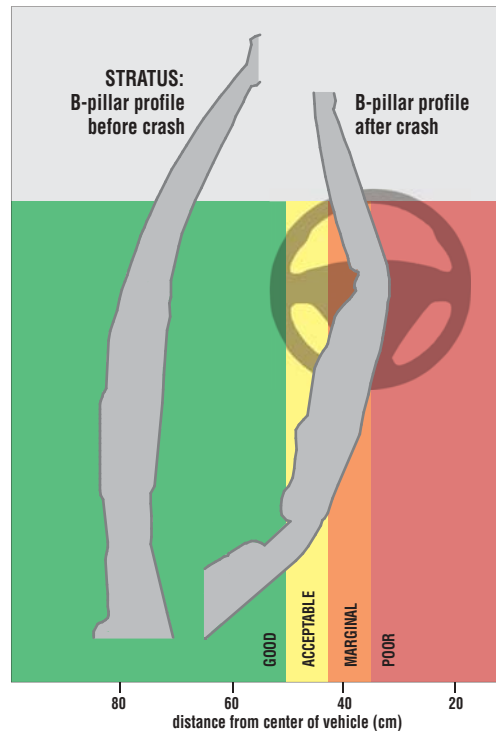
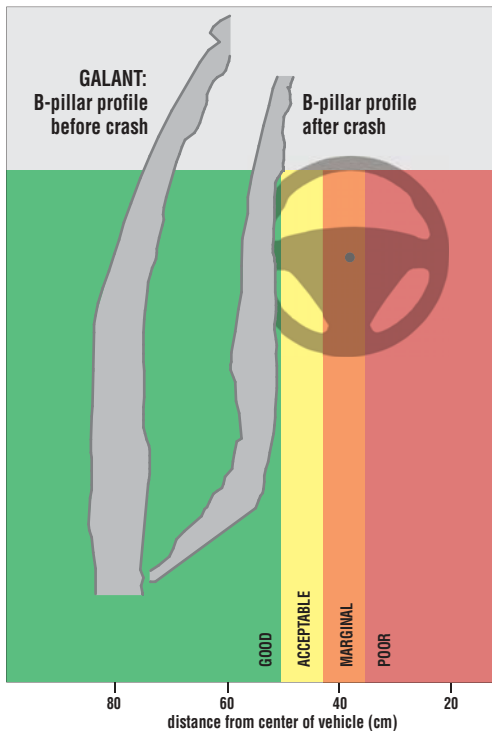
The Mitsubishi Galant had the best structural performance in this group of cars the Institute tested. The sill along the bottom of the doors wasn't severely crushed by

the barrier, and B-pillar intrusion was less than in the other cars in this group. Still, the Galant earned a poor overall rating, largely because it lacked a side airbag to protect the driver's head and torso protection



2004 MITSUBISHI GALANT: GOOD STRUCTURE
There was much less intrusion into the side of the Galant (above) than into the Stratus (right). Measured displacement of the B-pillar (below) indicates it didn't intrude significantly into the driver's space. But the overall rating is poor primarily because the driver dummy's head and torso weren't well protected.

2004 DODGE STRATUS: POOR STRUCTURE
The striking barrier intruded much farther into the side of the Stratus (above) than into the Galant (left). Measured displacement of the B-pillar (below) indicates it was pushed well into the vehicle. With this much intrusion there's a lot less room for restraints to protect the occupants.



was poor. In contrast, the Dodge Stratus had the poorest performing structure. The sill below the doors was severely crushed, and there was major intrusion of the B-pillar. This contributed to high injury measures for the dummies.

"To do really well in this test, vehicles need to have both side structures that resist major intrusion and side airbags that protect occupants' heads," O'Neill says.

Which cars have side airbags? What kind?

All except 1 of the midsize cars the Institute tested have side airbags as standard or optional equipment.

There are 4 basic types of side airbags:
side curtains intended to protect occupants' heads, side airbags intended to protect the torso only, combination torso/head designs, and tubular designs.

Toyota Camry	optional torso airbag + side curtain
Honda Accord	optional torso airbag + side curtain
Chevrolet Malibu	optional side curtain
Mitsubishi Galant	optional torso airbag
Hyundai Sonata/Kia Optima	standard combination torso/head airbag
Saturn L Series	standard side curtain
Nissan Altima	optional torso airbag + side curtain
Dodge Stratus/Chrysler Sebring	optional side curtain
Mazda 6	optional torso airbag + side curtain
Suzuki Verona	side airbags aren't available

Attachment 2: 2004 model passenger vehicles with side airbags

Side airbags for short as well as tall people:

The head of the driver dummy in the Saturn brushed past the standard side curtain airbag and was struck by the intruding barrier.

