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Tech

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a
GETAWAY
with some
TEETH

Shark fishing in the Keys



Snapshot calendar
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Racing Pikes Peak
Father-son climb the summit

Raptors rule
High-tech F-22 diagnostics



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Snap-on THERE IS A DIFFERENCE™



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Welcome to the winter issue of *Tech Magazine*.

After more than a decade since joining Snap-on, I still find myself in awe of the amazing people that make up this organization and the customers we serve. At the company's annual Franchisee Conference held in Las Vegas back in July, one such person was recognized for his seemingly endless generosity and customer service. I'd like to take this opportunity to tell you his story.

The Customer's Choice Award, which was announced in *Tech Magazine* earlier in the year, recognizes franchisees for going above and beyond the expected. This year's winner was selected from nominations sent in by you—Snap-on customers who singled out franchisees that have demonstrated exceptional customer service and community involvement.

One such customer was John Jabbora. When John's son, Jacob, was diagnosed with cancer, Jabbora's Snap-on Franchisee, Shawn Sinclair, was devastated. Jacob was no stranger to Shawn's Snap-on van and had often helped him with inventory during his winter break. Unbeknownst to the Jabbora family, after Jacob's death, Shawn helped with a charity auction—donating a large selection of Snap-on tools, collectibles and other items—to support John and his family through the tough time.



To show his gratitude, John sent an emotional letter to Snap-on, nominating Shawn for the company's Customer's Choice Award. The letter resulted in Shawn being selected and honored with the award at the Conference. The Jabbora family was flown in to help present the award.

In addition to sharing Shawn's generosity with the Jabbora family, the nomination letter

also detailed Shawn's habit of putting a donation jar on his Snap-on van whenever technicians or friends were going through a hardship or serious health problem.

Shawn's dedication and commitment to his customers and community truly embodies what Snap-on stands for. I am proud to have had the opportunity to meet Shawn and the Jaboras and share their inspiring story with all of you. Integrity and hard work do make a difference.

Thanks for your continued support of Snap-on Tools and thanks for reading *Tech*.

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.

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Tech

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Removing the ink

Stuck with an ex-girlfriend's name tattooed beneath a lineup of the Teenage Mutant Ninja Turtles? Here's what to expect with laser tattoo removal. The laser's powerful pulse of light will feel like hot specks of bacon grease on your skin or being snapped by a thin rubber band. Black pigment is the easiest to remove. Colors can be trickier. The laser breaks up the tattoo pigment. Then, the body's scavenger cells remove pigment residues. It may take a number of sessions. The skin might feel slightly sunburned and the area may remain red for a few weeks. A scab may form, which should be handled gently. Side effects are few and may include infection of the site, lack of complete pigment removal and a five percent chance of permanent scarring.



3,000,000 and counting

An abandoned railroad tunnel in Fredericksburg, Texas, is the home for millions of bats. It takes about an hour each evening for approximately 3 million Mexican free-tailed bats to empty out of the tunnel into the sky. These medium-size bats are distinguished by their broad, black ears and not-very-kissable wrinkled lips. The bats' incredible echolocation "radar" system prevents

them from crashing into each other as they swarm out into the moonlight and return before sunrise. Echolocation also helps mamma bats find their pups without error. The benefits of being in the area: the bats feed on bugs. Downside: Three million bats generate a whole lot of aromatic guano. For more information about the 10.3 acre Old Tunnel Wildlife Area and the best times and ways to view the bats, call the LBJ State Park at 830-644-2252.

On the Web:

