

# people to know

## NEED FOR SPEED

An engineer and former professor kicks it into high gear with his structural and automotive pursuits.

**KARL FRANK** has a thing for fast cars.

And it's not just about admiring them or even driving them, but rather completely rebuilding them—taking them down to the nuts and bolts, then giving them a second life.

“I came out of the California car culture of the 1950s,” explains Frank, the chief engineer for Hirschfeld Industries (an AISC and NSBA member and AISC certified fabricator). “It's what we did.”

Growing up in the Bay Area, Frank has been restoring cars from a young age, rebuilding them from the ground up; the only work he doesn't perform is machining the engines. Upon completion, he drives them and sometimes displays them in car shows and parades.

And sometimes he even races them. While attending graduate school at Lehigh University (where he earned his Master's Degree and Ph.D. in civil engineering), a fellow student bought a car that wouldn't pass inspection.

“So, we decided to turn it into a stock car and I ended up driving it in a local race,” he recalls. “I didn't end up winning but it sure was fun.”

Frank's projects don't all end up on the racetrack, though most of them fall into the sports or hot rod categories. One of his more memorable projects was building a 1932 Ford with a chopped top and V8 engine—perhaps better known as the “Deuce Coupe”—which became a popular model among hot rod enthusiasts of the 1950s and 1960s, not to mention the basis of one of the Beach Boys' most well-known songs.

Another of his projects with a famous though tragic association was building a Beck Spyder, a kit-car replica of the 1955 Porsche 550 Spyder—a model well-known for being the car James Dean was driving when he fatally crashed.

And then there was Abigail, a 1929 Ford Model A that ended up being one of Frank's longer-term projects. He wasn't seeking out this particular model but was intrigued by taking on a car of this vintage.

“I saw an ad for it in the paper and was just looking for a project,” he says. “We put it back together with parts from three different cars.”

Frank bought Abigail (his wife names all the cars) in 1975 when his son, Erik, was just over a year old, and the two (once Erik was old enough to wield a wrench) restored her over a period of years. It's made appearances

in parades and shows and even Erik's wedding, where it served as the “getaway” car, with Karl at the wheel.

### Shop Time

While Frank hasn't had any formal auto shop training—he picked up his skills over the years via trial and error and working with his older brother—he has plenty of experience in the fabrication shop. He began helping out at his father's steel shop at age 12. When he was old enough, he performed welding duties and eventually did ironwork in the field.

Despite growing up in the structural world, he initially decided to study mechanical engineering (as well as play football; he was a linebacker) at the University of California, Davis, then eventually switched his major to civil engineering.

Following undergrad studies at UC Davis and his advanced degrees and research work at Lehigh, Frank served as a professor of civil engineering at the University of Texas in Austin from 1974 until retiring in 2010. From there, his love of speed—this time in the form of trains, not cars—brought him to Hirschfeld, as he was interested in the work the company was doing on maglev guideways (referring to *magnetic levitation* high-speed trains) at the time; he also served as the director of the Maglev Research Center at UT from 2003 to 2010.

### Old and New

In his current role with Hirschfeld, he assists with new designs, explores new technologies and “puts out fires.” When it comes to both restoring cars and designing bridges and buildings, Frank acknowledges that software has made both disciplines easier. That said, he emphasizes the importance of “old-fashioned” technology as well, with the idea that while software might make design and detailing easier and faster, a good background in pencil-to-paper drawing can prove essential to truly embracing and understanding good design.

“It's easier to tune a digitally controlled injection system than it is a carburetor; you can do it from a computer,” he says. “But a lot of the younger generation doesn't know how an old-fashioned ignition system works.”

Speaking of ignition systems and carburetors, Frank's current rebuilding project is a 1966 Mini Cooper, which he says is somewhat nostalgic as he owned one during college. He works on it an average of one weekend day and two nights per week and is hoping it will be complete in a couple of months, after which he plans on having his son race it. At the very least, once it's done it'll free up some much-needed space in his garage, where he does most of his restoration work.

“I currently have four cars in a three-car garage,” he laughs. “As long as there's room for my wife's car, she's OK with it.”

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◀ Frank in one of his rebuilt cars, a 1951 MG TD Midget.