

POWER SOURCE

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The Electrical Contractors' Changing Times

(How to Keep Your Head Above Water Because the Water is Always Rising)

By Wes Jost, Continental Electric



Imagine a world today without electricity. Hard to fathom, isn't it? Just as hard to comprehend is today's electrical industry without the people who built it — the workers who designed the structures, strung the wires, laid the conduit, energized the systems, and currently maintain and improve the complex electrical systems we all take for granted.

To understand how technological

advances are taking precedence in the world of electrical contracting, it is first imperative to understand where we came from. As hard as it is to believe, the past twenty-five years have seen the most change for our industry. What was once carbon paper receipts are now scanners. Mimeographs are now color printers. And telephone calls are now turning more and more into e-mails. The

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Why Unions?

By David Barger, Business Manager, IBEW Local 150



Although the concept of unionism can be traced to our European beginnings, the history of the American Labor Movement is much more tangible. Early Americans met in Carpenters' Hall (better known today as Independence Hall) to sign the "Declaration of Independence". Those fighters for our independent "Union of Thirteen Colonies" were

members of the Sons and Daughters of Liberty, which was made up of workers and craftsmen. We boycotted British goods because of England's exploitation of American cheap labor. When the boycott failed, we turned to revolution to redress our grievances.

Today, unions are some of the most democratic institutions of American society, yet many people attack unionism as un-American, or no longer

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electronic transfer of information in all forms is very dominant.

"Today, the successful contractor is one that . . . also maintains constant upgrades in the means of information exchange with customers."

- Wes Jost -

The digital age is changing how we learn, and more importantly, how we teach. To fully capitalize on the promise of technology for education in our industry, Electrical Contractors need insight and understanding into the tools and techniques for learning that are available to them. Some of these tools might be online classes – e-learning —

such as advanced estimating or even construction law. One important aspect of education is to realize what soft-cost efficiencies are . . . in other words, avoid repeating the learning curve. Use the electronic transfer of all monies when possible to take care of accounts payable/accounts receivable, order and data-enter material, and even make direct deposits of payroll.

Today, the successful contractor is one that not only keeps up with the changes and improvements in his own industry, but also maintains constant upgrades in the means of information exchange with customers. When any part of the information chain is weak, then the whole industry suffers. That old adage that a company is only as strong as its weakest link comes into play all too often when defining corporate structure of any kind. In the traditional market structure of the electrical

industry, soft-cost efficiencies, rapid growth in electricity demand, rising electricity rates, technological advances, and environmental concerns have led several U.S. state governments to implement efforts to restructure the electrical industry within their respective jurisdictions. This step, among other things, has encouraged the generation of electricity to come from independent power producers. Just as contractors keep up with changes and improvements, so do today's customers. These customers are much more informed buyers and consumers than in the past, and have higher expectations both in quality and time spans. Margins in today's jobs have no room for error and mistakes. And now that most communication is done virtually — for example, e-mails of electronic drawings — a lack of downtime for information exchange leads to jobs being completed more quickly. Welcome to a brand-new generation of electrical contracting. ■

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" Unions are some of the most democratic institutions of American society."

- David Barger -

necessary in these "enlightened times". Let's look back at our history. In 1819, the Supreme Court ruled that a company was a "person", under the Bill of Rights, and could not be taken over by the government. But if the company were a person, what happened to the rights of the person who worked for the company? This dilemma would develop into one of the greatest missions of the American

worker: the fight for "human rights" before "property rights". The solution to the problem gave birth to the American Labor Movement.

Workers developed their own constitution within the workplace to protect their human rights — this would be called the *Union Contract!* They selected representatives that were called *Union Stewards!* The judicial system would be called the *Grievance Procedure*, and the Supreme Court was called *Arbitration!*

Now, in 2005, less than 13% of American workers have "democracy in the workplace" through a union contract, compared to Sweden, for example, which is 90% organized!

Although child labor, sweat shops, and workplace disasters are largely horrors of the past, efforts to eliminate them only began to succeed after workers organized and spoke with a united voice.

The American Labor Movement emphasizes economic protection for *all* workers, lobbying for favorable legislation, direct actions at the grass-roots level, organizing new members, coalition building, and social awareness. The Labor Movement is focused on both short-term and long-term objectives. For the short-term, labor leaders work daily at negotiating fair contracts and attempting to elect labor-friendly candidates to public office.

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For the long-term, organized labor seeks to serve as the moral conscience of a nation monopolized by corporate greed.

