

Tech

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Demetrius Williams of the Baltimore Ravens outfits garage

FOR DAD

Diagnostics Tech & MODIS fix ill-running diesel

T Party Tech Restores antique Ford



NOS

CAMO



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SUPER V8

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PIT STOP/L.BROWN

PIT STOP/D.BROWN



PIT STOP/BLACK

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DAYTONA 3.0

F1



AIR RACER

LOWDOWN



TUNE UP

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ALSO AVAILABLE
IN INFANTS'
AND WOMENS' SIZES



THROTTLE/BLK

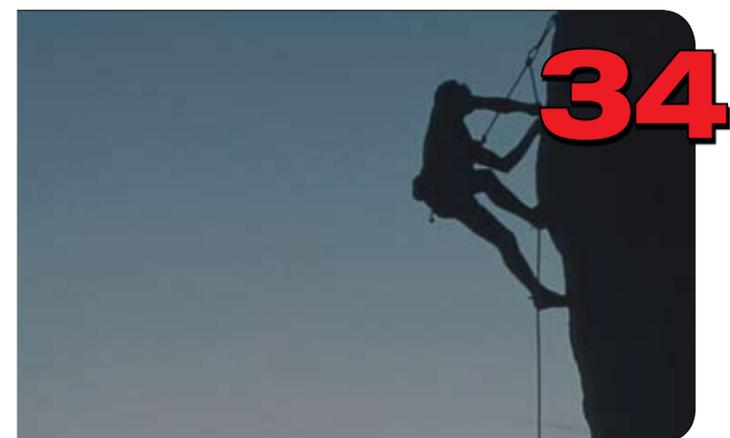
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On the cover

Demetrius Williams of the Baltimore Ravens outfits dad's garage.

Read the story on page 7.

MISSION POSSIBLE

The most valued productivity solutions in the world

That's Snap-on's mission. Quite simply, you can count on Snap-on to provide you with the tools and equipment that will make you more productive and more successful as a professional technician. Whether you service automobiles,

trucks, planes, trains, buses or other on- and off-road equipment, Snap-on and your Snap-on Franchisee are committed to making you more efficient.

On page 12, you'll read about the 2008 Snap-on Franchisee Conference attended by a record number of franchisees, as well as product specialists, engineers and vendors. Products already introduced and on the horizon include precision diagnostic tools, new thinking in tool organization, hand tools for even tighter quarters and more powerful air and cordless tools.

You and your fellow techs can see the new Snap-on productivity solutions up close when the "NO COMPROMISE Tour" arrives at a location near you. The tour kicked off during September in the northwest, before continuing on its west coast swing. It will travel across the country through 2009.

Two custom haulers bring the newest and most productivity-enhancing solutions on the planet to you. You'll see the latest and largest tool storage solutions, innovative hand and power tools and advanced diagnostic equipment. Local franchisees will be there, too, with special offers only available at tour stops. Read more on page 15.

The Snap-on Glo-mad that you've been reading about in recent issues of *Tech* magazine is also part of the tour. Car lovers won't want to miss the opportunity for an up-close and personal look at this Classic '57 Gone Wild.

If you're on a mission to advance your professional career, plan on taking in a "NO COMPROMISE" tour stop near you. Ask your Snap-on Franchisee about the latest productivity solutions and the tour schedule for your area.



Tom Ward

President, Snap-on Tools Company LLC

Share Your Story

Drop a note or send an e-mail. Include your story idea about you or a fellow technician, your contact information, place of employment and the name of your Snap-on Franchisee.

Tech Magazine

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Tech

Only for techs. And only from Snap-on®

Volume 4, Number 4

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3rd and Goal!

When tough tapping and extracting jobs stand between you and pay dirt, three new Snap-on tool sets can help you win the game.

34-Piece Metric-Tap Set (TMA34)

- Includes every metric tap you need up to 18mm.
- Precision-ground flutes ensure accurate threading and high-carbon steel ensures less breakage.
- Tap adaptors turn any 3/8" socket drive into a tap driver.

2-Piece Adjustable-Tap Socket Set (ATSSSET)

- Jaws adjust to tightly secure taps up to 1/2" (small from #6 to 1/4" — large from 1/4" to 1/2").
- 3/8" square-drive compatible with common ratchets.
- Small profile for easier access to tight workspaces.
- Tap adaptors turn any 3/8" socket drive into a tap driver.

9-Piece Deep-Well Bolt Extractor Set (BEXD9)

- The fastest, easiest way to remove broken, damaged, painted-on, rusted-over, or stripped-out screws, nuts, and bolts.
- Deep-well design fits over exposed studs and reaches recessed fasteners.
- Patented reverse-spiral flutes provide maximum gripping power to bite into stubborn fasteners, both SAE and metric (1/4" to 3/4" OD).

Ask your Snap-on Franchisee for complete details on these new Snap-on game-winning tool sets or visit Snapon.com.



THERE IS A DIFFERENCE.™

Want to save gas? Turn right

UPS is known for its brown trucks, but the international delivery company is very interested in saving green.

Over the last few years, UPS has been rolling out some internally developed technology to save gas. One of the biggest strategies: Minimize left-hand turns. That's because time spent in left-turn lanes leads to more engine idling, fuel consumption and traffic delays as the trucks wait for oncoming vehicles to pass.

In 2007, UPS route planning technology, which minimizes left hand turns, shaved nearly 30 million miles off already streamlined delivery routes and saved 3 million gallons of gas, according to the company. At \$4 a gallon, that's a \$12 million savings.

On the Web:
UPS.com



Shout out about 'pouts

This unique fishing contest isn't for the faint of heart. Thousands gather on the ice of Leech Lake in northern Minnesota each year to challenge the elements and the wily eelpout, a bottomfeeder also known as the burbot, ling or lawyer. The wily eelpout is noted for its fighting nature, but fishing is just part of the fun at the festival. Snowmobile races, a 5K "Eelpout Peelout" run and polar plunge are also part of the ice antics.

The 30th annual International Eelpout Festival is scheduled for Feb. 20-22, 2009, on Leech Lake in Walker, Minn.

On the Web:
EelPoutFestival.com



60 years later, F-Series still hauling

Sixty years ago, Ford introduced the F-1 pickup to a booming post-war America and marked Ford's first all-new line of post-war civilian vehicles. Advertised as "Built Stronger to Last Longer," the F-Series became a symbol of America's economic prosperity, going to work on the jobsite, at the factory and on the farm.

The F-Series is approaching sales of 33 million since its introduction in 1948. F-Series has topped the truck sales charts for the past 30 consecutive years and boasts the recognition of being America's best-selling vehicle for 26 of those 30 years.

On the Web:
Ford.com



Son scores Snap-on touchdown

FOR DAD

Father and son Dwight and Demetrius Williams share a lot of passions. Both love football; Dwight coaches at Northern California's powerhouse De La Salle High School. Demetrius had an outstanding football career at the University of Oregon and was drafted by the NFL's Baltimore Ravens in 2006.

They have a passion for restoring cars, too. Dwight bought his first car, a 1957 Ford, for \$25. It had a blown motor that he replaced for \$50 using junkyard parts. His hobby grew from there, and it was an interest he shared with Demetrius early on.

