

APPENDIX B

Information concerning air bag deactivation

This information sheet contains basic information about air bag benefits and risks. It is up to date as of November 30, 1996. If you need more information you may call the Auto Safety Hotline at (800) 424-9393 or visit the vehicle safety home page at www.nhtsa.dot.gov.

Air Bags - What they are and what they do

An air bag is a fabric bag that is stored within the hub of the steering wheel or in the dashboard on the passenger's side of a vehicle. It is attached to a metal housing that contains the inflator for the air bag. When crash sensors in the front of the vehicle detect a crash, they trigger the inflator, rapidly inflating the air bag.

The bag must inflate very quickly, in the blink of an eye, if it is to inflate in time to protect a vehicle occupant from striking the steering wheel, dashboard, or windshield. If it inflates fully before the occupant moves into it, it enables the occupant to stop gradually. Gradual stops are safer than sudden stops. Since the air bag also spreads the crash forces over a large area of the body, it is very effective in reducing deaths and injuries in frontal crashes.

The requirement for air bags

By law, driver and passenger air bags must be installed in 95 percent of passenger cars in model year 1997 and 100 percent in model year 1998. They must be installed in 80 percent of light trucks in model year 1998 and in all light trucks in model year 1999. The manufacturers are already installing them in virtually 100 percent of passenger cars and most light trucks.

By November 1996, approximately 53 million passenger cars and light trucks were equipped with air bags. Of these vehicles, about 24 million had both driver and passenger air bags.

The benefits

As of November 1996, the government estimates that more than 1500 drivers and 164 passengers have been saved by air bags. This number is rapidly increasing as more vehicles equipped with air bags enter the fleet. Taking all

crashes together, the air bag is reducing fatal injuries by 11 percent for drivers and 13 percent for adult passengers.

The greatest protection comes from using safety belts with air bags. The safety belt keeps an occupant's hips in place during a crash and limits the forward movement of the occupant's head and upper body. The air bag prevents the occupant's head and upper body from striking the windshield or dashboard. The latest studies indicate that occupants protected by safety belts and air bags are 50 percent less likely than unrestrained occupants to suffer fatal or serious injury in a crash.

The risks

The air bag's speed is also the source of its risk. The air bag is not a soft, pillowy cushion. If an occupant is too close to the air bag when it begins to inflate, the bag can impact the chest or head of the occupant with great force. If the occupant is extremely close to the air bag when it inflates, the injuries can be serious or fatal. As of November 1996, the government has verified reports of 19 drivers and 33 passengers, 32 of them children under 10 years old, who have been killed by air bags..

The driver air bag

Of the 19 drivers fatally injured since 1990, only five were wearing their safety belts and two of these had lost consciousness before the crash and were slumped over the wheel when the air bag deployed. Ten were short women (5'2" or less), 9 of whom were driving vehicles made in 1992 or earlier model years. Most of the women drivers were 64 or older. During this same period, in contrast, air bags saved hundreds of short women from serious or fatal injuries.

The risk appears greater for unbelted drivers and for smaller and older drivers, particularly those who must be very close to the steering wheel in order to reach the pedals. The risk can be significantly reduced by wearing the safety belt, sitting as far back as access to the pedals permits, and inclining the seat back away from the steering wheel.

Considering whether to disconnect the driver air bag

For most drivers, reasonable measures (moving the seat rearward, inclining the seat back, adjusting a telescoping steering wheel toward the dashboard) can provide an adequate distance between the driver and the steering wheel. The government has not evaluated devices such as pedal blocks or extenders that enable short drivers to move back from the steering wheel. Before considering such a device as an alternative to deactivating an air bag, a driver should

carefully evaluate the device's ease of use and safety. Information about them can be obtained from the National Mobility Dealers Association at 1-800-833-0427.

If a driver takes all reasonable measures but cannot get further than about [] inches from the air bag when wearing his or her safety belt, it is possible that pre-crash braking or the forces of a crash could move the driver too close to the inflating bag. In that case, the driver might want to consider disconnecting the air bag.

Other factors that bear on disconnection include the driver's age and physical condition. Older drivers are at greater risk of injury in a crash, with or without an air bag, and may want to consider this fact if they are also unable to sit more than [] inches from the air bag. Some persons with medical disabilities that require assistive appliances such as tracheotomy tubes also need to pay particular attention to their distance from the air bag. If you are uncertain whether a medical condition poses a risk, you should consult your doctor.

The passenger air bag

Most of the air bag related deaths have occurred in the last three years, as passenger air bags began to enter the fleet in large numbers. Of the children killed, 9 were riding in rear-facing infant seats and 18 were riding unrestrained in the front seat. Two children were restrained by a lap belt only and two (one a small four-year-old) were restrained by a lap and shoulder belt.

In addition to the children, the death of one adult passenger, a woman in her 90's, has been verified as air bag related.

Considering whether to disconnect the passenger air bag

If the vehicle is to be used to carry adults only, there is no reason to consider disconnecting the air bag. The air bags are proving to be effective for adult passengers. With the exception of a woman in her 90's, no adult passenger is known to have been killed by an air bag. In all but the rarest circumstances, an adult passenger would be able to position the seat far enough away from the dash to obtain the benefit of the air bag without the risks. Even in the case of vehicles with bench seats operated by small drivers, the passenger seat would be far enough from the air bag to give a belted passenger adequate distance from the air bag.

If the vehicle is used to transport children under twelve, the government's recommendation is that they should ride in the rear seat wherever possible. Placing children in the rear seat will completely eliminate any risk from the air bag and make deactivation unnecessary. If for any reason you must carry a

child (other than an infant) in the front seat, make sure that the child is securely buckled in a restraint appropriate for the child's size and age, move the seat back as far as possible, and make sure that the child sits back against the seat.¹

Although there are no verified reports of fatal injuries to belted children who were sitting back in the seat at the moment of impact, parents should be aware that there may still be a risk to a restrained child, since children tend to move around (adjusting the radio, reaching for a soda, etc.) even when they are restrained. Parents should decide whether to deactivate the air bag in the light of this information.

Under NO circumstances should an infant be carried on the front seat in a rear-facing infant seat unless the air bag is deactivated. In a rear-facing seat, an infant's head would be very close to the inflating air bag. The risk of serious or fatal injury is very high. If it is not feasible to carry an infant in the rear seat, either because the vehicle lacks a rear seat or because of a medical condition that requires constant attention, the air bag should be deactivated. Do not attempt to turn a rear-facing infant seat around or carry an infant under 20 pounds in any forward-facing seat.

How to disconnect an air bag

Deactivating an air bag can be dangerous. It should not be attempted by anyone but a qualified mechanic. Although Federal regulations now permit dealers and motor vehicle repair businesses to disconnect air bags, NHTSA strongly discourages disabling except in special circumstances, since air bags used with safety belts almost always provide better protection than safety belts alone.

¹ Depending on the size and age of the child, the appropriate restraint could be a forward-facing child safety seat (for children from approximately one to four years, or 20 to 40 pounds), a booster seat plus a lap/shoulder belt (for children older than four or more than 40 pounds), or a lap/shoulder belt alone (for children who are large enough to wear the shoulder belt comfortably across the shoulder and to secure the lap belt across their pelvis, and who have legs long enough to dangle over the front of the seat when their backs are on the seat back).