"Side curtain airbags need to cover enough of the window area to prevent people's heads from sliding underneath or around them," O'Neill points out. "Even though the head injury measures on the driver dummy in the Saturn weren't high, head contact with intruding objects should be prevented. The Saturn airbag doesn't do this for shorter occupants."

Sonata earns poor rating even though side airbag provided good head protection: The Hyundai Sonata has standard combination torso/head airbags that deploy from the side of the seats to protect the driver and front passenger. The side airbag for the driver did a good job of protecting the dummy's head, but there was major intrusion into the occupant compartment and high injury measures on the dummy's torso and pelvis.

The rest of the cars in this group the Institute tested also earned poor ratings. They had poor or marginal structures, and high injury measures were recorded on one or both of the dummies' heads and bodies.

Side airbags are reducing risks in real-world crashes: Recent Institute research shows that side airbags with head protection are reducing deaths by about 45 percent among drivers of cars struck on the driver side. Side airbags that protect the chest and abdomen, but not the head, also are reducing deaths but are less effective (about a 10 percent reduction in deaths). Before the availability of head-protecting airbags, there was virtually nothing to prevent people’s heads from being struck by intruding vehicles or rigid objects like trees or poles in serious side impacts.

“Our crash test results confirm what the Institute found is happening in real-world crashes,” O’Neill says. “Side airbags designed to protect people’s heads can prevent very serious head injuries. For the most part, vehicles with side airbags for the head are performing better in the Institute’s test. We expect this test to result in more vehicles equipped with side airbags as standard equipment.”

**FRONT VERSUS SIDE IMPACTS: DRIVER DEATHS IN CARS
 1-3 YEARS OLD, PER MILLION CARS REGISTERED**

CRASH TYPE	IMPACT DIRECTION	CALENDAR YEARS				Change: 1980-2000
		1980-81: RATE %	1990-91: RATE %	2000-01: RATE %		
All car crashes	Front	86 52	62 53	41 46	-52%	
	Side	42 26	37 32	32 37	-24%	
	All	164 100	117 100	87 100	-47%	
Car struck by other passenger vehicle	Front	36 61	22 53	12 43	-67%	
	Side	18 31	18 43	15 51	-17%	
	All	59 100	42 100	29 100	-51%	

Source: Fatality Analysis Reporting System,
 National Highway Traffic Safety Administration

Bigger share of the crash problem:

Driver death rates in frontal crashes declined by about half from 1980-81 to 2000-01. Meantime, reductions in death rates in side impacts haven’t been as dramatic. The result is that during 2000-01 side impacts accounted for 37 percent of driver deaths overall, up from 26 percent in 1980-81. In crashes involving a car

and another passenger vehicle, about half of the car driver deaths in 2000-01 occurred in side impacts. This compares with about a third of the deaths during 1980-81. This is because of significant improvements in frontal crash protection without corresponding improvements in side impact protection. For example, frontal airbags are standard in new vehicles. The structural designs of vehicles are better than

STRIKING VEHICLE	CALENDAR YEARS		
	1980-81	1990-91	2000-01
Car	70%	60%	43%
SUV or pickup	30%	40%	57%
	100%	100%	100%
Number of deaths in struck vehicles	634	751	616

Source: Fatality Analysis Reporting System,
 National Highway Traffic Safety Administration

they used to be. More motorists are using safety belts, which are more effective in frontal crashes than in side impacts.

Growing sales of SUVs and pickup trucks have exacerbated height mismatches among passenger vehicles,

and these mismatches increase the risk of serious head injuries among occupants of side-struck vehicles. The effect of the changing vehicle mix and changing risks for occupants in struck vehicles is apparent in the fact that 70 percent of driver deaths in passenger vehicles struck on the driver side by other passenger vehicles during 1980-81 occurred when the striking vehicle was another car. Thirty percent occurred when the striking vehicle was a pickup or SUV. By 2000-01 these percentages had almost reversed. Fifty-seven percent of the car driver deaths involved striking pickups or SUVs, and as the numbers of SUVs and pickups continue to increase so will this percentage.

