

Static Shock: Why It Happens and How to Avoid It

Static shock is no laughing matter. It can range from irritating to downright painful. That's because what we commonly call "static electricity" is really high voltage electricity. Depending on conditions, it can reach thousands of volts, and the drier the air, the greater are your chances of getting zapped.

Causes of Static Shock

Static electricity appears whenever the quantities of positive and negative electrical charges in something aren't perfectly equal. Normally the positives cancel the negatives, and everything behaves electrically neutral. But if two insulators of different materials contact each other, then the electrical charges of the material transfer between the surfaces. One surface ends up with more negative charges than positive and, therefore, has a negative charge imbalance. The other surface has fewer negative charges than positive, so it has a positive charge imbalance. Both surfaces are electrically charged and a high potential voltage exists between them.

As long as these surfaces stay together, their electrical charges cancel each other out. But if you separate them, you also separate their polarities (a positive charge stays with one, a negative charge with the other). Now the potential voltage between the two surfaces rises dramatically. If you bring the two surfaces back together, at some point, the opposite polarities jump the gap and rejoin, producing a high-voltage spark.

To apply this little science lesson to the real world, here's what's happening in dry weather when you step out of the vehicle and get shocked while closing the door:

Your body becomes electrically charged from your clothes (an insulator) contacting the seats and seat-backs (a different insulator). When you step out, you're taking just one polarity of charge along with you, while the seat keeps the opposite polarity. At the same time, the seat is causing the entire vehicle to become electrically charged by a process called "Faraday's Icepail Effect." The potential voltage between you and the vehicle now surges up to 10,000 or even 20,000 volts. If you're wearing shoes, especially those with rubber soles, the charge has no chance to leak to ground. So when you reach out to close the door, which is grounded to the vehicle, the opposite polarities rejoin at your fingertips and ZAP!, you get shocked.

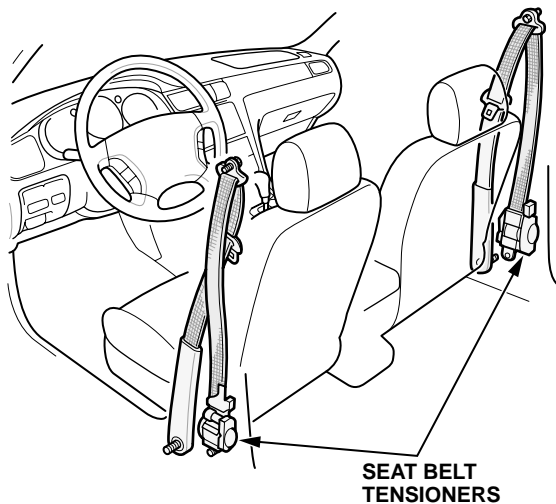
Preventing Static Shock

To minimize and help prevent static shock, here are some tips to pass along to your customers:

- Get into the habit of holding your keys as you step out of the vehicle, then grip one of the keys firmly by the metal, and tap the door lock cylinder with the tip of the key. The spark will still jump, but it won't be painful. The tip of the key will take the spark's punishment instead of your finger.
- Avoid wearing clothes that contribute to static shock. Clothes made from wool or synthetic materials such as nylon, polyester, or plastic, put a greater electrical charge on your body than clothes made from cotton or other materials. Also, consider choosing leather upholstery instead of fabric. Fabric upholstery creates a greater charge imbalance than leather does.
- Don't wear rubber-soled shoes—they create a significant charge imbalance, and when you step out of the vehicle, the insulating properties of rubber keep the charge from leaking to ground. Try wearing thin, leather-soled shoes instead.
- Spray the seats, seat-backs, floor mats, and carpet with an anti-static liquid such as ScotchGard or Static Gard, or use your own brew by mixing 1 part liquid fabric softener with 10 parts water. This spray treatment dampens the surfaces, making them conductive so the separated charges can instantly flow back together. This treatment generally lasts up to 3 months. On vehicles with side airbags, don't get the front passenger's seat too wet, or it may trigger the SIDE AIRBAG indicator (see the article *Side Airbag Indicator Comes On* in the November '00 S/N.)
- If you get shocked when you drive up and touch outside objects that are grounded (mail boxes, toll booths, drive-up ATMs, etc.), the vehicle itself has probably created a charge imbalance. Waiting several seconds before touching any outside objects can sometimes allow the charge to dissipate.

Replace Seat Belt Tensioners After Deployment

On '01 MDXs, '96-01 3.5RLs, '01 3.2TLs, '01 3.2CLs, '91-95 Legends and '93-01 NSXs, the driver's and front passengers seat belt tensioners are controlled by the SRS unit and are activated when the airbags deploy. In a front-end collision, the tensioners instantly and firmly retract the seat belts to hold occupants in their seats. After airbag deployment, you **must replace** the seat belt tensioners, along with the SRS unit and the deployed airbags.



Great Survey Responses

Thanks for your quick and thorough ServiceNews survey responses. If you haven't sent yours in yet, get on it (see Dec. '00 issue). We want your response so we can improve your newsletter.

Replace, Don't Repair Side Airbag Seat Covers

On side-airbag-equipped vehicles, **always replace** the seat-back cover if it's damaged; don't repair it. Because of the complexity and importance of the side airbag-equipped seat-backs, make sure you replace the seat-back cover only with an original equipment manufacture (OEM) cover for the year and model vehicle you're working on.

When replacing the cover, don't touch the OPDS sensor in the seat-back pad, and keep oils away from it. Oils can corrode the sensor causing it to fail. After replacing the cover, always initialize the OPDS.

Sloshing Noise from the Fuel Tank: '01 MDX

On '01 MDXs, the fuel tank may make a sloshing noise if it's half full. And if the tank is very close to full, the noise can sound like a thump from the rear floor. This noise is considered to be a characteristic of the vehicle. Don't try to repair it.

Navigation Display Goes Blank or Shows Only Lines

On '01 MDXs, '96-01 3.5RLs, '99-01 3.2TLs, and '01 3.2CLs with navigation systems, a navigation display with horizontal or verticle lines, or one that's completely blank, is defective; the only solution is to replace the display unit. Replace the display with a remanufactured unit. The lines form when a transistor is overheating, and the display goes blank when a transistor fails.

Trailer Connectors and Housings

Most Acuras are prewired with a trailer lighting connector. Here's an up-to-date list of connectors. The terminals can be found in your Terminal Repair Kit or ordered separately.

Connector housings:

Model	Year	Part Number
MDX	'01	98530-00006-00
Legend	'92-95	98530-00010-00
	'86-91	98530-00006-00
Integra	'94-01	98530-00006-00
	'90-93	98530-00006-00
Vigor	'92-94	98530-00008-00
2.2, 3.0 and 3.2CL	'97-01	98530-00006-00
2.5TL	'96-98	98530-00006-00
3.2TL	'96-01	98530-00006-00
3.5RL	'96-01	98530-00006-00

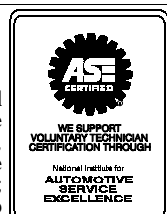
Connector Terminals (sold in packs of 25):

'90-93 Integra: T/N 07JAZ-001040A
All others: T/N 07JAZ-001030A

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