AIR BAG SAFETY

1 - Incidents with a Deployed Air Bag

Deployed air bags are not dangerous. Powder, which may be seen inside the vehicle is usually cornstarch or talcum powder. Also mixed with the residual powder is a small amount of sodium hydroxide, a byproduct of combustion that takes place in the inflator module. This chemical is slightly alkali and may cause skin and eye irritation. When irrigated with water, sodium hydroxide becomes harmless baking soda. Wear turn out gear and protect your eyes.

2 - Incidents with an Underplayed Air Bag

While every crash poses unique conditions, there are some procedures that will help minimize risks.

1) Identify the presence of undeployed air bags.
Look for the words, ***Supplemental Inflatable Restraint or Air Bag,*** or the initials ***SIR, SRS, or SIPS*** printed on the steering wheel hub, instrument panel, and dashboard, windshield, on or over the sun visor, driver's side B-post, or on the outboard side or back of the seat to determine whether the car is equipped with side air bags.

2) Disconnect the power to the air bag system. Turn off the engine, and disconnect both battery cables. Disconnect the negative cable first. **Even after a battery disconnect, it is possible that static electricity can deploy the air bag.** Static electricity can be generated by the use of hydraulic shears and rams, rescue personnel sliding across the seat and the cutting of safety belts. Also, the use of rams and the prying open of body parts can trigger the deployment of mechanically activated side air bags. This is why it is always best to treat air bag systems as if they were **"live"**.

3) If time permits, wait until the air bag system is deactivated. Check the ***Air Bag Deactivation Times*** chart to find out how long it takes for the backup system to completely deactivate.

4) As an added precaution, extrication preparation efforts should be performed from the side of the occupants, through the roof, and away from the potential deployment path of the air bags.

5) Avoid placing yourself or equipment between undeployed air bags and the occupant.

6) Move seats with occupants away from frontal air bags and lower the seat back if it is appropriate for the victim and type of injuries. When possible, tilt the steering wheel to provide additional clearance.

7) Do not mechanically displace or cut through the steering column until the battery has been disconnected and all other rescue techniques have been performed and exhausted. On most air bag systems cutting through the steering column should not cause the air bag to deploy. However, some mechanical systems, with the sensor built into the back of the air bag module, are sensitive to sudden movement.

1) Do not place anything over the air bags to try to hold it in or puncture the air bags to keep them from deployment.

3 - Incidents with a Fire

An undeployed air bag is designed to inflate in a normal manner if the chemicals sealed inside the air bag module reach a temperature above 350 degrees. In case of a passenger compartment fire , the gas generators, after several minutes, may reach 350 degrees and ignite, causing the air bags to deploy.

Any effective fire fighting medium, including water, can be used to extinguish fires. Use normal fire extinguishing procedures, and proceed with normal rescue guidelines. Cool the steering column, air bag module, and the passenger side dash area for several minutes after initial fire knockdown.

A moderate to severe side impact, or T-bone, will trigger that particular side air bag if the vehicle is so equipped.

It is safe to breathe air in the passenger compartment after an air bag has deployed. There have been a few complaints of minor distress, such as brief

coughing spells.

4 Deactivation of mechanically operated side or frontal air bags

Some 1995-97 Volvos (see list) have side impact air bags, located in both front seats that are independent of each other and the frontal air bag system. All Volvos with side air bags display the letters ***"SIPS"*** on the windshield or on the plastic cover on the outboard side of the seat. Each side air bag is a self-contained mechanical, non-electrical system. In a crash, the side impact air bag will deploy if the seat panel receives sufficient pressure or a hard blow or if the door is closed and there is an object between the door and seat. Therefore, this type of contact with the seat should be avoided after the crash, during victim extrication.

Rescue workers can disarm the Volvo's side air bag system by locating and cutting the black, ribbed cable running from the sensors unit to the air bag. It can be reached between the bottom and back cushions of the seat.

The side air bags in Mercedes-Benz vehicles are operated by the electrical system and are deactivated with the frontal air bags.

The Jaguar XJS model (up to model year 1995) has a mechanically activated frontal air bag system that can't be deactivated in the field. Take extreme care to avoid sharp, jolting impacts to the steering column, and try to move the seat backward to aid in the extrication of the victim.

In 1997, BMW introduced an ITS system (Inflatable Tubular Structure) air bag in some of their vehicles. This is a form of side impact protection for the head. It is installed above the door frame of the vehicle and will drop down (in a tube shape, diagonally crossing the window) when it deploys. This device will be deactivated with the other electrical air bag systems in the vehicle.

5 Side Impact Air Bag Location

- All but Volvo and pre 1996 Jaguar bleed down electrically
- Virtually all have seat belt pre-tensioners in "B" pillar that fire down or forward into rocker panel and triggered by the sensors independently located in "B" pillar

- All are pre-set to deploy at 270^{o} to 350^{o} Fahrenheit in a vehicle fire
- A plugged in Cell Phone or theft alarm will bleed power back into all electrical systems
- The "ITS or "HPS" and the "IC" or "VIC" deploy with thorax bags

6 Important Points to Remember:

Identify undeployed air bags. Look for air bags in the front, side and, with some new vehicles, overhead positions. If you still can't tell whether the vehicle has air bags or not, assume it has them.

Move seats with occupants away from frontal air bags. Do this before disconnecting the battery in case the front seats are powered. When possible, tilt the steering wheel to provide additional clearance.

Deactivate the air bag system by disconnecting the battery cables, and, when you can, wait for the proper deactivation time.

Stay out of the deployment path.

Never place any equipment between the undeployed air bags and the occupant.

Do not place anything over the undeployed air bags to try to hold them in or to puncture the air bag cover.

Wear gloves and eye protection such as those normally used by rescue personnel.

Any effective fire fighting medium, including water, can be used to extinguish fires. Use normal fire-extinguishing procedures, and proceed with normal rescue guidelines. Cool the steering column, air bag module, and the passenger side dash area for several minutes after the initial fire knockdown.

Treat every undeployed air bag as if it were "live".