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*Don't Let Hybrid Hype Dampen  
Your Good Samaritan Impulse.  
A Collision Course from Our  
Staff SARTECH.*

**SAFETY  
MATTERS:  
Separating the  
Hybrid Hype Facts  
from Fiction**

*By Capt. Chris R. Storey,  
Associate Editor, Eagle Call*

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# Yellow Lights on Electric Avenue

By Capt. Chris R. Storey, Associate Editor, Eagle Call

## *Don't Let Hybrid Hype Dampen Your Good Samaritan Impulse. A Collision Course from Our Staff SARTECH.*

**FULLERTON**—Many of us in Civil Air Patrol have “first-responder” in our blaze-orange blood. We’re the folks who look for a missing aircraft all day—then stop to help at an auto accident scene on the way home.

Beyond the obvious dangers of oncoming traffic, fire, broken glass, jagged edges of torn metal, and exposure to leaking fuel—not to mention blood-borne pathogens from injured passengers—new hazards lurk around the bend with Hybrid Electric Vehicles (HEVs), increasingly prevalent on California roads.

Hybrids combine an internal combustion engine with an electric motor, but they’re primarily powered by the gas engine and convert energy normally wasted during braking or coasting into electricity. A high-voltage battery pack stores that energy until needed by the electric motor.

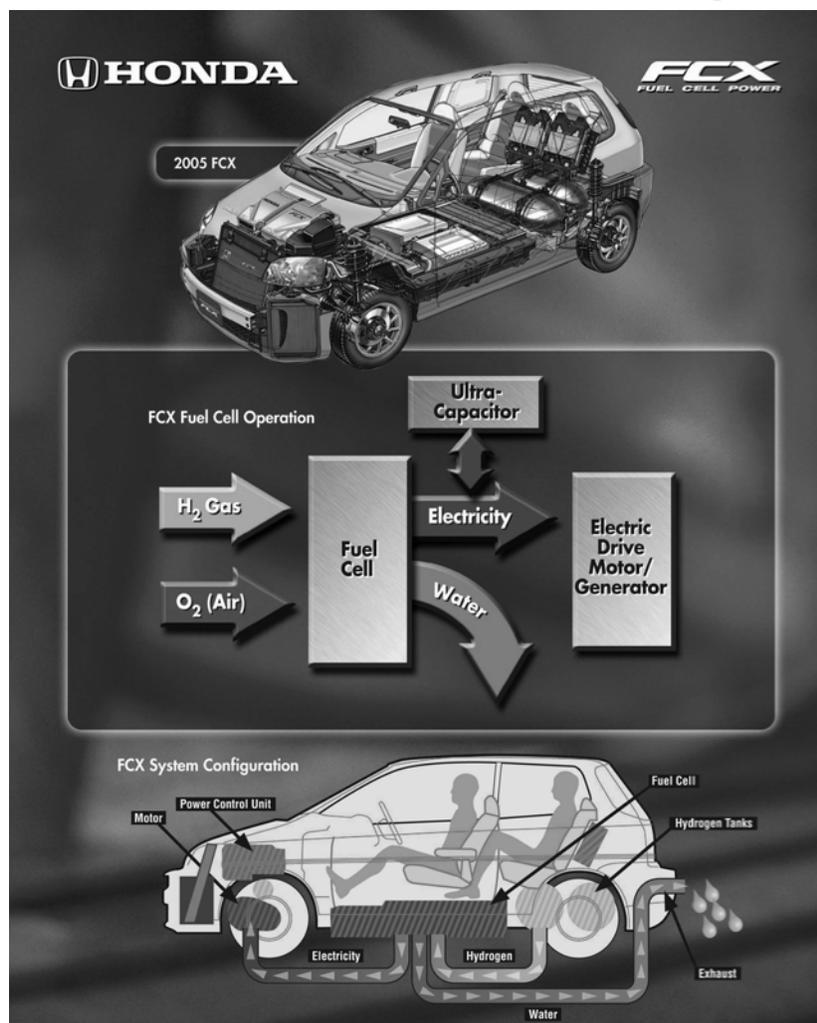
One unique safety hazard posed by post-accident HEVs is the difficulty of determining if the vehicle is still running. Their quiet-as-a-golf-cart operation is likely to be the cause of accidents, as well, especially involving pedestrians who rely upon hearing cars more than they realize. On some models, the electric motor automatically shuts off the gasoline engine while stopped or at low speeds. Drivers sometimes

