

Hybrid Repair

Hybrids on the Horizon

Ready to tackle the technology?

BY KRYSZYNA LAGOWSKI

When hybrids burst onto the scene about 15 years ago, there was as much skepticism as there was excitement. Today, most major auto manufacturers are throwing their hat into the hybrid arena. It's safe to say that even if there hasn't been a hybrid in your shop, it's on the horizon.

According to Will Carcone, CARS OnDemand Technical Specialist, there are some maintenance items (such as fresh air intake filters within the hybrid system for battery temperature control) that need inspecting and replacement. "The HVAC (heating, ventilation and air conditioning) system on some hybrids may also be used for this purpose of controlling the battery temperature in warmer temperatures and must operate all the time, or the hybrid system may shut down due to possible battery overheating during system recharging," he says. "Some of them also have a separate cooling system with liquid coolant to maintain the proper operating temperature of the high voltage control module (HCU)."

Maximum fuel savings

A hybrid's regenerative braking system only stops the vehicle about 80% of the time, so the service brakes are used minimally. That means they need more servicing, as opposed to the lubricating, cleaning and inspections that previous braking systems used. "The materials will last twice as long, but the components will start to bind and seize up, so you need to be careful with those," says Carcone. When servicing brakes on a hybrid, it's also critical to know what needs to be disabled, and what precautions should be taken when they are being disassembled.



(l-r) Will Carcone, CARS OnDemand technical specialist; Steve Fortier; and Dom Sgambelluri, CARS technical specialist

Hybrid-certified technician Ed Jagt, owner of Pro-Tech Tire and Auto in Barrie, says oil changes are paramount with hybrids. "You need oil to get to the top of the engine quickly when the engine starts up, to get lubrication started quickly," he says.

"The hybrid life is all about doing the right thing, at the right time, with the right product."

Will Carcone, CARS OnDemand Instructor, Technical Systems Analyst & Presenter


Since a hybrid's purpose is to achieve maximum fuel savings, it's important to keep it in top running condition. "You don't want the brakes hanging up slightly," notes Jagt. "You don't want the wrong oil or the wrong tires. It's about getting maximum mileage, so low co-efficiency drag tires are huge. That's what the hybrid life is all about, doing the right thing at the right time, with the right product."

Training and certification

Jagt recommends training and certification before working on hybrids, as does Ryan Ridgway, General Manager at CARS Training Network Inc. And CARS offers an extensive library of hybrid courses ranging from general hybrid safety training to in-depth manufacturer specific technical training. "CARS continues to review

hybrid technology trends and changes to keep our CARS OnDemand training curriculum up to date. Repair facilities need to ensure their technicians are properly trained, so they know how each system differs, and what precautions need to be taken compared to working on a non-hybrid vehicle," says Ridgway. "Technicians need to know the proper disable procedures so they may work on these vehicles safely."

A hybrid still shares many systems and components with a regular gasoline car that require maintenance. "Hybrids are a piggy-back system, completely separate from the rest of the car," notes Dom Sgambelluri, CARS OnDemand Technical Specialist. "Even though you can work on things that have nothing to do with the alternative technology, you need training. It can be very dangerous if you're not familiar with these systems."

Jagt also recommends educating your customers. "Let people know you can repair their hybrid," he says. "I can do it on a Saturday when the dealership is closed. I can do it cheaper and better. Customers need to know that." 

Hybrids Parts

Getting Handy with Hybrids

Are your shelves hybrid-friendly?

BY KRYSZYNA LAGOWSKI

When hybrids made their first appearance 15 years ago, the technology was viewed as niche – involving complex procedures beyond the reach of the average consumer. But that's all changed. Companies like Toyota have a Prius family now featuring four different hybrids, and almost all auto manufacturers feature a hybrid in their line-up.

And now that service and maintenance on hybrid vehicles are no longer the exclusive jurisdiction of the dealer, it might be wise for jobbers to eye their inventory offerings. What can they stock to make their shelves more hybrid-friendly?

There's a huge opportunity in safety equipment, according to Dom Sgambelluri, CARS OnDemand technical specialist. "You can't touch anything on a hybrid vehicle when you get to the electrical side without wearing linesman gloves," he says. "Also safety pylons, wheel chocks, and electrical safety canes are a must."

Be aware of shocks and chocks

There are also special tools, insulated equipment such as screwdrivers and wrenches. "Even if you're doing an oil change on a hybrid, it's a good idea to have wheel chocks on and pylons set up," says Sgambelluri. "Plus, other people in the shop should be aware there's a hybrid in the bay. Someone may open the door and re-activate the vehicle."

The pylons are more for when there's a disassemble happening, so no one goes near the vehicle. "There should also be a high voltage sign on the vehicle," says Sgambelluri. "You can't always tell just by looking at it that it's a hybrid."


Some hybrids, like the Ford Escape, have filters in the air ducts to cool the battery assembly. "I know of several that have had to be replaced," says Will Carcone, CARS OnDemand technical specialist. "The coolant for the high voltage control modules is different from the coolant used for internal combustion engine – jobbers might want to consider stocking that as well."

Track calls

Ed Jagt, owner of Pro-tech Tire and Auto in Barrie, says he needs a better selection of terminal ends to repair the 60-wire pin connectors for hybrid repairs, and usually winds up at the dealer. "We fix extremely corroded connectors all the time," he says. "Those same pin connectors will work on non-hybrids, but it takes forever to go through them all. At the jobber, you can spend forever trying to find the right ones."

Other components the jobbers might want to consider are brake parts, especially calipers and caliper kits, plus battery cables.

Sgambelluri suggests that jobbers might want to look at their geographical area, and track their calls. "See what kind of calls they're getting on hybrids, to determine what they might want to stock," he says.

Better yet, let their customers know they have the parts. "Get the word out – this technology is becoming more mainstream, and there are opportunities to capitalize on it for your store," says Sgambelluri. "Tell your salespeople and your counter people, so they know about those opportunities as well." 

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