"He didn't have much choice," Dwight

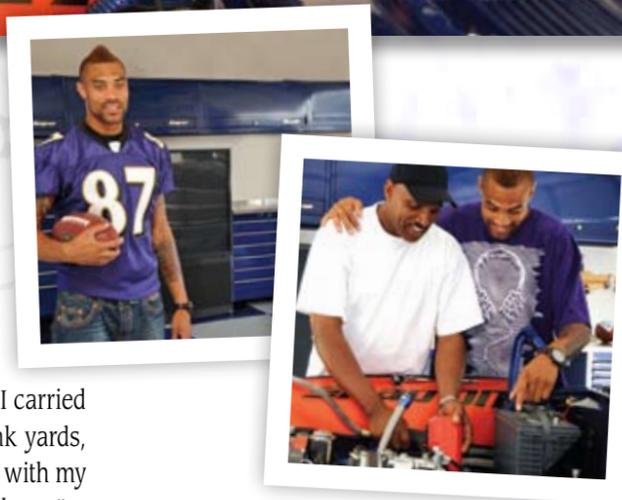
said. "When he was 1-year-old, I carried him around in a car seat to junk yards, car shops, garages, hanging out with my car buddies—he was always with me."

Owning Snap-on tools had been a life-long dream for Dwight. When Demetrius achieved his life-long dream of playing in the NFL, he fulfilled his dad's dream by giving him a Snap-on garage makeover for his shop. Dad's reaction? "I'm so touched that my son would do that for me. I must have done something very right."

Demetrius said it meant a lot to him to fulfill his dad's dream.

"He's a hard working guy, and he's

never had enough money to go out and buy any good tools for himself," Demetrius said. "A lot of times, his tools weren't adequate for the job, and now I've been able to give him a great set of tools. It's funny because when I told him, he didn't believe me at first. He said, 'That's not going to happen for me,' and finally the toolboxes started showing up. He called me and I think he was in tears. It meant that much to him because he's never had anything good like that." 🍌





Tech brings Christmas joy year-round

Mike Peppers is making a list and checking it twice. He needs to keep track of his schedule, because his busiest time of the year is coming soon. Peppers and his Santa car are on the go constantly from early November until Dec. 25 delivering presents and joy to children throughout the Davenport, Iowa, area.



Peppers, who owns Sgt. Peppers Auto Shop, started his role 40 years ago, passing out presents for the Jaycees. He was hooked right away.

Since then, he's expanded his St. Nicholas act to include community events, gatherings for the children of military personnel who are serving overseas, handicapped children and senior citizens.

His biggest gig is still his work with the Jaycees, delivering wrapped Christmas presents to underprivileged children in Davenport. The Sunday before Christmas, Peppers loads his Santa car with the gifts and spends the day making the season a bit brighter for many kids.

"That's the greatest part for me, when the kids see me and start yelling, 'Santa, Santa,'" he said. "It gives me chills."

Peppers doesn't limit his joyous giving to Christmastime. He and the Santa car make frequent appearances in parades and at other events throughout the year. His wife, Cathie, made him a special red, short-sleeve shirt for his summer Santa gigs.

Cathie also made his first Santa suit, one big enough to fit his 300-pound frame.

"I've got the right look for Santa. I've got white hair and I'm fat and jolly," Peppers said.

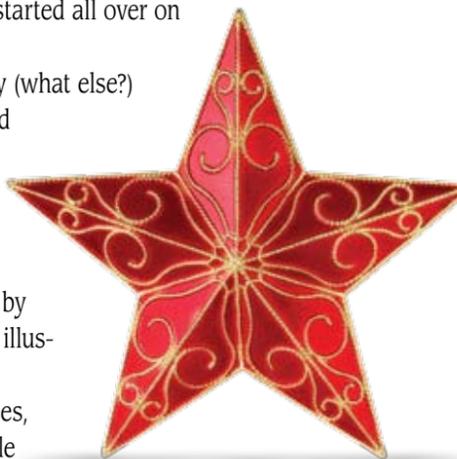
He completed his Santa look with a custom Santa Car, a hybrid pulled together from 11 cars.

"I brought it back to the shop and chopped it all up," he said. "Two years ago I started all over on it, cut it all up again."

It has six speakers that play (what else?) Christmas music, flashing red and green lights and red beacon lights on the undercarriage.

The latest additions include pin striping and lettering by the well-known cartoonist and illustrator George Sedlak.

For all the children he sees, Peppers has a kind word, a smile and a Santa autograph—in red ink, of course. 



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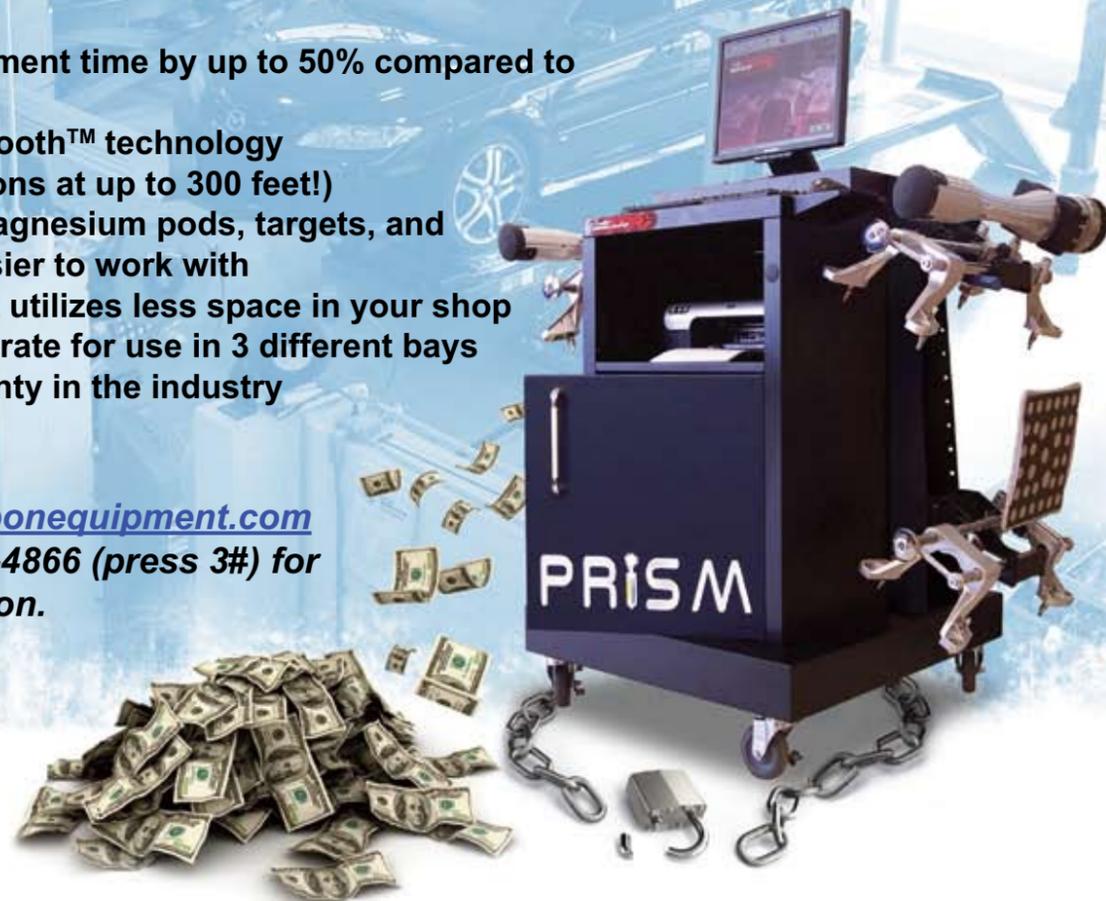
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Snap-on Equipment

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WATER WORKS: Tech keeps fast pace with drag racing



Peter Collett's first run in his new drag boat was close to being his last. After nearly two years waiting for his Bitz 502 Hydro drag boat hull and engine to be finished so he could assemble the final product, Collett had just a little more than two weeks to prepare for his first race in the new craft. He fired up the boat, took four passes and then ran into the wake of a wakeboard boat. Collett rolled three times and sunk like a rock to the bottom.



He got out safely, but it took the rest of the day just to pull the craft from the bottom.

