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# Michigan Tech Engineering Drives GM

**Three of the corporation's chief vehicle engineers-and the manufacturing behemoth has just 11-graduated from Michigan Tech. All of them are mechanical engineers.**

Below (from left): Doug Parks with the Pontiac Solstice, Dave Hill and the Corvette, and Terry Woychowski and the Cadillac EXT. Inset (below): Parks, Hill and Woychowski-three GM chief engineers.

When you drive down the road and see Hummers, Corvettes, and the new Pontiac Solstice two-seater sports car, you are seeing Michigan Tech alumni at work.

Three of the corporation's chief vehicle engineers-and the manufacturing behemoth has just 11-graduated from Michigan Tech. All of them are mechanical engineers.

Terry Woychowski '78 leads the largest vehicle platform-GM full-size trucks.

Doug Parks '84 is the chief engineer for small cars, including Saturns and the Chevy Cobalt.

Dave Hill '65 has perhaps the sexiest job of them all-the chief engineer for the Corvette.

Silverados, Hummers, and a 3-D visualization center with the latest in Hollywood's special effects technology-Terry Woychowski must have the best toys in all of General Motors.

Woychowski was named chief engineer of GM's full-size trucks in 1998. His responsibilities include all the engineering design and development activities for trucks, pick-ups, sport utility vehicles, and the H2 Hummer.

GM had two goals in mind when it began to develop the Hummer, he said, after the automaker formed a partnership with AM General, maker of the original Humvee.

"It had to be a Hummer," Woychowski said. "It had to be true to the military heritage. It had to be built like an anvil. And it had to be able to go off-road in the most severe environments."

Woychowski also has the use of GM's Global Visualization Center, with powerful virtual reality software that has allowed engineers to cut vehicle development time in half.

"It's not just time, but that equates to money," Woychowski said. "I am not easily drawn to technology, tricks and gizmos, but this is the best tool GM has ever developed to design a vehicle."

The heart of the facility is a 24-foot by 10-foot video wall that can be used to project lifelike three-dimensional images created from engineering data.

As chief engineer for full-size trucks, he manages the largest vehicle platform in the world, in both volume and complexity. The 1.6 million annual volume is spread among eight plants in four countries.

"The engineering education I received at Michigan Tech was one of the most critical elements in my career," he said. "A very solid understanding of the fundamentals, combined with both hands-on experiences and close relationships with professors, helped shape my approach to solving engineering problems."

How would you like to drive a two-seater sports car that costs less than $20,000? Next year at this time, if you are tooling around in the new Pontiac Solstice, you will have Michigan Tech grad Doug Parks to thank for your wind-blown look.

Parks is the vehicle chief engineer for GM's small cars, including Saturns, the Chevy Cobalt, and the Solstice, among others.

Along with vehicle line executive Lori Queen and their engineering staff, he helped develop the new rear-wheel drive platform, called Kappa, used in the 2006 Solstice and Saturn Sky. By borrowing from existing platforms, including the Corvette and the Cadillac CTS, Parks and his team were able to develop the low-volume Solstice for an asking price of less than $20,000.

Parks joined General Motors after graduating in 1984 and has spent his career with the company. He started as a tooling engineer at the Chevrolet plant in Adrian, Michigan. He later joined the Flint Automotive Division, becoming concerned with ride and handling, noise and vibration, and the structural development of vehicles.

"Michigan Tech taught me to be disciplined about following logical principles for design or problem-solving. I started at Michigan State, but the classes were way too big. I transferred to Tech in my third year. I enjoyed the smaller class sizes and the interaction with the professors."

Parks also said he enjoyed the Portage Lake Golf Course and the history and richness of the community.

"My education at Tech taught me to use data systematically, pursue a logical progression in my thinking, and make good judgments based on that."

The dean of the vehicle chief engineers is Dave Hill, who has held that position for the Corvette since 1992. Hill spent his first 27 years with Cadillac, spending almost half that time fighting smog and helping to create many of the pollution control devices that are now ubiquitous on vehicles.

"It was technically challenging because it had not been done before," he said. "I found it rewarding because it seemed to have some greater value."

As just the third chief engineer in the Corvette's 52-year history, he developed the fifth generation of that signature vehicle.

"It was not a given that we would be able to develop the next generation," he said. "As a low-volume program, we had to prove to the company that this was a good proposition, financially."

He and his team met the major hurdles of keeping manufacturing costs down and creating a car with more room and less mass.

One part of his job that other GM chief engineers do not face: at trade shows, Corvette aficionados regularly ask him for his autograph.

"There is no training anywhere in General Motors for that part of the job," he said.

Hill is a big believer in engineering and manufacturing as the backbone for the US economy. "Engineers have a lot to do with the future standard of living in America," he said. "If we can create products and businesses that add value and create wealth, we will contribute to a high standard of living."

Hill also said his experience at Michigan Tech prepared him well for his career

"Students have to work hard to meet Michigan Tech's expectations and that prepares you for the real world," he said. "The broad, practical education allowed me to do things, to make things, and to build things."

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