How vehicles are evaluated in the Institute's test: Each vehicle's overall side impact evaluation is based on injury measures recorded on the two instrumented SID-IIIs dummies, assessment of head protection countermeasures, and the vehicle's structural performance during the impact.

Injury measures are obtained from the two dummies, one in the driver seat and the other in the rear seat behind the driver. These measures are used to determine the likelihood that the driver and/or passenger would have sustained serious injury to various body regions. Measures are recorded from the head, neck, chest, abdomen, pelvis, and leg. These measures, especially from the head/neck and torso (chest and abdomen), are major components of each vehicle's overall evaluation.

To supplement head injury measures, the movements and contacts of the dummies' heads during the crash are evaluated. This assessment is more important for seating posi-

tions without head-protecting airbags, which (assuming they perform as intended) should prevent injurious head contacts. Very high head injury measures typically are recorded when the moving deformable barrier hits a dummy's head during impact. But a "near miss" or grazing contact also indicates a potential risk of serious injury in a real-world crash. This is because small differences in occupants' heights or in their seating positions compared with the test dummies could result in a hard contact and high risk of serious head injury. In the rear seat, the potential for serious injury is influenced by whether the seating position puts occupants' heads in proximity to areas designed with padding or something else to reduce impact forces versus areas with hard or unprotected structures. Analysis of the movement and contact points of the dummies' heads during the side impact crash test is used to assess this aspect of protection.

Structural performance is based on measurements indicating the amount of B-pillar intrusion into the occupant compartment. Some intrusion into the compartment is inevitable in serious side impacts. Any intrusion that does occur should be uniform both horizontally and vertically and shouldn't seriously compromise the driver or passenger space.

These three factors are evaluated in the Institute's side impact tests — driver and passenger injury measures, head protection, and structural performance — to determine each vehicle's overall side crashworthiness evaluation.

End 8-page news release on side impact tests. 2 attachments:

**Crashworthiness evaluations (ratings) of midsize inexpensive cars
2004 passenger vehicle models equipped with side airbags (list)**

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For more information go to www.iihs.org

ATTACHMENT 1: CRASHWORTHINESS EVALUATIONS

Midsize inexpensive cars 4-door models	Side impact crash test performance						Frontal offset test	
	OVERALL SIDE EVALUATION		HEAD PROTECTION	INJURY MEASURES			STRUCTURE/ SAFETY CAGE	OVERALL FRONTAL EVALUATION
				Head/neck	Torso	Pelvis/leg		
TOYOTA CAMRY TESTED WITH OPTIONAL SIDE AIRBAGS 2004 models; test vehicle wt. = 3,203 lbs.	G	Driver Rear passenger	G G	G G	G G	A G	A	G
HONDA ACCORD TESTED WITH OPTIONAL SIDE AIRBAGS 2004 models; test vehicle wt. = 3,157 lbs.	G	Driver Rear passenger	G G	G G	G G	G G	M	G
CHEVROLET MALIBU TESTED WITH OPTIONAL SIDE AIRBAGS 2004 models (mfg. after 2/2004); test vehicle wt. = 3,250 lbs.	A	Driver Rear passenger	G G	G G	M G	G G	M	G
MITSUBISHI GALANT TESTED WITHOUT OPTIONAL SIDE AIRBAGS 2004 models (mfg. after 10/2003); test vehicle wt. = 3,386 lbs.	P	Driver Rear passenger	P M	M G	P G	G G	G	G
HYUNDAI SONATA/KIA OPTIMA TESTED WITH STANDARD SIDE AIRBAGS 1999-2004 models; test vehicle wt. = 3,277 lbs.	P	Driver Rear passenger	G M	G G	P G	P G	P	A
SATURN L SERIES TESTED WITH STANDARD SIDE AIRBAGS (OPTIONAL 2001) 2001-04 models; test vehicle wt. = 3,210 lbs.	P	Driver Rear passenger	P G	G G	P G	P G	P	A
NISSAN ALTIMA TESTED WITHOUT OPTIONAL SIDE AIRBAGS 2005 models; test vehicle wt. = 3,095 lbs.	P	Driver Rear passenger	P M	P A	A G	P G	P	G
HONDA ACCORD TESTED WITHOUT OPTIONAL SIDE AIRBAGS 2004 models; test vehicle wt. = 3,190 lbs.	P	Driver Rear passenger	P M	P A	P G	G G	M	G
TOYOTA CAMRY TESTED WITHOUT OPTIONAL SIDE AIRBAGS 2004 models; test vehicle wt. = 3,197 lbs.	P	Driver Rear passenger	P M	P G	M P	G G	A	G
DODGE STRATUS/CHRYSLER SEBRING TESTED WITHOUT OPTIONAL SIDE AIRBAGS 2001-04 models; test vehicle wt. = 3,126 lbs.	P	Driver Rear passenger	P M	A G	P M	P G	P	A
CHEVROLET MALIBU TESTED WITHOUT OPTIONAL SIDE AIRBAGS 2004 models (mfg. after 2/2004); test vehicle wt. = 3,254 lbs.	P	Driver Rear passenger	P M	P A	P G	M G	M	G
MAZDA 6 TESTED WITHOUT OPTIONAL SIDE AIRBAGS 2003-04 models; test vehicle wt. = 3,137 lbs.	P	Driver Rear passenger	P A	P G	M P	P G	M	G
SUZUKI VERONA SIDE AIRBAGS NOT AVAILABLE 2004 models; test vehicle wt. = 3,404 lbs.	P	Driver Rear passenger	P M	P G	P M	M M	M	A

