



Dave Scaler

“The Car is Running... with the Oil Drain Plug in My Hand!”

A shop recently called our hotline in a panic! “I have a 2005 Toyota Prius, in for an oil change,” said the caller, “and the car started by itself when it was on the lift! There was NO oil in the engine and the oil drain plug is in my hand!!” This story is real, and the names have been changed to protect the innocent. So where did the tech go wrong?

It is easy to say after the fact that the shop was not properly trained to work on this Hybrid car. But this was a gas engine oil change, not a high voltage electric motor service. My opinion on the training is not as grim. While Hybrid vehicle training is definitely needed, what is often needed is simply familiarization and safety training to do most service work. In my opinion, you do not need to be a Hybrid “Guru” to service Hybrid vehicles.

So what happened to this car? Why did it run with the drain plug out? The real key to this problem was in the smart key system (no pun intended). Many cars now have smart keys in them today - not just Hybrids.

However, this Hybrid by nature gave the tech a false sense of security that added to the problem. This is because a Toyota Hybrid Gas Engine does not usually run at idle.

If you are not familiar with the smart key system, it is a system that essentially allows the customer to open and start their car without ever taking the keys out of their pocket. A customer (or technician) would walk up to their car, have the Transponder (key fob, as seen in figure 2) in their pocket, simply touch the door handle and the car would open. Then when inside the car, the technician puts their foot on the brake, presses the POWER button (as shown in figure 3) and the car will start, with no key required! Now keep in mind that this is a Toyota Hybrid, so the gas engine may not run at idle, but the READY indicator lights up (as you can see in figure 4) to say the car is “Ready” to go.

So again, where did the tech go wrong? He pulled into

the bay on electric power (the gas engine was not running), put it in park, and got out of the car with the smart key in his hand and put it on his toolbox. He figured, like most techs, that he was out of the car and far enough away.

After draining the oil, at some point the Hybrid system determines that the main battery needs to be charged. Therefore, it automatically STARTS the gas engine to recharge the batteries. Needless to say, you can appreciate the awful feeling that this technician had as he simultaneously put the drain plug in, lowered the lift and shut it off.

Speaking of which, how DID he shut it off? All one has to do is simply press the POWER button. By getting out of the car without shutting the Power button off, you can see how our troubled tech got into his predicament. Now in all fairness, this is an easy mistake to make, as it is a Hybrid, and the gas engine was not running when he got out of the car.

Now onto the most important question: How can you avoid this happening in your shop? It’s simple: Training is the real answer. Until you get there, there is a button/ switch (as seen in figure 5) that allows you to disable the smart key system. Simply press the button in, and the Smart Key system will be disabled. Is it necessary to disable the Smart Key system if you shut the Power button off? No, but it can add some confidence and assurance to your day. Keep in mind that most customers like the features of the Smart Key system, so it is very likely that you will find it in the “enable” position.

You can learn more of the ins and outs of Hybrid systems at MEA’s Toyota, Honda, Saturn and Ford Hybrid Training programs. Visit www.meatraining.com for details.

Article courtesy of MEA. (973-761-7420).

The real key to this problem was in the smart key system (no pun intended).



Figure 1. The victim:
2005 Toyota Prius.



Figure 2.
The "Smart Key" transponder.



Figure 5. The Smart Key Disable button.
Pushing the button "in" will disable the system.

Figure 4. The "READY" light on the dash. Anytime this light is on, a Prius can start at any time!



Figure 3. The power button on the dash of the Prius.



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