"I pulled it home and tore it all apart again to dry it out and clean it up," he recalled. "I got it back together and six days later, we went out and won the race."

Such is the life in the fast-paced world of the Columbia Drag Boat Association, where Collett has raced since 2000. Collett said he got the bug from his dad, Ned, who was a Canadian circle boat champion. As Collett says, "Water of all sorts is in my blood."

But it wasn't until after his dad died in 1998 that Collett took to racing himself. Over the years, he's won 25 races with three boats. Collett, of Junction City, Ore., races in the Pro Eliminator 8-second class. His latest boat is a 2006 Bitz 510-pound Hydro hull with a Lenco two-speed clutch combo, 509 cubic-inch blown alcohol Jim Andrew Racing engine. The John Deere tech uses Snap-on tools at work and on his watercraft. "They're the best in the business," he said.

His goal when racing? "To stay on top of the water, not below," he says. "It's not fun and costs too much to get these things dried out." 

WHAT IF THE ROAD TO SUCCESS WAS ALREADY PAVED?



You know Snap-on as the #1 professional tool brand in the world. What you may not know is that Snap-on is also a fantastic business opportunity. Along with our legendary innovation and relentless determination to be the best, the business model we've honed over the course of nine decades has made us a franchise that stacks up well:

- More than 4,000 franchises worldwide
- Most in-demand product in the category
- Voted Overall Best Brand by US automotive technicians (Frost & Sullivan)
- Established, protected list of customers
- Mobile store where you go to your customers
- No real estate investment
- Exceptional training and support
- Proven franchise model
- No royalties or advertising fees

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877-4SNAPON Ext. 1



2008 franchisee conference

What happened in Vegas won't be staying there



New products, new technology, better solutions and more productivity were the key elements behind Snap-on's recent franchisee conference in Las Vegas. The national gathering brought franchisees, product specialists, engineers and key vendors together to showcase the products that you will be seeing in the coming months.

Why is this important to you as a working technician? Because your customers are depending on you to help them get more miles per gallon, more miles per vehicle, and more miles with less worry. And Snap-on is committed to bringing you the productivity solutions and technology to help you do that, and do it efficiently and profitably.

So while we can't jump the gun and show you everything, we can tell you we have been working hard on meeting the needs of the next generation technician—powerful diagnostic tools, new thinking in tool organization and efficiency, hand tools for even tighter quarters, and more powerful air and cordless tools.

For you and for Snap-on Franchisees, what happened in Vegas won't be staying in Vegas very long. 

These tips could save you \$5,000 a year

Seems harder to make ends meet every month, doesn't it? These tips could save you up to \$5,000 a year—without forcing you to give up all comforts.

Use only your own bank's ATMs. Save the service charge.

Save your change. Every time you pay cash, put any change in a separate part of your wallet. At the end of the day, put all that money into a special savings jar.

Don't buy premium coffee to go, brew your own coffee at home and bring it in a thermos to work.

If you have a recurring expense—a haircut, for example—add one or two weeks to your schedule. At an average of \$20 per haircut, that can save \$60 a year.

Rent a DVD three times a month instead of going to the movies.

Ride your bike around town instead of joining a gym or health club.

Borrow a book from a friend instead of shelling out \$25 every time you go to a bookstore.

Take your family on a road trip vacation instead of flying somewhere.

Brown bag your lunch three times a week instead of buying it every day. 





HEAR NOW, HEAR LATER

Prevent permanent hearing loss

Technicians have tough jobs and often work in tough conditions. But one of the biggest threats to your health is something you can't see. Damage to the ear due to noise exposure is cumulative.

There are three things to consider about noise: How loud? How long? How close? OSHA's permissible top limit for noise exposure over an eight-hour period is 90 decibels. Some comparative noise levels found in workplaces include:

80 DECIBELS: city traffic

90 DECIBELS: subway train, lawn mower, motorcycle, tractor. Prolonged exposure to any noise above 90 decibels can cause gradual hearing loss.

100 DECIBELS: woodworking shop, factory machinery. (Avoid more than 15 minutes of unprotected exposure.)

105 DECIBELS: snowblower

110 DECIBELS: chainsaw, leaf blower. (Regular exposure of more than one minute risks permanent hearing loss.)

120 DECIBELS: ambulance siren, heavy machinery, jet plane on ramp

130 DECIBELS: jackhammer

140 DECIBELS: airplane taking off, rock concert, firecracker

An increase of six decibels equals a doubling of noise produced. A noise level of 96 decibels is twice as harmful as a noise level of 90 decibels.

Damage to your hearing can be prevented by a combination of increasing the distance between you and the noise source, decreasing the exposure time, and using personal protective equipment (PPE). Earplugs, canal caps and earmuffs are types of noise-reducing PPEs. Through its Blue-Point line, Snap-on offers

several types of ear protection.

Here are points to keep in mind: Hearing protection must be comfortable to be effective. It must be worn consistently for the entire length of the exposure.

Also, don't over-protect. You must be able to hear talking, loudspeaker transmissions, pages, warning signals, equipment and machine sounds, while reducing the risk of permanent hearing damage or, ultimately, loss. 🗣️

SIGNS of HEARING LOSS

- ▶ Muffled quality of speech and other sounds
- ▶ Difficulty understanding words, especially against background noise or in a crowd of people
- ▶ Asking others to speak more slowly, clearly and loudly
- ▶ Needing to turn up the volume of the television or radio
- ▶ Withdrawal from conversations
- ▶ Avoidance of some social settings



NO DOUBT, NO COMPROMISE TOUR is for you

When it comes to your work, you have a simple philosophy: No compromise. You won't compromise on your job performance and you won't compromise on the tools you use. That's why you choose Snap-on. To be the best, you need the best.

We at Snap-on share your dedication and want to help you achieve your goals. That's why we're bringing the NO COMPROMISE TOUR to locations across



the U.S.

Two custom haulers give you a chance to see Snap-on products like you've never seen them, to experience the newest and most productivity-enhancing solutions on the planet. We'll have the latest

and largest tool storage solutions on display, and special offers on exclusive Snap-on merchandise are waiting for you.

Local franchisees will be there with special offers on Snap-on tools that are only available at each NO COMPROMISE TOUR stop. This is a great opportunity to expand your Snap-on tool inventory with some of the best deals ever seen.

And we'll have some fun, too. At NO COMPROMISE TOUR stops you can see the Snap-on

Glo-mad, the totally custom take on the 1957 Chevy Nomad. With only 6,500 '57 Nomads manufactured, this timeless classic remains among the rarest and most coveted collector cars.

So join us at the "NO COMPROMISE TOUR stop nearest you. The tour began in August and will make several stops each week through most of 2009. Check with your franchisee about tour stops in your region. 🗣️



TWO GREAT CALENDARS, ONE GREAT OPPORTUNITY

It's that time of year again. Entries are now being accepted for the 2010 Snap-on **Snapshots** and **Tech Toys** calendars.



You have a once-a-year opportunity to have your cool car, truck, or motorcycle considered for the **Snapshots** family of calendars, now entering its 15th year. Wild or mild, we're seeking customs, classics, choppers, street rods, muscle cars, import tuners, antiques and sports cars. In total, 84 technician-owned vehicles will be showcased—all tuned to perfection using Snap-on tools!

Extremely popular is the best way to describe technician reception of the new, first edition **Tech Toys** calendar. The 2010 version promises to be even more exotic. Any vehicle that doesn't qualify for Snapshots is fair game for Tech Toys.

The 2009 premier edition includes a tractor puller, drag boat, dirt modified, 10-wheeler, restored '37 school bus, drag Corvette, powered coaster wagon, land speed car, backyard train, even a bi-wing racing plane. The sky is the limit, both literally and figuratively. So bring 'em on.