G **GOOD**
 A **ACCEPTABLE**
 M **MARGINAL**
 P **POOR**

NOTE: Order of vehicles reflects performance in side impact crash tests.

ATTACHMENT 2 (p.1 of 5)

2004 PASSENGER VEHICLE MODELS WITH SIDE AIRBAGS

	<u>Seating position</u>	<u>Type of side airbag</u>	<u>Standard or optional</u>
ACURA			
3.2 TL / MDX / TSX	Front	Torso & curtain	Standard
	Rear	Curtain	Standard
3.5 RL	Front	Torso	Standard
RSX	Front	Torso	Standard
AUDI			
A4 / S4 except Cabriolet	Front	Torso & curtain	Standard
	Rear	Curtain	Standard
	Rear	Torso	Optional
A4 / S4 Cabriolet	Front	Torso/head combination	Standard
A6 / Allroad	Front	Torso & curtain	Standard
	Rear	Curtain	Standard
	Rear	Torso	Optional
A8	Front & rear	Torso & curtain	Standard
TT	Front	Torso/head combination	Standard
BMW			
3 Series / M3 except convertible	Front	Torso & inflatable tube	Standard
	Rear	Torso	Optional
3 Series / M3 convertible	Front	Torso	Standard
	Rear	Torso	Optional
5 Series	Front	Torso & inflatable tube	Standard
	Rear	Inflatable tube	Standard
	Rear	Torso	Optional
6 Series except convertible	Front	Torso & inflatable tube	Standard
6 Series convertible	Front	Torso	Standard
Z4 Roadster	Front	Torso	Standard
7 Series	Front	Torso & inflatable tube	Standard
	Rear	Inflatable tube	Standard
	Rear	Torso	Optional
X3	Front	Torso & inflatable tube	Standard
	Rear	Inflatable tube	Standard
	Rear	Torso	Optional
X5	Front	Torso & inflatable tube	Standard
	Rear	Torso & inflatable tube	Optional
Mini Cooper	Front	Torso & inflatable tube	Standard
	Rear	Inflatable tube	Standard
BUICK			
Century / Regal	Driver only	Torso/head combination	Optional
LeSabre / Rainier	Front	Torso	Optional
Park Avenue	Front	Torso	Standard
Rendezvous	Driver	Torso/head combination	Optional
	Front passenger	Torso	Optional
CADILLAC			
CTS	Front	Torso & curtain	Standard
	Rear	Curtain	Standard
DeVille	Front	Torso	Standard
	Rear	Torso	Optional
Escalade & ESV & EXT	Front	Torso	Standard
Seville / XLR Roadster	Driver	Torso/head combination	Standard
	Front passenger	Torso	Standard
SRX	Front	Torso & curtain	Standard
	Rear	Curtain	Standard