The Labor Movement has made a difference in the lives of working men and women. Each new generation of workers must embrace the activism

that has characterized labor's rich history. All Americans should recognize the role that labor has played in the continuing progress of democracy. ■

The Family That Works Together Custom-Builds Cars Together

Union Members Father and Twin Sons are Electricians by Day, Indy Car Builders by Night



Mark, Mel, and Chuck Karasek drive their masterpiece.

Melvin "Mel" Karasek and his identical twin sons Mark and Charles "Chuck" Karasek are hard-working members of IBEW Local Union 117. Trained and certified, they are all proud union electricians. But what really revs up their motor is the opportunity to apply what they learn from their trade to what they do as a passion. That passion is designing and building cars.

For the past four years, Mel, Mark, and Chuck have been custom-

building a street legal Indy car from the tires up. That's during their off hours! The father and his two sons are full time electricians who usually build houses and factories. In fact, Mel has been working as a union electrician for over 12 years. "It's a good way to make a living," says Mel. "Of all the trades, this is the nicest one to be in." Six years ago, his two boys joined him in the business. Living up to the legendary inseparability of twins, Mark and Chuck found they enjoyed working

together. Add to that their close relationship with their father, and their admiration for his work, they decided that being electricians is what they wanted to do. The two joined the IBEW, became certified, and completed the five-year apprenticeship training program, thus joining the brotherhood of electricians. The two graduated last year.

Working as electricians for the past several years has given Chuck and Mark invaluable skill on top of their already abundant natural talent. According to Mark, the electrical work has fed their car-building: "I'm able to transfer the skills I learn on the job — like pipe bending techniques and little helpful tips — to my car building, like running the wires inside all the tubes so that no wires hang out, and tucking away the wiring so that it's all neat and looks nice. My electrical training has helped out quite a bit, including helping me wire up all the computers for the engine. That was a lot of work and took four months alone. And of course there's all the lighting we installed — the main lights, motorized headlights, high beams, running lights, turn signals — there's a ton of diodes we installed, as well as relays and

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Chuck Karasek works on his street legal Indy car.

contacts and all the kinds of things we'd see at work every day. Building this car has been our dream."

"My friends and the people I work with inspired me to build this car. And they kept me going through the project. The people I have met through the IBEW, and their interest and ideas, have also been a part of this."
- Mark Karasek -

And what a dream machine it is. Besides making an electrician proud, with its wiring hidden from view inside the chassis, and its electrical system installed to perfection, the car sports a set of custom-made LED taillights — 162 LEDs in all — and electrically-operated headlights that flip up at the flip of a switch. Able to accelerate from 0 to 60 miles per hour in 3 seconds, the car boasts a 350 engine, Chevy drive train, and independent suspension for all four wheels. Weighing in at 1,500 pounds, its 335 x 35 x 17 back tires and

275 x 40 x 17 front tires are capable of taking any corner, and its 4 wheel disc brakes allow it to stop on a dime. The boys custom-made everything on the car, including performing all the machining and custom cutting all the sheet metal. They even engineered their own fuse panel and relay block.

The two brothers' roles are designer/mechanic/compliance officer/entrepreneur all rolled into one. The car is in strict compliance with regulations set forth by the National Street Rod Association as well as the Secretary of State in Illinois. Mark and Chuck have completed all the necessary tests and licensing, and should be able to set wheels on the road this late summer.

One might say that car building is in their genes. Mark and Chuck learned their skills from their father, who over the years has owned auto body shops and built his own cars from the ground up. His sons naturally took to this talent and have followed in his tire tracks. "I never had to



A true dream machine . . .

worry about the twins when they were growing up," says their stepmother Nancy, "because I always knew where they were — they were in the garage with their dad working on some kind of car." That's why in addition to being great electricians, they're also excellent mechanics and designers.

Friends of Mel's recall how he would build bicycles with extended front ends and all kinds of homemade gear even in elementary school. His sons, too, began early. "I was just a tiny guy when I started working on cars," remembers Mark, whose stepmother recalls he began car work at the ripe age of 8. At age 16 they built one of their first cars — an old Packard that had belonged to their grandfather. By age 19 they were on a roll. Mark and his brother continued to dabble in car-building for fun, until they began receiving offers to sell the cars they were building — then they began taking a serious look at their hobby. That's when the street legal Indy car idea emerged.

Mark was the instigator of the project. His dream was to build street rods. "We want to build these cars so you can buy them, drive them around every day, and then race them on the weekends," says Mark. "That's how racing used to be 30 or 40 years ago. That's what we want to do." Chuck joined his brother and the rest of the team of twelve car fanatics. "We all get together every Wednesday in my uncle's basement in the city and work on the car," explains Mark.