IT'S EASY TO ENTER

See your Snap-on Franchisee for the official 2010 **Snapshots** and **Tech Toys** entry forms. They contain everything you need to know about submitting your entry complete and on time.

Want to see more? Copies of the current 2009 **Snapshots** and **Tech Toys** calendars are available today from your Snap-on Franchisee.



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MANAGE THE JOB FROM
START TO FINISH?

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THE THINKING IS IN YOUR HANDS.



Fit to a T



Restoring an automotive legend

First you notice the "chukachukachuka" sound, not much louder than a lawnmower. Every now and again, an "oogah" blares from a horn. Some in the crowd are dressed in costume: Knickers and bowler hats for the men, long skirts and bonnets for the women.

They came from as far away as Australia and Europe to celebrate a grand old dame's birthday. Good old Lizzie is 100.

That's Lizzie as in Tin Lizzie, a popular nickname for Henry Ford's Model T. Fans of the car met in July at the Centennial T Party in Richmond, Ind. The event included a Ford village museum, swap meet, a parade of cars, timed assembly competition and even a play: "Oh! Henry! and the Tin Lizzie," put on by the Richmond Civic Theatre.

But the highlight of the event was the cars themselves. Nearly 800 Model Ts were brought by proud owners eager to



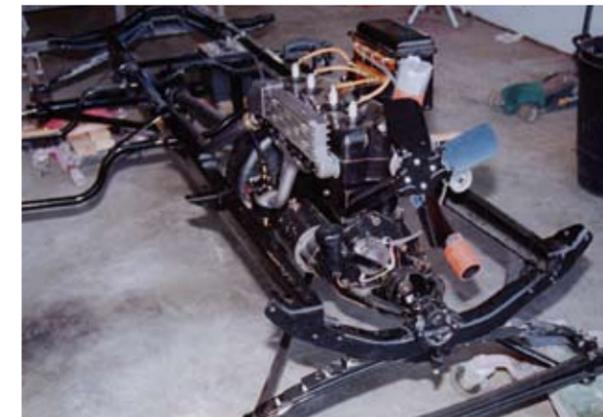
swap stories and show off their much-loved vehicles.

In a way, Mike and Pam Westover were unusual "T" partygoers. The Westovers own Auto Creations of Greeley, Colo., and Mike specializes in street rods and muscle cars. When Mike works on cars, he's customizing and updating. He's not doing strict recreations like the vehicles at the "T" party.

Fact is, when Mike purchased his 1927 Model T at auction (for a mere \$225), he planned on giving it a modern update. Who has time to fiddle with that old engine? But the more Mike thought about it, the more he liked the idea of being true to the vehicle's history.

"The Model T is a piece of history and I thought it would be fitting to restore it to its original glory," Mike said. "I wanted it to be as close as possible to when it came out of the factory that day in 1926."

To accomplish that goal Mike had to learn the intricacies of the Tin Lizzy. Some say Henry Ford's car was about as straightforward as you could get. The Model T didn't have anything added to it that didn't serve its basic purpose: Getting



from Point A to Point B. Still, it runs differently than anything else on the road in the past 60-plus years.

The Ford Model T used a 177 cubic inch, four-cylinder engine that achieved 20 horsepower for a top speed of 45 mph. The engine had side valves and three main bearings and was built in-unit with the Model T's novel transmission, sharing the same lubricating oil. Engine bore was 3¾ inches (95.2 mm) and stroke was 4 inches even (101.6 mm) for a total displacement of 2.9 l (2896 cc/177 in³).

Earlier Ts had a crank. In the early 1920s a battery, generator and starter were added.

Mike was particularly struck by the ingenuity of Ford's use of a magneto. A magneto provided power for ignition and for the lights. The same magneto was used in 1926 and 1927 Ts, but had a selector switch for battery or magneto use. It was customary to start the car on battery power and switch to magneto. The magneto furnished a stronger spark and better lights because the voltage and power output were higher.

The magneto was attached to the flywheel at the rear of the engine, and ran entirely immersed in oil. It consisted of a ring of horseshoe magnets turning inside a series of coils connected in series. The output of the coils was brought out to a post on top of the flywheel housing. The negative side was grounded to the frame.

Mike didn't have a timetable for when he'd finish until Pam came across the Centennial T Party while doing research on Model Ts. That was nine months before the event, not much time to do a full restoration and still keep up with work at the business. But both Mike and Pam thought attending the party would be a great way to learn more about Model Ts and show off their restoration.

"Once I start on something, I never give up," Mike said.



"What most people see as beyond repair, I can see how it will come together."

That held true for the Model T, which, considering its age, was in pretty good shape, Mike said. The running boards were solid and Mike could even turn the engine over with the hand crank when he first got it. Pam did research on the right colors and fabrics and found that their vehicle was the 14,097,483rd Model T produced. Mike handled the bead blasting, metal work, painting and reassembly. He estimates that he spent \$18,000 on the car and another \$15,000 to \$20,000 of his own time on the job.

They chose dark red for the color (it's not true Model Ts only came in black) with a vermilion pinstripe. Originally, the dealer, not the factory, would apply the pinstripe, Mike said.

They put the finishing touches on the car just two weeks before the T party.

Mike said the restoration was a labor of love, one that was greatly helped by Snap-on tools.

"I grew up in auto shops and with Snap-on tools," he said. "In fact my dad gave me my first Snap-on tools when I was 13. I've always used them and I always will. They're the best in the business."

Mike and Pam plan to bring the Model T to a few shows around the Greeley area and to a senior center for a little show-and-tell session.

"We figure a lot of the seniors will get a kick out of seeing it," Mike said. "I'm sure they'll have a lot of stories to tell about their experiences with the Model T."

Share Your Story

Do you have a story idea for Tech?
E-mail us at: TechMagazine@snapon.com

About the Model T

- While the Model T has three pedals on the floor, none of them is an accelerator. From left to right, they're the clutch (for the two forward gears), a pedal for reverse gear and the brake. The accelerator is on the right side of the steering column. It's right across from a left-side lever, which is the spark advance.



- Mass production gains enabled Ford to steadily decrease the price of the Model T. In 1908, the first Model Ts sold for \$825. By 1925, it sold for \$260.
- The introduction of the Model T helped establish assembly-line production, a minimum wage and the eight-hour workday. The \$5-a-day starting wage brought the best workers to the Ford factories and is often cited as having helped establish the middle class.
- By 1921, the Model T accounted for almost 57 percent of global automobile production. It was manufactured in several countries, with dealerships on six continents.
- Before the Model T, cars placed the steering wheel on the right, left, or in the center of the front seat. The Model T standardized the left-side steering wheel.
- The Model T's engines offered flexibility and boasted 20 hp, with a top speed of 40-45 mph. The front-mounted, 2.9-liter, four-cylinder was the first single-block engine with removable cylinder head and remains the basis for most modern engines today.
- During 19 years of production, more than 15 million Model Ts were sold. On May 26, 1927, a ceremony was held, marking the formal end of Model T production. It was the best-selling vehicle until 1972, when Volkswagen's Beetle surpassed it.

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To learn more about serving your customers with confidence by partnering with Jasper Engines & Transmissions, call **800-827-7455** or log onto **www.jasperengines.com**.



The ART of horsepower

In the late 1940s, Robert E. Petersen brought hot-rodding culture to car enthusiasts across the United States with his cutting-edge magazine. Decades later, Petersen ensured that his love of automobiles would live on.

In 1994, he and his wife, Margie, fulfilled a longtime dream when they donated \$5 million to start the Petersen Automotive Museum. In April 2000, the Petersens contributed an additional \$24.8 million to the Los Angeles County Natural History Museum to retire the bond debt and establish the Petersen Automotive Museum Foundation as an independent nonprofit organization.