ATTACHMENT 2 (p.2 of 5)**2004 PASSENGER VEHICLE MODELS WITH SIDE AIRBAGS**

	<u>Seating position</u>	<u>Type of side airbag</u>	<u>Standard or optional</u>
CHEVROLET			
Avalanche / Cavalier	Front	Torso	Optional
Suburban / Tahoe	Front	Torso	Optional
Colorado / Malibu	Front & rear	Curtain	Optional
Impala / Monte Carlo	Driver only	Torso/head combination	Optional
SSR	Front	Torso	Standard
TrailBlazer & EXT	Front	Torso	Optional
Venture	Driver	Torso/head combination	Optional
	Front passenger	Torso	Optional
CHRYSLER			
300M / Concorde / PT Cruiser	Front	Torso/head combination	Optional
Crossfire	Front	Torso	Standard
Pacifica	Front & rear	Curtain	Optional
Sebring 4dr	Front & rear	Curtain	Optional
Sebring 2dr except convertible	Front	Torso/head combination	Optional
Town & Country	Front	Torso/head combination	Optional
DODGE			
Caravan / Grand Caravan	Front	Torso/head combination	Optional
Stratus 2dr	Front	Torso/head combination	Optional
Stratus 4dr	Front & rear	Curtain	Optional
Durango / Ram pickup	Front & rear	Curtain	Optional
Intrepid / Neon / SRT-4	Front	Torso/head combination	Optional
FORD			
Crown Victoria	Front	Torso/head combination	Optional
Escape	Front	Torso/head combination	Optional
Explorer & Sport Trac	Front & rear	Curtain	Optional
Expedition	Front & rear	Curtain	Optional
Focus / Taurus	Front	Torso/head combination	Optional
Freestar	Front	Torso & curtain	Optional
	Rear	Curtain	Optional
Thunderbird	Front	Torso/head combination	Standard
GMC			
Canyon	Front & rear	Curtain	Optional
Envoy & XL & XUV	Front	Torso	Optional
Yukon & XL	Front	Torso	Optional
HONDA			
Accord	Front	Torso & curtain	Optional
	Rear	Curtain	Optional
Civic / CR-V / Element	Front	Torso	Optional
Civic Hybrid / Pilot	Front	Torso	Standard
Odyssey	Front	Torso	Standard
HYUNDAI			
Accent / Elantra	Front	Torso/head combination	Standard
Sonata / XG350	Front	Torso/head combination	Standard
Santa Fe / Tiburon	Front	Torso/head combination	Standard

ATTACHMENT 2 (p.3 of 5)**2004 PASSENGER VEHICLE MODELS WITH SIDE AIRBAGS**

	<u>Seating position</u>	<u>Type of side airbag</u>	<u>Standard or optional</u>
INFINITI			
FX-series / G35 / M45	Front	Torso & curtain	Standard
	Rear	Curtain	Standard
Q45 / QX56	Front	Torso & curtain	Standard
	Rear	Curtain	Standard
I35	Front	Torso/head combination	Standard
ISUZU			
Ascender	Front	Torso	Optional
Ascender EXT	Front	Torso	Standard
JAGUAR			
S-Type / XJ-Series / X-Type	Front	Torso & curtain	Standard
	Rear	Curtain	Standard
XK-Series	Front	Torso/head combination	Standard
JEEP			
Grand Cherokee / Liberty	Front & rear	Curtain	Optional
KIA			
Optima	Front	Torso/head combination	Standard
Sorento	Front & rear	Curtain	Standard
Amanti	Front & rear	Torso & curtain	Standard
Spectra	Front	Torso & curtain	Optional
	Rear	Curtain	Optional
LAND ROVER			
Range Rover	Front	Torso & inflatable tube	Standard
	Rear	Inflatable tube	Standard
LEXUS			
ES 330 / GX 470 / LS 430	Front	Torso & curtain	Standard
	Rear	Curtain	Standard
LX 470 / RX 330	Front	Torso & curtain	Standard
	Rear	Curtain	Standard
GS series / IS 300	Front	Torso & curtain	Standard
SC 430	Front	Torso	Standard
LINCOLN			
Aviator / Navigator	Front & rear	Curtain	Standard
LS	Front	Torso/head combination	Standard
	Front	Torso & curtain	Optional
	Rear	Curtain	Optional
Town Car	Front	Torso/head combination	Standard
MAZDA			
3 / 6	Front	Torso & curtain	Optional
	Rear	Curtain	Optional
MPV / Tribute	Front	Torso/head combination	Optional
RX-8	Front	Torso & curtain	Standard
	Rear	Curtain	Standard