inadvertently leave their vehicles in DRIVE after a collision. This becomes a hazard because hybrids have silent electric motors that may still be running. When drivers remove their foot from the brake pedal (when they exit the vehicle or are helped out by first responders), the vehicle may lurch forward, striking you or other bystanders.

Automakers are proud of their hybrids and identify them through distinctive markings or badges. If you stop at the scene of an auto accident, look for them. Approach hybrids, or any vehicle for that matter, from the side if possible. When responding to traffic collisions, police officers, and firefighters try to put the vehicle in PARK, turn off the ignition, and remove the key. As a signal to others that the vehicle is shut off, they place the keys on the dashboard. Take this advice if you are involved in an auto accident in any vehicle. If you do not feel

comfortable reaching into someone’s vehicle after a collision, ask the driver or passenger if they are able to do it. It is for their safety too.

The potentially lethal voltage stored in the batteries of hybrids presents another safety hazard—up to 500 volts in the Toyota Prius. Safety experts say 60 volts, and even lower in some cases, can be lethal.



## *Yellow Lights on Electric Avenue*

*Continued . . .*

As a Good Samaritan at the scene of an automobile collision, you will not be cutting open doors, roofs, or side pillars—that's for the fire department. Although your risk of contacting high-voltage wiring is less than professional rescuers, exercise extra caution. "For electricity to be transferred from the battery to the motor, the car has to be accelerating or decelerating," explains Sage Marie, Honda spokesman. "Unless the car is moving, there is no high-voltage current moving through the wires. Even so, there's no reason any rescue worker should be anywhere near the wires, and where the wires are located, they won't be."

Automakers have gone to great lengths to reduce dangers from the high-voltage components in their hybrids. They've color-coded the high-voltage wiring and components in our SAR-standard attention-grabbing blaze orange. These wires are routed along the midline of the vehicle frame wherever possible for increased protection. Automatic interlocks disconnect the high-voltage circuits if the air bags deploy. The high-voltage batteries are not grounded to the frame of the vehicle, so there is little danger of being electrocuted by merely touching a wrecked hybrid. Even with these safety features, be careful where you stick your hands because the normally well-protected high-voltage components could be exposed after a particularly severe collision. First responders across the country are being trained to locate the emergency high-voltage disconnects on the current production model HEVs, but that's above our pay-grade in CAP.

You're probably asking, "What about spilled gasoline and high-voltage sparks? Won't these cars explode into flames?" Good question, Good Samaritan! Hybrids are actually very safe. Collisions severe enough to rupture the fuel tank most likely have activated the safety features designed to disconnect the high-voltage at the source. Fire is always a possibility at any automobile collision. The best advice: Keep your eyes open and prepare to move out of harm's way.

Hybrids are not everywhere yet, but they're not exactly novelties, either. In 2005 alone, Torrance-based Toyota sold 107,897 Prius models and Honda put more than 26,000 Civic Hybrids and Insights on the road—and the eco-conscious Golden State dominates HEV sales, according to Car Concepts, Thousand Oaks. By the end of the year, Toyota will likely have sold 30,000 units of the new hybrid Camry—the most popular vehicle in America. By 2008, nine automakers will produce 15 models of hybrids,

including two fullsize trucks, four sport utility vehicles, and three new hybrid versions of current model passenger cars. There will be accidents. Don't be afraid to help if you are in a position to do so. *NEXT EAGLE CALL:* Capt. Storey explodes the myths of ballistic parachutes on small aircraft.

*Capt. Storey is the Emergency Services Officer of the Fullerton Composite Squadron 56, and is active in CAP ES. A certified SARTECH II with the National Association of Search and Rescue (NASAR), he is a California state-licensed Emergency Medical Technician.*