tpwd.state.tx.us/spdest/findadest



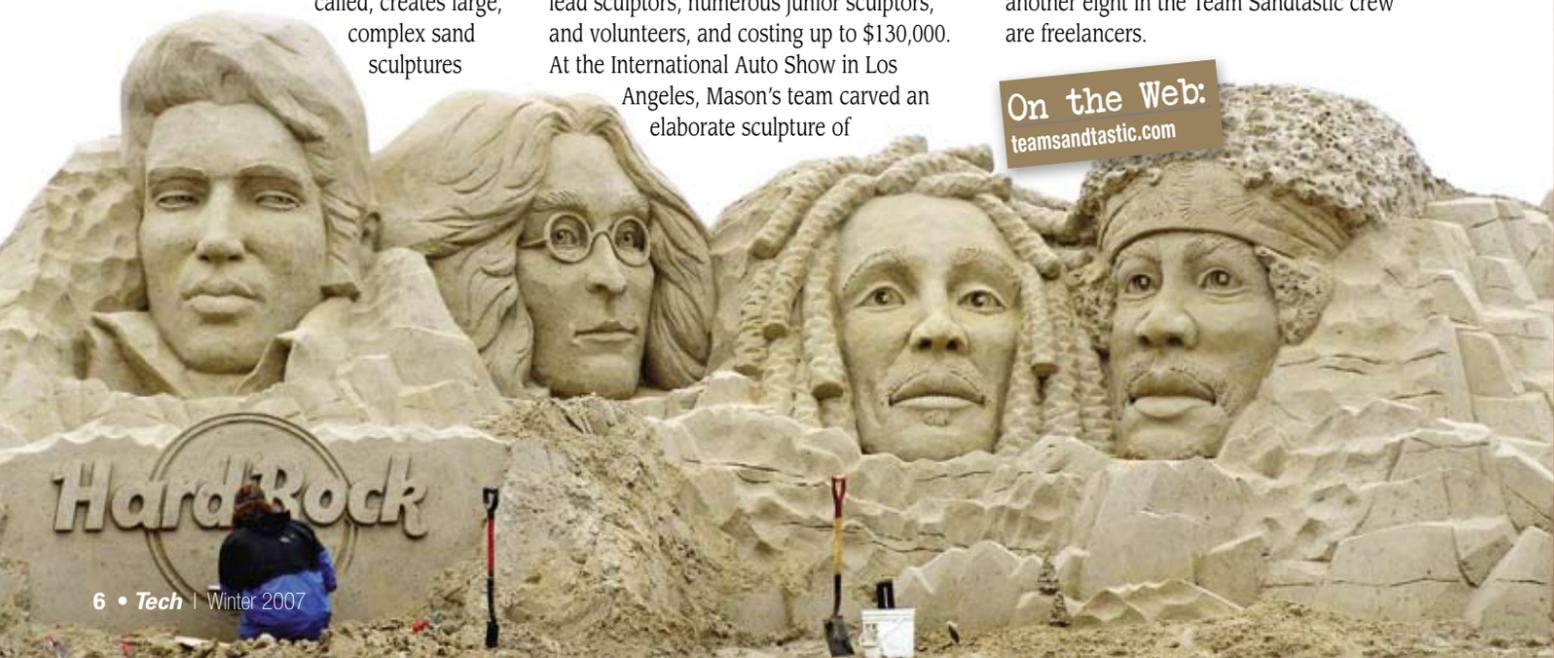
Fantastic Sandtastic

Mark Mason made big bucks as a regional sales rep. Today he plays with sand. Team Sandtastic, as his business is called, creates large, complex sand sculptures

that range from tabletop displays involving one artist and costing \$1,300 to megamall demos involving heavy machinery, nine lead sculptors, numerous junior sculptors, and volunteers, and costing up to \$130,000. At the International Auto Show in Los Angeles, Mason's team carved an elaborate sculpture of

On the Web:
teamsandtastic.com

a bunch of beavers fashioning themselves a full-scale Jeep Wrangler from a felled tree. Mason is the only full-time employee; another eight in the Team Sandtastic crew are freelancers.



Have you bonded with another dipper?

Yesterday.

What was the occasion?

Doing 83 in a 65.

What did you take away from it?

One less pinch. And just a warning.



