

Vehicle Options

Air Bags/Supplemental Restraint Systems

Air bags are also known as Supplemental Restraint Systems (SRS). You will know if your vehicle is equipped with them because the words **Air Bag** or the initials **SRS** will appear on the steering wheel hub (for a driver side air bag) and on the dash in front of the passenger (for the passenger side air bag).

Air bags are meant to work in concert with the vehicle's **primary restraint system** – the lap and shoulder belt (seat belt). Without the use of the primary restraint system, the deploying air bag would only give a vehicle occupant something else to bounce off of in the event of a crash. When used in concert with the seat belt, the deploying air bag saves the driver / passenger from impacting with the steering wheel, windshield , dashboard or the frame during the worst of the crash's forward momentum.

The supplemental restraint system **does not contain harmful chemicals**, which will burn the occupants. The active ingredients, which are present in the vehicle compartment when an air bag deploys, include sodium azide and baking soda - both fairly harmless substances, but which can cause irritation if they come in contact with a person's eyes, nose or other sensitive areas. If this happens, rinse thoroughly as soon as possible.

Air bags that have deployed in a crash situation have been known to cause **minor injuries** (i.e. facial scraping, bruising, broken wrists and fingers, etc). If you have an air bag, you should hold the steering wheel at the “**9 and 3 o'clock position**”.

Remember...if your vehicle is air bag equipped, **you should not sit closer than 26 cm (10 inches) from the steering hub** - don't hunch over the steering wheel or tilt the steering wheel upwards - this could cause a more serious injury if the bag deploys. **Never place a rear-facing infant seat in a seating position that is air bag equipped.** If you are going to seat a child in a front seating position that is air bag equipped, ensure the child is properly restrained in the appropriate size child restraint or in a lap-shoulder belt combination (if they have outgrown their child restraint). Ensure they remain seated in the upright position and that the seat they are sitting in is in its' rear-most position.

For more information, contact a vehicle manufacturer or Transport Canada.

Anti-lock Brakes (ABS)

Anti-lock brakes are standard equipment on many of the new vehicles sold in Canada and the US today. There are **two primary advantages** to the anti-lock braking system. First, they operate in such a manner as to allow a vehicle to have **maximum braking power, but will monitor the braking power as it reaches the point of lock-up**. Secondly, and possibly the best feature of the anti-lock system, **the driver retains steering control while having maximum braking power**.

Unfortunately, many vehicle operators who buy a new vehicle or rent a vehicle, which is equipped with anti-lock brakes, are not fully aware of what the brakes do or how they work. Many consumers are under the impression that having ABS on a vehicle will allow them to stop in a much shorter distance in all situations and weather conditions - **this is not the case**.

The following are some characteristics and ways to best use the various anti-lock brake systems.

- Depending upon the system your vehicle has, the **brake pedal may pulsate** when you are applying steady, heavy pressure in a braking situation.
- In a hard braking situation, the vehicle will feel like it is braking, then not braking, and then braking again in a sequence.
- In a hard braking situation, the ABS will determine when brakes are nearing lock-up and **release the braking power to ensure brakes do not lock-up** - this is normal!
- In an emergency braking situation, the best way to use ABS is to **apply your foot hard on the brake pedal and do not let up on it** - keep it there and keep the pressure steady. **Do not pump anti-lock brakes!**
- Ensure that if you must replace any tires, that they are the **right size** that is recommended in the Vehicle Owner's Manual. Placement of over or under-sized tires on a vehicle, which is equipped with anti-lock brakes, may disable the system.

Head Restraints

Each year there are thousands of rear-end vehicle crashes. In these, many drivers and passengers claim whiplash injury.

Since head restraints were required as standard equipment in new cars, nearly one-fifth of whiplash injuries have been eliminated. This requires head restraints to be properly adjusted.

How to adjust your head restraints:

The padded section should be adjusted to **fit against the back of the skull, and not against the base of the neck**. Restraints left in their lowest position may actually increase certain whiplash injuries by serving as a fulcrum over which the head snaps in the event of an accident.

Seat Belts and Child Restraints

Occupant restraints save lives. In spite of the fact that the value of safety belts in saving lives and preventing injuries has been documented by massive evidence, many drivers still refuse to wear them, or wear them only part of the time. The reasons given for not wearing occupant restraints all have one thing in common – they are wrong.

Here are the facts:

- 8 out of every 10 crashes happen at **speeds less than 60 km/h**.
- People who are not wearing their occupant restraints have been fatally injured at speeds as slow as **20 km/h**.
- Being thrown into a steering assembly accounts for **30%** of fatal injuries of people involved in collisions.
- Striking the windshield, windshield frame, or instrument panel causes **40%** of deaths.
- Your chances of being fatally injured are **24 times greater** if thrown from your vehicle. Estimates reveal that 4 out of 5 people who died when thrown from their vehicle would have lived, had they remained inside it.
- 1 out of 5 injuries occurs because unrestrained people inside the vehicle slam into each other.
- 1 out of every 200 injury-producing crashes involves **fire or submersion in water**. Wearing your occupant restraint will help you to survive the collision so that you have a better chance to remain conscious and to leave your vehicle.
- Canada has one of the highest rates of seat belt use in the world – the most recent survey of seat belt use in Canada found that **90%** of drivers were buckled up.
- **It can be lethal to hold a child on your lap.** At 50 km/h (30 mph) the impact is the same for a 14kg (30 lbs) child as being dropped from a third story window.

Pregnant women should wear the lap portion of the belt low, under the stomach.

Child restraints:

Unlike the adult, the child has a pelvis with broad gentle contours. The prominent crests, that provide an anchor point and contact area for the lap belt, do not develop until approximately age 10. These factors make it important that special consideration be given to selecting crash protection for the infant and child. Transport Canada recommends that children 12 and under be properly restrained in the back seat, especially if there is a passenger-side air bag.

- Never drive without buckling them in properly. Short trips are no exception.
- Make sure the restraint system has **CMVSS** (Canadian Motor Vehicle Safety Standard) on the label.
- Check the **weight and height limits** of the seat to be sure it is correct for your child.
- Try out the seat in your vehicle to ensure it can be properly installed and tightened so there is little movement. If you are unsure if it is properly installed, have it checked at a **car seat clinic** or at your mechanic.

10 kg (22 lbs) or less	Use rear-facing restraints that are anchored by the adult lap belt. Never place a rear-facing child restraint in a seat equipped with a front impact air bag.
10 kg to 18 kg (22-40 lbs)	Use properly installed child restraints such as: <ul style="list-style-type: none"> • 5-point safety harness seats • seats with protection shields
18 kg to 27 kg (40-60 lbs)	Use a booster seat. Care must be taken to prevent the lap belt from moving up off the pelvic bones onto the soft abdomen.
Over 27 kg (over 60 lbs)	Use a properly fitted shoulder and lap belt. The child should fit fully upright with their back against the vehicle seat. The child's legs should be long enough to bend over the front of the vehicle seat. This will prevent the lap belt from riding up over the abdomen. The lap belt should be worn low on the hips, touching the upper thighs to prevent abdominal injuries or spinal damage. The shoulder belt should be worn over the shoulder and across the chest.

Internet Resources:

The Canada Safety Council – The Air Bag Debate
<http://www.safety-council.org/info/traffic/airbags.htm>

The Canada Safety Council – Children and Air Bags
<http://www.safety-council.org/info/traffic/childair.htm>