

# Can hybrid vehicles be live with HV after a crash?

**Darryl Dhu - 26 March 2013**

The question was asked of me recently about the possibility of a hybrid vehicle being live with HV after a RTC, presenting with the possibility of ground gradient or touch potential before the 12v system can be isolated. Have you heard of this being an issue?

**Mick Holton - 4 April 2013**

All of the systems that I have looked at are "HV open circuit" unless all conditions are appropriate to cause the relays to "close circuit".

One of those conditions is negative leakage to ground (vehicle chassis).

Therefore, to get a situation whereby a circuit (potential) exists with a rescuer forming part of that circuit the following conditions would have to occur:

1. The HV fuse would have to be intact (any dead shorts would destroy the fuse)
2. The ignition would need to be on.
3. The LV battery would need to be connected.
4. The HV relays would need to be closed circuit, which would require all of the following:
  - (a) No deployed SRS devices, crash sensor deployments
  - (b) No leakage to earth
  - (c) HV fuses intact
  - (d) Power button switched on
5. The rescuer would have to touch two items with a potential difference in voltage (the ground that you are standing on cannot easily become part of the circuit because the circuit is contained within the vehicle - unless the HV battery is ripped completely out of the vehicle AND if that was to happen then the chance of both relays being closed circuit is near on impossible).