ATTACHMENT 2 (p.4 of 5)**2004 PASSENGER VEHICLE MODELS WITH SIDE AIRBAGS**

	<u>Seating position</u>	<u>Type of side airbag</u>	<u>Standard or optional</u>
MERCEDES-BENZ			
C / CL class / CLK class 2dr	Front & rear	Torso & curtain	Standard
CLK class convertible	Front	Torso/head combination	Standard
	Rear	Torso	Standard
E class / S class	Front & rear	Torso & curtain	Standard
M class	Front & rear	Torso & curtain	Standard
SL class	Front	Torso/head combination	Standard
SLK class	Front	Torso	Standard
MERCURY			
Grand Marquis	Front	Torso/head combination	Standard
Monterey	Front	Torso & curtain	Optional
	Rear	Curtain	Optional
Mountaineer	Front & rear	Curtain	Optional
Sable	Front	Torso/head combination	Optional
MINI			
Cooper	Front	Torso & inflatable tube	Standard
	Rear	Inflatable tube	Standard
MITSUBISHI			
Eclipse / Galant / Lancer	Front	Torso	Optional
Endeavor / Outlander	Front	Torso	Optional
Montero	Front	Torso	Standard
NISSAN			
350Z except convertible	Front	Torso & curtain	Optional
350Z convertible	Front	Torso	Optional
Altima / Pathfinder / Titan	Front	Torso & curtain	Optional
	Rear	Curtain	Optional
Pathfinder Armada / Quest	Front	Curtain	Standard
	Front	Torso	Optional
	Rear	Curtain	Standard
Maxima / Murano	Front	Torso & curtain	Standard
	Rear	Curtain	Standard
Sentra	Front	Torso/head combination	Optional
Xterra	Front & rear	Curtain	Optional
OLDSMOBILE			
Bravada	Front	Torso	Optional
Silhouette	Driver	Torso/head combination	Standard
	Front passenger	Torso	Standard
PONTIAC			
Aztek	Driver	Torso/head combination	Optional
	Front passenger	Torso	Optional
Bonneville	Front	Torso	Standard
Grand Prix	Front & rear	Curtain	Optional
Montana	Driver	Torso/head combination	Standard
	Front passenger	Torso	Standard
Sunfire / Vibe	Front	Torso	Optional

ATTACHMENT 2 (p.5 of 5)

2004 PASSENGER VEHICLE MODELS WITH SIDE AIRBAGS

	<u>Seating position</u>	<u>Type of side airbag</u>	<u>Standard or optional</u>
PORSCHE			
911 / Boxster	Front	Torso	Standard
Cayenne	Front	Torso & curtain	Standard
	Rear	Curtain	Standard
SAAB			
9-3 except convertible	Front	Torso & curtain	Standard
9-3 convertible / 9-5	Rear	Curtain	Standard
	Front	Torso/head combination	Standard
SATURN			
ION / VUE	Front & rear	Curtain	Optional
L Series	Front & rear	Curtain	Standard
SCION			
xA	Front	Torso & curtain	Optional
	Rear	Curtain	Optional
SUBARU			
Forester	Front	Torso/head combination	Standard
Impreza	Front	Torso/head combination	Optional
Legacy / Outback	Front	Torso	Optional
TOYOTA			
4Runner / Camry	Front	Torso & curtain	Optional
	Rear	Curtain	Optional
Camry Solara except convertible	Front	Torso	Standard
	Front	Curtain	Optional
	Rear	Curtain	Optional
	Front	Torso	Standard
Camry Solara convertible / Avalon	Front	Torso	Optional
	Front	Torso	Optional
Celica / Corolla / Echo / Matrix	Front	Torso & curtain	Optional
	Rear	Curtain	Optional
Highlander / Land Cruiser	Front	Torso & curtain	Optional
	Rear	Curtain	Optional
Prius / RAV4 / Sienna	Front	Torso & curtain	Optional
	Rear	Curtain	Optional
Sequoia	Front	Torso & curtain	Standard
VOLKSWAGEN			
Golf / Jetta / Passat / Touareg	Front	Torso & curtain	Standard
	Rear	Curtain	Standard
New Beetle / New Beetle convertible	Front	Torso/head combination	Standard
	Front & rear	Torso & curtain	Standard
VOLVO			
C70	Front	Torso/head combination	Standard
S40 / S60 / S80	Front	Torso & curtain	Standard
	Rear	Curtain	Standard
V40 / V70 / XC90	Front	Torso & curtain	Standard
	Rear	Curtain	Standard