American life and culture.

"Mr. Petersen helped create and feed the American obsession with the automobile, delivering gasoline-powered dreams to the mailboxes of millions," said Dick Messer, director of the museum. "He understood the thrill that an average person could get from seeing and reading about horsepower as an art form."

Petersen was instrumental in creating the first hot-rod show at the Los Angeles Armory. To help establish the event, in January

Today, the Petersen Automotive Museum stands as one of the nation's premiere automotive showcases, serving thousands of visitors each year. The museum is dedicated to the exploration and presentation of the automobile and its impact on



1948 he launched **Hot Rod** magazine, and hawked it at local speedways for 25 cents a copy. The magazine was so successful, he took it to a national audience. Dozens of other titles aimed at specialty automotive segments soon followed, including **Motor Trend**, a more upscale publication for production car enthusiasts.

The museum covers more than 300,000 square feet on four floors. It features more than 150 rare and classic cars, trucks and motorcycles. The second floor presents five rotating galleries with state-of-the-art displays of race cars, classic cars, vintage motorcycles, concept cars, celebrity and movie cars, and auto design and technology. The May Family Discovery Center sparks interest in science by way of the automobile, while the 6,500-square-foot, interactive "hands-on" learning center teaches children basic scientific principles by explaining the fundamental functions of a car.

Recent displays included a celebration of NASCAR's 60th anniversary and a look behind the artistry and wizardry of the animated movie "Cars." ■

MINT MUSEUM PIECES REQUIRE BEST TOOLS

When you're working on irreplaceable automobiles worth hundreds of thousands of dollars, you can't afford to cut corners. That's why the staff and restoration specialists at the Petersen Automotive Museum rely on Snap-on tools.

The automobiles and other vehicles at Petersen may be museum pieces, but that doesn't mean they sit on the shelf and collect dust. They're working examples of automotive history, said Tom Kenney, collections manager for the museum.

"Hearing them run and seeing them run is a completely different experience," Kenney said.

Petersen staff pull engines, change oil, replace brake fluid and handle repairs like any other shop. Most of the engines are pre-1970 and need regular maintenance and adjustments.

Why Snap-on? "They are the best in the business," Kenney said. "We're dealing with hundreds of vehicles worth millions and millions of dollars. We need the best."

ABOUT THE MUSEUM

What: The Petersen Automotive Museum

Where: 6060 Wilshire Blvd. (at Fairfax) in Los Angeles

Hours: 10 a.m. to 6 p.m. Tuesdays through Sundays. Open on major holidays that fall on Mondays. Closed Thanksgiving, Christmas Day and New Year's Day.

Prices: \$10 for adults; \$5 for seniors 62 and older, students with ID and active military personnel; \$3 for children 5 to 12; free for children under 5.

On the Web: Petersen.org

LOW POWER mystery solved



By Jim Jesse, Snap-on Diagnostics

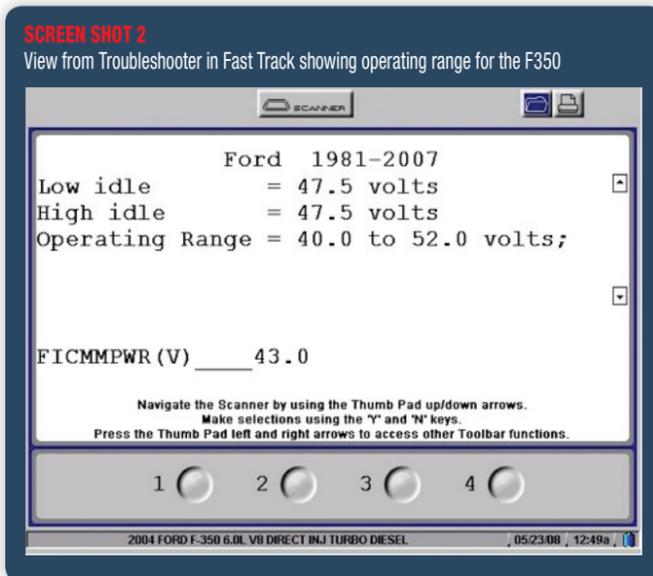
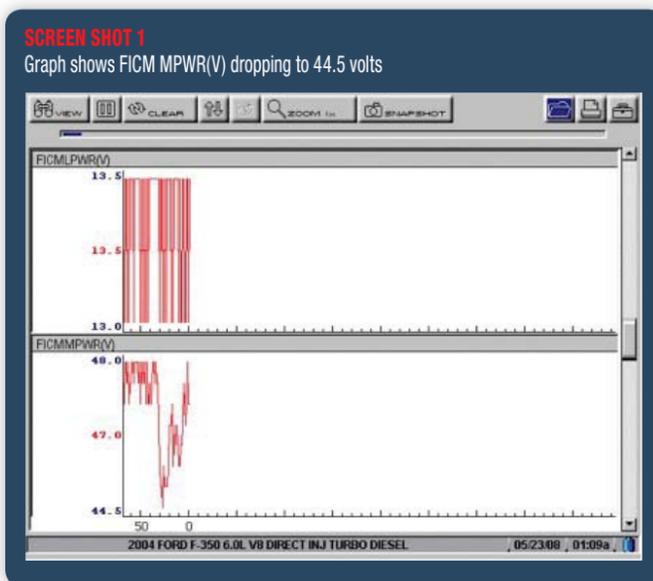
Paul Peterson, a master diesel technician from Rock Springs, Wyo., diagnosed a tough problem plaguing a 2004 Ford F350 6.0L diesel using MODIS with Snap-on's exclusive Fast-Track Troubleshooter®. Paul has used Snap-on products to diagnose and repair diesel engines since 1994.

The Ford suffered from low power, especially under load. This vehicle came Paul's way via a regular fleet customer, where workers attempted to fix the problem by checking for DTCs and replacing the fuel filters. No luck.

A road test quickly verified the customer's complaint. Paul then confirmed that there were no codes in memory for either the KOEO or KOER checks. Fuel pressure and volume were within specs. Next, mechanical functionality of the injectors was tested using the Ford Injector Buzz Test available from the MODIS Functional Tests menu.

Scanning the fuel system data stream parameters during the road test and then reviewing the stored movie file revealed that power to the FICM (fuel injection control module) decreased when the engine power loss occurred.

Knowing that the FICM sends 48 volts at a 20-amp pulse to the fuel injectors for delivering the right amount of fuel at the correct time, having low voltage would affect the amperage to the injector spool coils. Troubleshooter showed the normal operating range to be 40-52 volts. The truck had readings as low as 43 volts when the power loss occurred, indicating a



problem with the control module. But since the voltage was in range there were no codes.

Screen shot 1—of the data stream, captured before the repairs—illustrates the FICM MPWR(V) dropping low to 44.5 volts. The data was checked using the Troubleshooter Fast-Track Data Scan feature, which contains information and guidelines that empower a technician to quickly validate data stream readings for important sensors and actuators. Normal data values are provided for comparison to the live readings.

Screen shot 2 shows the view from Troubleshooter in Fast-Track data for operating range.

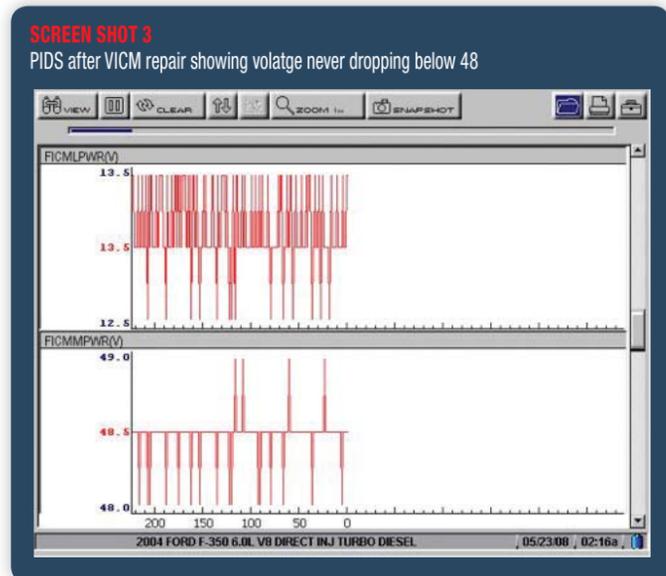
After replacing the control module and reprogramming, the vehicle was again road-tested before returning to the customer to verify that the problem had indeed been resolved.

