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## Hot Topic for the Collision Industry... Hybrid Technology

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*The Collision Industry is facing challenges unforeseen just five to ten years ago. Hybrid technology is just one example. These vehicles present a entirely new set of safety, productivity and profitability issues for collision shops.*

*by Tim Hoke*

## Hybrid Vehicles

Hybrid technology helps reduce emissions and oil dependency. The United States imports nearly 60% of its oil needs, and hybrid cars, trucks and SUVs can consume up to 50% less fuel than other vehicles. Several manufacturers have developed hybrid vehicles with more on the way. Hybrids incorporate high-voltage batteries, electric motors and traditional internal combustion engines. The battery is recharged onboard via a regenerative braking system.

## Hybrid Repair Challenges

Hybrids are different, but two traits they share with ordinary vehicles is that they WILL be involved in collisions and they WILL need repairs. And hybrids require special procedures that MUST be followed – without exception. Here are a few major concerns:

- **Sensors and computers** – Hybrids incorporate more electronic systems than other vehicles. These systems require special knowledge, and care must be taken not to damage them.
- **High voltage batteries** – Special procedures are required by technicians. The auxiliary batteries generate enough sufficient amperage and voltage to cause severe injury or death. And even when people are not injured, it is easy to cause expensive damage to the vehicle if procedures are not precisely followed. Once air bags deploy, the high voltage system will be disabled until repaired.
- **High voltage batteries** – Because the auxiliary batteries keep them selves in a state of constant charge, the vehicle must be properly disabled with the ignition key and service plug removed. The service plug should be placed in the technicians' pocket, so that it cannot accidentally be replaced. Technicians must protect themselves by wearing special electrical lineman's gloves, goggles and safety shoes.
- **High voltage cable** – Technicians must be extremely cautious when working on and around the bright orange high voltage cable. Any damage to the cable can present a hazard.
- **Refinishing hybrids** – Manufacturers recommend that curing temperatures in paint booths be kept below 150 degrees to prevent damage to the hybrid batteries. Hybrid batteries are very costly, and shops cannot afford to replace them and maintain profitability.
- **Crash procedures** – Hybrid manufacturers and industry professionals have published safety and extrication procedures, training classes and manuals for use by police, fire departments, emergency medical teams and towing companies when responding to a hybrid collision.

## Be prepared

In 2004 hybrid sales averaged 5 to 10 thousand units per month and have increased to well above 15,000 units per month in 2007. Before beginning repairs on hybrid vehicles, it is ESSENTIAL that technicians have access to factory-correct information and training in order to avoid liability, injuries and unnecessary damage to the vehicle. With the increasing popularity of hybrids, it is very likely they will begin appearing in shops with greater frequency.