YOUR TIRE STORE AND REPAIR FACILITY ... THE EV FUTURE

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I will make a bold assumption. You want to stay in the tire business, retire at some time in the future and leave your business in better shape than you found it (or founded it). I will also assume you work on more of the vehicle than the tires and rims. If this is you, keep reading.

ACDC just took over the entire building we are in. I owned the building and used 30% of it for HEV/ EV training and rented the rest. My tenet left once their lease was up and we are in the process of upgrading the facility. The training we do is hands-on in a shop, so our building looks like a repair shop. We stopped taking in customer work in 2004. One way ACDC stays relevant is we buy older HEV and EVs, fix them ourselves and learn from that experience. We have over 40 HEV and EV on the property. This article is timely for you and me.
If you are designing a new shop, here are the considerations to be EV ready.

1. Install a 300-amp service or more with solar panels to cut costs.

2. Install Level I, II and a Direct Current Fast Charger (DCFC). Either the Combined Charging System (CCS) and/or a Tesla DC charger to verify a customer concern of "Not Charging".

3. Add 240 v outlets between each bay so you can recharge EVs in that bay.

4. Buy Level II Electric Vehicle Supply Equipment (EVSE) that can be swapped out from bay to bay (see number 3).

5. Design in extra flat space at the end of the EV bays (or all bays) so that a HV battery can be removed and stored inside the shop.

6. Make outdoor customer parking for EV owners with chargers.

7. Your shop needs to attract EV owners. Signage and EVs parked in front of the shop will do that.

If you are adding an addition, all of the above applies. Below is a low budget solution to an existing older shop building. ACDC is in an 80-year-old repair shop.

1. Use your 240 welding plug with a proper 240 extension cord to reach the EV with your EVSE level II.

2. Install a twin post 10,000-pound lift with no drive over plate.

3. Store the HV battery in another bay or make a secured covered area outside.

4. Know where the DCFC are in your area and analyze a fast charging problem at that site.

Either way, having a facility that is set up for EVs will allow you to service them faster and safer. A "cost vs. benefit" study should be done before you spend any money. To pay back the expense of gearing up to EV service and repair, allow a three-year payback time. The tools, training and advertising must be in place as you add EV s to your business growth plan.

Once the building is ready with the equipment is bolted in place, you will still need movable equipment, mostly to deal with the size and weight of a battery pack used in EVs. Hybrid packs are smaller than EV packs and are not typically repaired. Most hybrid packs are swapped out for new, used or rebuilt ones. Pure electric vehicle batteries today have a range of 200 to 400 miles on one charge. They are very large and heavy. The cost of a new one can be $8,000 or even more, so they are often repaired. We are in the beginning of EVs getting old enough to require that work. They can weigh

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in at 600 to 2,000 pounds. Add a fork lift or loading dock to the list for removing a HV battery being delivered by truck and to return the EV battery cores.

You may have read the news that GM and Ford are going to install a charging port currently used by Tesla vehicles, known as the North American Charging System, or NACS. GM and Ford have been using the current industry-standard "Combined Charging System", or CCS, port in their electric vehicles. Tesla drivers have been able to use existing CCS chargers with a Tesla-made adapter that fits over Tesla charging plugs. Ford and GM EV owners will still be able to use CCS chargers with the use of an adapter after the switch to NACS. You will need a Level II Tesla EVSE at your shop. They are less than 300 dollars. ACDC sells a Tesla tool kit so check out our web site.

The Future

As new technologies are created it will change what we do and the way we do them. Knowing what is going on sale can be a simple as attending a new vehicle show or getting a feed into your Email box from trusted news companies and the automotive news media. When I opened my repair shop in 1977, I ordered magazines, many of them were free. It was there, in 1994, that I learned about the California EV mandate, the law suits and ultimately the GM EV1. Then Toyota's original RAV4 EV, the Honda Insight and the Prius. The future was heading my way. 30 years ago, EVs were in California. Now they are in your state. The future is here. ACDC can help you in all areas of HEV-EV adoption.

A version of this article appeared in MTD, Modern Tire Dealer, last year.

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