Screen shot 3 is PIDs after FICM repair, never dropping below 48 volts.

"I honestly believe that without MODIS' ability to graph (the data), take a snapshot, and record a movie, a tech would waste a lot of time finding this issue," Paul said.

Based on the real-world experience of technicians, Snap-on Fast-Track Troubleshooter contains tens of thousands of diagnostic and repair tips and shortcuts to enhance any technician's knowledge base. For more information, see your Snap-on Franchisee or visit Diagnostics.Snapon.com

Editor's note: The diagnostic case study in our last issue, "MODIS helps restore 'baby's' health," was contributed by Darren O'Gorman of Auto Analyzers, West Allis, Wis. O'Gorman is ASE Certified L1 Advanced and has a degree in electrical engineering technology.



VANTAGE PRO hits a bullseye for archery expert



Your Vantage PRO helps you solve automotive puzzles, but tech Paul Fender found a way to use its technology to help with his other passion: archery. Fender, who shoots competitively and for hunting, was wondering about the effectiveness of commonly used bow silencers. Even the smallest noise can ruin a shot, especially when hunting deer.

So the Clearlake, Calif., resident took a scientific look at the issue. He pulled together several commonly used bow silencers, including beaver fur strips, synthetic rubber "slugs," and small balls of steel called "speed balls," among others.

Bowstrings make noise during and after a shot because of their vibrations. The goal of these silencers is to keep those vibrations to a minimum. Fender attached a piezoelectric transducer to the bow. The transducer generates a voltage when it is shaken. The harder you shake it, the higher the voltage produced. This is where Vantage PRO came in. Fender used it to take the voltage measurements from the transducer to draw a "picture" of how the transducer's voltage output changes as time passes. With the digital information stored, Fender could take a leisurely look at events that lasted only a few fractions of a second. The results of his investigation were recently published in "Traditional Bowhunter" magazine.

Fender found that, in some applications, fur string silencers were just as efficient as rubber slugs and that rubber whiskers cost too much energy. He cautions that bows of different designs and materials will react differently.

Information-guided Vantage PRO combines automotive power graphic meter and 2-channel lab and ignition scope to capture and translate electrical component and diagnostic information and faults. Using Windows OS, Vantage PRO includes ARM processor, sunlight-readable color display, and expandable hardware architecture. It provides over 2 million vehicle-specific component tests, including tests for engine, transmission, ABS, charging, transfer case and suspension systems.

The Snap-on Vantage PRO Graphing Meter is a component-testing powerhouse that combines a graphing digital multimeter with a diagnostic database. It's like having access to a complete library of shop manuals for testing engine-management components, transmission sensors and components, and ABS systems.



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ing the pandemic of life-threatening conditions due to the glutony of chemical-laden processed foods has brought America to her once strong knees. Bad diet is the nation's leading cause of death today. Alert!! Pop-Tarts ain't food! Yikes!

Upgrading your diet is good. I seek it constantly and find it often. From quality food comes quality of life, which enhances our capability to pursue more progressive ideas in every aspect of life. It's like a huge positively charged runaway snowball of higher awareness. I'm a big fan.

Enter protein on the hoof. The perfect food. Venison. Wild game. Purity. Perfection. God's gift of ultimate renewable suste-

nance. I'm telling you, you cannot go wrong with this stuff. Sacred flesh fit for a king, and seeing as how I'm king of my castle, pheasant is served fresh on the BBQ grill often at Camp Nuge.

As long as we don't poison ourselves with tobacco, drugs or other harmful chemicals, get a reasonable amount of decent exercise, these kinds of meals will fuel your mind, body and soul with nothing but positive forces. And your taste buds will never settle for prefab garbage again. Go wild and go often. 🍖

Order Ted and Shemane's "Kill It and Grill It," autographed for everyone in your life you think could use some upgrade at tednugent.com or 800-343-4868.

BIG GAME MEAT CAKES

This is a good way to prepare the tougher cuts of deer, elk, antelope, moose and bear which the freezing plant or processor usually grinds for hunters.

For each pound of ground lean meat, add 1 teaspoon of salt, 1/2 teaspoon of pepper, 1/4 cup of ketchup and 1/4 cup of chopped onion. Mix well, shape in small flat cakes and cook in hot greased skillet, usually about 4 minutes on each side. One pound of lean meat will serve two.

HUNTERS STEW

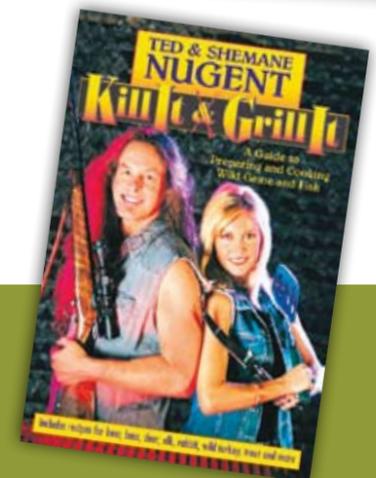
Here at the Nugent Ranch, we prepare mashed potatoes with the skins on. Try it! When the potatoes are nearly done, brown 1 pound ground venison and the fresh mushrooms 'til brown and tender. Drain, reserving grease for your hunting dogs. Add 1 can cream of mushroom soup and mix well. Prepare mashed potatoes as you like and serve meat mix over it. Best when coming in from the cold!

VENISON STROGANOFF

Ingredients:

- 2 lbs. venison steaks
- 1 envelope Lipton onion soup
- Fresh mushrooms
- 1 beef bouillon cube
- Cooking sherry
- 1 cup sour cream
- Curry powder
- Garlic salt

Cut meat in thin strips (eliminating fat). Brown quickly in 3 Tablespoons butter with mushrooms. Stir in 2/3 cup liquid (1/3 water, 1/3 sherry). Add onion soup mix, dash of garlic salt, dash of curry powder, and bouillon cube. Mix well, cover and simmer for 1/2 hour or until meat is tender. Stir every 15 minutes, adding liquid when necessary. Just before serving, add sour cream and increase heat. Serve over rice or noodles for four.



Recipes courtesy of Ted Nugent's book: *Kill It & Grill It*, available at Amazon.com and your local bookstore.

GO WILD for good eating

The Nuge cooks up his favorites.

By Ted Nugent

Based on the continued deluge of correspondence that Shemane and I receive from readers of our "Kill It and Grill It" cookbook, there is a wonderful wave of diet upgrading taking place across America and beyond. Whew!

Now that's good news for anybody paying attention to the death march of self-inflicted junk food goofiness that is killing Americans at record numbers. Between the insanity of obesity, unprecedented numbers of diabetes-2, and untold heart disease and assorted stupid-food health problems, I'd say it's about time people started showing some responsible choices out there. After all, the universal, long-running evidence prov-

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Still time to win a King's DRIVING EXPERIENCE

Could you be one of two lucky **Tech** readers who will win a free Richard Petty Driving Experience? If you don't enter, you'll never know. The King's Experience consists of 18 laps over two adrenaline-pumping sessions in a 600-horsepower NASCAR style stock car at a track near you. Between sessions, you'll receive individual feedback from a pit road instructor and additional coaching from a driving instructor. Key requirements are:

1. You must be 18 years old or older, have a valid driver's license and be certified by your Snap-on Franchisee as a recipient of **Tech** magazine. No purchase required.
2. No prior racing experience is required, but you must be able to drive a car with a standard transmission.
3. The cars do not have doors. You must be able to climb in through a 15" high by 30" wide window, approximately 36" above the ground.
4. You'll be asked to sign a liability waiver prior to your participation.