Besides providing a vent for their passion, this project also provided an atmosphere for good camaraderie with their friends and with each other. And their passion may prove to be lucrative. "We've had a lot of big offers to buy this car," says Mark, "so if we sell this one, we'll definitely build a lot more."

It took those four years of weekend

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Mark takes the wheel of his custom-built car.

work and night-time work (what their stepmom calls "garage nights") for Mel, Mark, and Chuck to complete the Indy car. And having an electrical background greatly benefited their car work. They were able to translate their skills in pipe bending and wire pulling to building chassis, bending tubing, welding sheet metal, and performing the intricate electrical work necessary on a precision speed car.

It has been Mark's dream to build cars ever since a visit to the Indianapolis Motor Museum ten years ago. "I fell in love with the cars, and I wanted to build one for myself," says Mark. "We used to build go-carts, and my Dad was always building hot rods. I talked my dad and brother into helping me, and that was about it. My dad always encouraged us, and we really enjoy the work." Mark credits his family and work-mates for his inspiration. "My friends and the people I work with inspired me to build this car. And they kept me going through the project. The people I have met through the IBEW, and their interest and ideas, have also been a part of this."

Never ones to sit still, Mark and Chuck are now onto their next projects — restoring an old fashioned Indy car from the 50s, and building a motorcycle chassis for a friend who likes drag racing. Their passion

has taken on its own life, and kept their motor running. But even more satisfying than the exciting work as electricians and thrilling work as car builders, is the opportunity for Mark, Chuck, and Mel to work with each other. "That's the nice part," says Mel, "spending time with the family."



The next generation of Karasek car builders.

Electric-Gas Cars Come Into Their Own ***This is Not Your Father's Hybrid Mobile***

If you thought hybrids were just for the car nut next door or the environmentalist down the street, think again. They may be the future for all of us.

In the past, auto transportation has been an either-or situation — either it could be energy-efficient and dull, or it could be gas-guzzling and fun. Now we have hybrid cars that are both energy wise and heart-pounding in performance.

And the really great news about these new hybrids is that they incorporate the use of an unlimited commodity with which we are very

familiar and with which contractors and electricians work every day: electricity.

This use of electricity in hybrid cars not only helps save the planet's atmosphere and prevents further contribution to climate change (global warming), but also saves money — gas money, especially with today's rising fuel costs. Plus it's cool new technology!

From domestic to foreign, compact to SUV, sporty to luxury, carmakers are scrambling to provide hybrid cars to a power-hungry consumer base that wants the size and speed of high

performance cars combined with the energy efficiency and environmental friendliness of electric cars.

Just take a look at these numbers as reported by Hybridcars.com: according to Bloomberg, in 2005, during the first quarter alone, 35,474 hybrids were sold. This in comparison to under 10,000 sold during the entire year of 2000. It was estimated that 88,000 were sold last year, and ABI Research anticipates sales of hybrids to account for 10 percent of all midsize car sales in 2006. J.D. Power predicts 35 different hybrid models to be in existence by 2011, increasing to over 50 models in 2012.

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Hybrid cars utilize a combination of two power sources — electric motor with rechargeable batteries, and internal combustion (gasoline) engine. Being fueled by this dual system allows these cars to use electricity and battery power as much as possible — such as when cruising at low speeds or when at a stop — and to use gas only when necessary. Its battery self-charges by recovering braking energy, and kicks in when accelerating for extra power. The ability of the electric motor to run intermittently allows the use of the combustion engine efficiently. And the idle function shuts off the gas altogether when the car is at a complete stop, allowing the quiet car to work only on the electric motor until the gas engine is needed again for range and speed. A computer constantly evaluates and assigns

the appropriate power from the proper source, and keeps everything at a balance.

According to the Union of Concerned Scientists at Hybridcenter.org, the first three steps to a good gas-electric hybrid are the idle-off capability (where the gas engine stops when the car is stopped), the regenerative braking capability (where energy exuded from braking is converted into power and stored in the battery for future use by the electric motor), and power assistance/engine downsize (where the electric motor kicks in to assist in acceleration). Fuel economy and low emissions are the keys to look for in a hybrid.

Besides its mechanical efficiency, the hybrid car boasts a body that's designed for efficiency, too —

streamlined contours, aerodynamic lines, and super-inflated tires for maximum speed and minimum resistance.

So check out the major car manufacturers — they are all busy either making or planning hybrids in one form or another — sophisticated sedans, workhorse minivans, even pick-up trucks. You'll be helping the environment, saving money on gas, and sporting the type of car you want and need. In some cases you might even qualify for a tax deduction — something worth looking into with your accountant (check the latest developments on the energy bill). But most importantly, you'll be driving the car of the future, which has been long overdue. ■

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