Air Bag Safety Meeting Kit

The air bag is a supplemental vehicle safety device; the first line of defense is the seatbelt. The risk of death in an accident is reduced by 65 percent with seat belts alone; seat belt use in combination with an air bag reduces risk by an additional 15 percent.

HOW AIRBAGS WORK

The airbag’s deployment is controlled by sensors that detect the occurrence and severity of a crash. When the airbag controller determines that the airbag should be deployed, the system triggers an inflator unit that burns chemicals very rapidly to produce large volumes of inert gas to inflate the bag.

As the bag inflates, it splits open the covers on the wheel / dash / pillar / seat etc.

In the case of a front airbag, as the occupant’s head and upper body moves forward and strikes the inflated bag, the bag starts deflating through vent holes in its base to cushion the decelerating head’s forward movement.

The whole process of inflating and deflating occurs within about 100 milliseconds.

Side and curtain airbags are sometimes slightly slower to deflate as the types of crash they are designed to protect against are different to frontal impacts.

DRIVER AND PASSENGER PROTOCOL

Drivers should review the vehicle owner’s manual to determine the type and location of the vehicle air bags. Drivers should wear shoulder and lap belts securely and move the seat back as far as possible and recline it slightly. To reduce the risk of arm and hand injuries, drivers should hold the steering wheel from the sides (the traditional 10 o’clock and 2 o’clock positions).

Tilting the steering wheel down directs the air bag deployment force away from the head and neck.

Passengers should always wear their lap and shoulder belts securely. Passengers in the front seat should move the seat as far back as possible and slightly recline it. Pregnant women, children age 13 and up, small statured adults (5 feet, two inches or shorter), adults with medical conditions, and the elderly may sit in the front seat with an air bag if they are securely belted, move the seat back, recline it slightly, and sit straight in the seat with feet on the floor.

ON-OFF SWITCH: There are few circumstances under which the risk of sitting in front of an active frontal air bag outweigh the safety benefits. Under these circumstances, NHTSA will authorize the installation of an air bag ON-OFF switch. **Authorization will be granted under the following four circumstances:**

1. A rear-facing infant restraint must be placed in the front seat of a vehicle because there is no rear seat or the rear seat is too small for the child restraint. (For the passenger air bag only.)
2. A child under 13 years of age must ride in the front seat because the child has a condition that requires frequent medical monitoring in the front seat. (For the passenger air bag only.)
3. An individual with a medical condition is safer if the frontal air bag is turned off. A written statement from a physician must accompany each request based on a medical condition unless the request is based on a medical condition for which the National Conference on Medical Indications for Air Bag Deactivation recommends deactivation. (For driver and/or passenger frontal air bag as appropriate.)
4. A driver must sit within a few inches of the air bag, typically because she or he is of extremely small stature (i.e., 4 feet 6 inches or less). (For the driver frontal air bag only.)

THE BEST SAFETY AIRBAG PRACTICES FOR CHILDREN

- The safest place for all infants and children younger than 13 years to ride is in the back seat.
- All children should be properly secured in car seats, belt-positioning booster seats, or the seat belts correct for their size.

- All infants and toddlers should ride in a rear-facing car seat as long as possible or until they reach the highest weight or height allowed by their car safety seat’s manufacturer.
- All children who have outgrown the rear-facing weight or height limit for their car seat, should use a forward-facing car seat with a harness for as long as possible, up to the highest weight or height allowed by the car seat’s manufacturer.
- All children whose weight or height is above the forward-facing limit for their car seat should use a belt-positioning booster until the seat belts fit properly, typically when they have reached 4 feet 9 inches in height and are between 8 and 12 years of age.
- When children are old enough and large enough to use seat belt alone, they should always use lap and shoulder seat belts for optimal protection.

FINAL WORD

The use of air bags in vehicles can supplement safety for drivers and passengers, but improper use of safety devices such as seatbelts can cause serious injury or death. Always make sure to wear your seatbelt, and buckle children up in the back seat.