Enter by November 30

Simply send an e-mail containing the following information to:

Petty@HighVelocityCommunications.com

Subject Line: I want to win a King's Experience

Required Information:

1. Your name and complete mailing address
2. Daytime and evening/weekend phone numbers
3. Your place of employment
4. Name of your Snap-on Franchisee

Entries lacking any of this required information will be disqualified at the sole discretion of High Velocity Communications, the publisher of Snap-on **Tech** magazine. If you do not have access to e-mail, you can also enter by mailing the same information as required above by November 30, 2008 to:

King's Experience

High Velocity Communications
2444 North Grandview Blvd.
Waukesha, WI 53188-1695

The two winners will be notified during early January 2009 and the King's Experiences will be scheduled as early as possible during 2009. For a listing of the more than 20 participating tracks and complete information about the Richard Petty Driving Experience, log onto 1800BePetty.com or call 1-800-237-3889.

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A great eight

Top places to get your climb on

Ready to reach for the top? Whether you're an old hand at rock climbing or just getting started, these eight spots offer challenges for every skill level.

Yosemite National Park, Calif.

Yosemite is one of the world's greatest climbing areas. Climbers here can enjoy an endless variety of challenges, from the sustained crack climbs of the Merced River Canyon to pinching crystals on sun-drenched Tuolumne Meadows domes to multi-day aid climbs on the big walls of the Valley. nps.gov/yose

Fisher Towers, Utah

The Fisher Towers are one of the most outstanding scenic features of Utah's Colorado Riverway. Visitors to the Fisher Towers Recreation Site will be rewarded with a sweeping view of the towers, Castle Rock, the cliff enclosed Richardson Amphitheater, and the Colorado River. DiscoverMoab.com

Ellingwood Arete, Colo.

An arete is a sharp-crested ridge in rugged mountains. Ellingwood Arete is part of the Crestones in the Sangre de Cristo Wilderness Preservation Area and offers challenges for experienced and novice climbers. sangres.com

Disappointing Cleaver / Ingraham Glacier Route, Wash.

This route is on Mount Rainier, the most heavily glaciated peak in the contiguous United States. The area offers an exciting challenge to the climber. Each year thousands of people scale this 14,410-foot active volcano. nps.gov/mora

Eldorado Canyon, Boulder Colo.

Eldorado Canyon is one of the top climbing destinations in the United States and has more than 500 technical climbing routes. parks.state.co.us/parks/eldoradocanyon

Tahquitz Rock, Calif.

Tahquitz Rock boasts more than 200 climbing routes. For the Southern California area, its routes are relatively long. It is also cool most of the day and has more crack climbing than other Southern California rocks. idyllwild.com

McConnell's Mill State Park, Penn.

Two climbing and rappelling areas are available to properly equipped and experienced climbers at the state park. The Rim Road Climbing Area is across the creek from the Old Mill. The more advanced and rugged area is near Breakneck Bridge. dcnr.state.pa.us/stateparks

Acadia National Park, Maine

Dramatic granite sea cliffs offer routes for all abilities, ages, and fitness levels. The sea breeze keeps the bugs away, and the crashing waves and wild seabirds add to the beauty and drama of the cliffs. nps.gov/acad

TYPES OF CLIMBING:

Bouldering: Climbers tackle short jumbles of rock, often only a couple of feet high. Because of their short height, bouldering problems tend to be fairly intense and technical for climbers.

Indoor: Rock walls are excellent places to learn rope-handling techniques and to work on the basic moves.

Free Climbing: You can only use your arms, hands and other essential body parts while free climbing. The gear is used for protection only.

Traditional (Trad) Climbing: The climber places the protection in a crack, secures a rope, and then climbs on above while trad climbing. In the event of a fall, the climber may fall twice as far as the distance from the last secured protection. Due to the technical demands, only advanced climbers attempt it.

Aid Climbing: This involves staying on the rock for several days and handling massive amounts of gear because of the sheer difficulty of the climb.

Solo Climbing: Climbing without any kind of protection defines solo climbing. Only experts choose to climb this way.

Ice Climbing: Climbers use ice axes to move up frozen waterfalls in this cool method.

Mountain Climbing: Just as it sounds—climbing mountains, a task that may involve living on ice-covered slopes for several days and being at the mercy of the weather, avalanches and more. 🏔️

Share Your Story

Do you have a story idea for Tech?
E-mail us at: TechMagazine@snapon.com

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RAZOR'S edge

Brothers win back-to-back Street Machine awards

guy's 11th PPG Nationals in Columbus, Ohio. The Ring brothers beat out the largest field of contenders ever—28—for the title.

It's one thing to win a national award. It's amazing to win back-to-back championships. The Ring brothers took home the same trophy in 2007 for a 1967 Mustang dubbed the Reactor. It's the first time in the 14-year history of the award the same team won in consecutive seasons. Their cars also have finished in the top five three other times.

Jim and Mike agree their success comes from paying attention to the details.

They developed their own billet aluminum bolts with custom washers because

they didn't like those readily available. They produced special hood hinges and hood pins to give each vehicle more polish. Those products drew such raves that the brothers started selling them through their business, Ring-brothers.

Details count. When something isn't right, they start over. Case in point: The RAZOR debuted June 27th at a Goodguys event in Nashville and when the car hit the sunlight, they saw small flaws in the paint. That meant a complete repainting during a 96-hour period over the July 4th weekend.

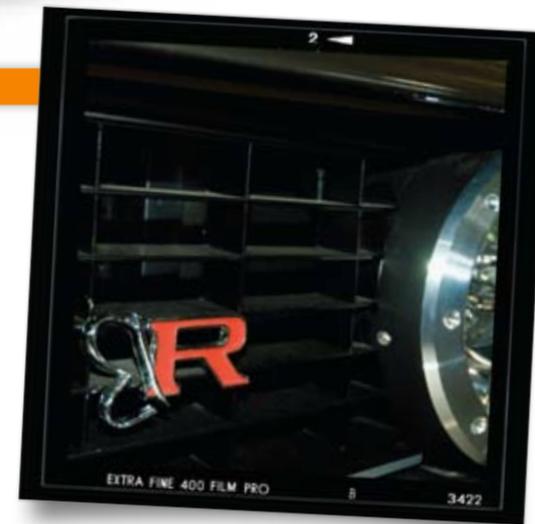
"It was a painful decision," Jim said. "It had to be done. You build a car like this for the Columbus competition. It means everything."

Each of the last two award winners took about a year and 3,000 man-hours to complete and cost upward of \$400,000. It's not unusual for cars at the Goodguys events to be valued as high

Mike and Jim Ring have a bustling auto shop in tiny Spring Green, Wis. (pop. 1,444). Up front they do quick oil changes for locals and a middle bay takes care of collision work. In back they work on street machines worth nearly half a million dollars that win national awards.

Not bad for "a couple of naïve guys from the cornfields of Wisconsin," as Jim puts it.

Their latest success is a 1969 Camaro named the RAZOR. The car, owned by Erv Roller, won the country's top award for a performance-based street machine this summer at the Good-



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as \$750,000. The brothers start with sketches by Sean Smith, a designer from California, who takes ideas from the Ringbrothers team and translates them to paper.

How much input does the owner have in the design process? Not much, according to Jim. One owner said all he wanted was to pick the car's color. "We vetoed his choice," Jim recalled.

They prefer classic designs, ones without bling or the latest color fad. Each car should have a timeless quality and look like it could have rolled off the assembly line in Detroit, Jim said.

Details count for Snap-on, too. That's why Ringbrothers uses Snap-on tools. They, too, have a timeless quality and, says Jim, they get the job done.

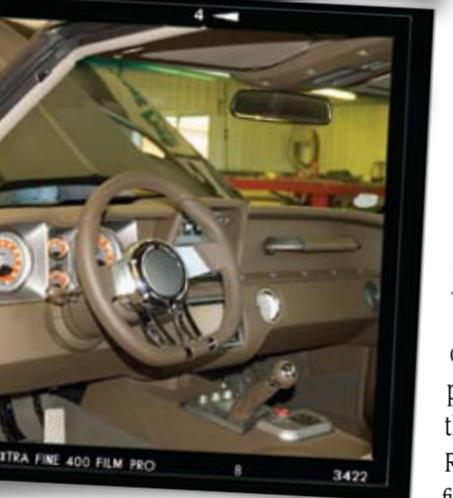
All the success has opened doors for the company. People from around the world have heard of Ringbrothers and want the firm's work. And it's allowed them to mix with notables

from the car world and elsewhere.

"Probably the best thing about building these cars is the people you meet," Jim said. The Ringbrothers team has rubbed elbows with Mike Pruitt, Jack Roush and celebs/car fans including NFL Hall of Famer and TV personality Howie Long.

The newfound fame hasn't dulled their enthusiasm. Next up for modification is a 1964 Fairlane dubbed Speedlane. The Ring brothers wanted to work on something different. ("You see a lot of Mustangs and Camaros out there," Jim noted). Though the Fairlane was "uglier than a mud fence" when it came out, the Ring brothers are up to the challenge of transforming it into automotive art.

"Just doing what we think looks good has paid off for us," Jim said.



the BUILD sheet

"RAZOR" 1969 Camaro, owned by Erv Woller – North Lake, Wis.

Fabrication and construction: Ringbrothers – Spring Green, Wis.

Design concept: Sean Smith, SS Design

Interior and design: Upholstery Unlimited (Steve Pearson)

Carbon-fiber body components: Hood, deck lid, rear bumper, brake duct air intakes – all custom by Ringbrothers

Custom-machined parts: Taillight bezels, rear fuel filler, shifter plate, gauge bezels, ignition switch plates, hood hinges, wheel house vents by Ringbrothers

Engine: GM Performance all aluminum ZL1 big block, 454 cid.

Transmission: Viper T-56

Front: Detroit Speed Hydraformed

Rear: Detroit Speed "Quadra Link"

Paint: BASF RM line (mineral gray and other custom blends)

Wheels and tires: custom one-off Budnik wheels 18x10 front, 19x12 rear, Goodyear tires

Gauges: Custom one-off by Classic Instruments

Exhaust: Flowmaster Super 44s

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\$39.95 CoastalBoot.com



Get your Geek on

The guys at ThinkGeek expect their gadgets to do all the busywork while they focus on the high-level, important tasks like reading blogs. That's why they came up with this T-shirt that lets you know if you've got wi-fi access. Why would you want to wear it? So you don't have to crack open your laptop just to find out. Plus, the guys say geeky women will "swoon in your presence."

\$29.99 Think.Geek.com



Sunlight shed light

The SunForce solar shed light provides ultra-bright LED lighting for storage sheds without the need for wiring. A solar panel charges two 900 mAh batteries, which store the energy until you need light. The kit includes the solar panel, rechargeable batteries, LED light, screws and adhesive tape for mounting, and enough wire to place the solar panel up to 12 feet away from the light.

\$25-35 SunForceProducts.com

Luke, I am your USB hub

These Star Wars USB Hubs feature the likenesses of two of your favorite Star Wars characters and offer four USB ports to plug in computer peripherals. But these aren't just lifeless hubs that sit on your desk. The R2D2 Hub turns his head back and forth and the Darth Vader Hub has glowing red eyes, while both play movie sound effects.

\$66 GeekStuff4You.com



Welcome to Tech Picks, a new feature.

Every issue, **Tech** magazine will be showcasing products that you can purchase from your Snap-on Franchisee. Of course the featured items will include tools, tool storage, diagnostic products and equipment, but you'll also find related items such as Snap-on shoes and gloves. If you have any questions or would like to place an order, be sure to talk with your Snap-on Franchisee.

Streamlight Stinger DS® LED

Streamlight's Stinger DS LED rechargeable flashlight offers extraordinary brightness and durability with new power C4™ LED technology. With up to 18,000 candela (Peak Beam Intensity) and 140 lumens measured system output, the new light nearly doubles the brightness of earlier models. Its proprietary deep-dish parabolic reflector provides a long-range targeting beam. The light features innovative Dual-Switch™ technology, providing a second multi-function push-button tail switch.

Learn more about the Stinger DS LED at Streamlight.com



Free Shallow Socket Set with Deep Set Purchase

You've always wanted to own a set of Snap-on professional-quality sockets. Now you can. Here's the skinny on a special "No Compromise" deal available from participating Snap-on Franchisees. Simply purchase a 12-piece 1/4" drive deep socket set, and receive the shallow set absolutely FREE (a \$135 value). Both 6-point sets (deep and shallow) include 12 sockets from 5mm to 12mm. Ask your Snap-on Franchisee about part #124STMMX. Hurry, order while supplies last.

Snapon.com



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See Snapon.com to learn more about SuperCuff HD Gloves.



Metric Tap Set

This 34-piece metric tap set includes everything you need up to 18mm. Precision-ground flutes ensure accurate threading. High-carbon steel assures less breakage. Tap adaptors turn any 3/8" socket drive into a tap driver: ATSS (small socket accommodates taps from a #6-to 1/4") and ATSL (large socket accommodates taps from 1/4" to 1/2" 12mm). For all of your tapping needs, turn to the industry-leading solutions. Ask your Snap-on Franchisee for part number TMA34.

See Snapon.com for more details.



Everything You Use Goes Here

The new 53" Heritage Roll Cab helps you find your key tools in less time. The 48" super wide, 5.5" deep top drawer features a two-layer, reinforced steel surface for loads up to 250 pounds and double ball bearing slides for smooth operation. You can organize and centrally locate all of your most frequently used hand and power tools in this special top drawer. Five 35.5" wide drawers below hold entire product families. The narrow drawers on the right are great for other items. Customize with optional accessories. Available in red, black, royal blue and electric orange. Ask your Snap-on Franchisee about part #KRA5311.

Snapon.com



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See Maglite.com for more details.



Patience, persistence pay off

It took a few years, but Gus Brown finally got the 1970 Chevy C10 he'd had his eye on. Seems Gus' friend had started to restore the truck but never got around to finishing it. He gave in to Gus' persistent calls to let him have a shot at the project.

"When I got the truck, it was just a shell, just bare metal," Gus recalled. "There are a lot of trucks out there, but this one was unique and it just caught my eye."

He wanted to keep things close to the original, but with upgrades. The clearance lights, grille, front fender, C10/Custom front bumper, glass, door handles, and interior items are 1970 vintage. And all metal except the hood and tailgate would be found on a 1970 truck.

"I like that the truck looks clean," Gus said. "I think of it as a restored truck with some slight modifications." It took him about three years to get the truck in running shape and Gus brought it to its first local show this summer. "It was cool to ride in instead of walk in," he laughed.

Gus, who supervises the fleet shop for the city of Loveland, Colo., uses Snap-on tools at his day job and at home. He said he relies on his Franchisee to help keep his shop updated with the best and latest tools. ●



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See www.maglite.com for more details.

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