SKOAL
WELCOME TO THE BROTHERHOOD

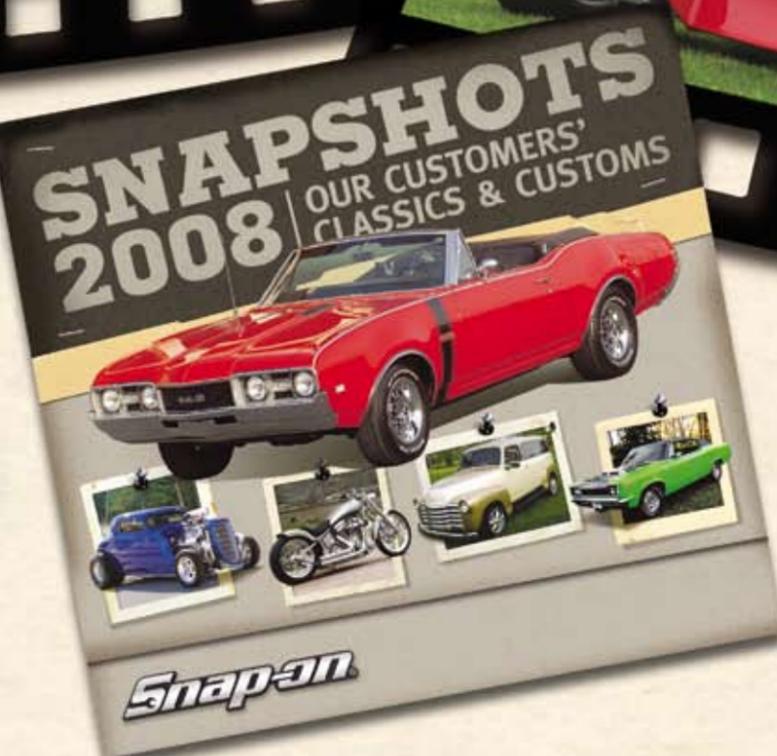
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We're looking for photos of your cool car, bike or truck to be considered for the 2009 Snap-on Snapshots Calendar and the "Rear View" page of *Tech* Magazine. Anything mild or wild qualifies—customs, classics, street rods, muscle cars, antiques and sports cars.

Ask your Snap-on Franchisee for the official 2009 Snapshots Calendar entry form. Should your ride be chosen, 2009 will be a year worth remembering.

If your pride-and-joy is featured in the calendar and/or in *Tech*, you'll receive some free copies to share with your family and friends.

Interested?

These tips will help

- Send frontal 3/4 views, from either driver or passenger side.
- Make sure the entire vehicle, bumper to bumper, is included in the photograph.
- Hi-res digital photos preferred; prints or slides also accepted. Make sure digital cameras are set at the largest file size and highest resolution (3.0 megapixel minimum) setting.
- Avoid having people in, on, or near the vehicle.
- Keep the background simple and attractive. Natural settings work well. Avoid power lines, fences, signs, mailboxes, homes, garages, car shows or other vehicles.
- Watch out for the mirror effect. A polished, smooth surface can reflect tree limbs—or the photographer.
- Pick a sunny day. Early-morning or late-afternoon natural lighting helps capture the color and detail. Avoid shooting between 10 a.m. and 2 p.m.
- Shoot the sunny, not the shady, side.
- Turn off the vehicle before snapping the photo.
- Keep the hood, trunk and doors shut.

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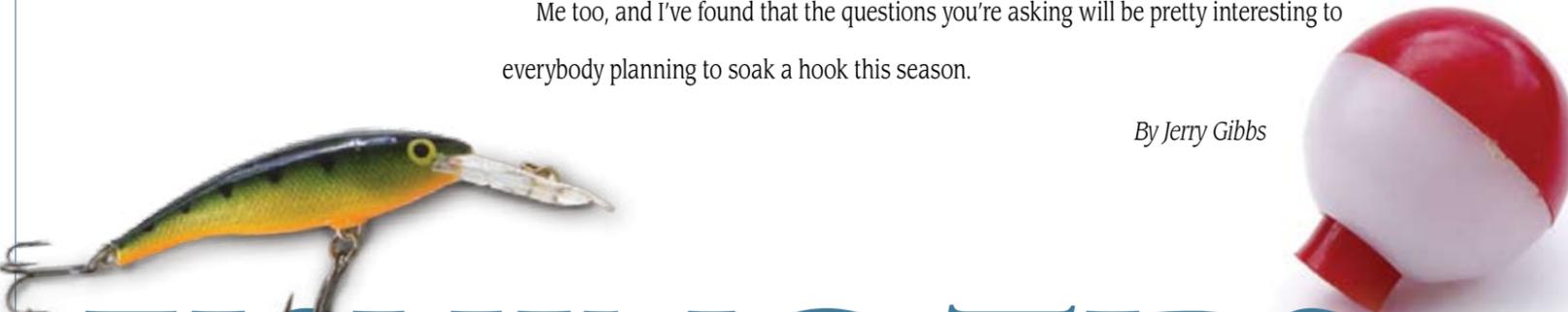
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It's likely winter where you call home, and I'm betting you'll soon be working on a bout of cabin fever. Judging by my mailbag, a lot of you are finding a temporary cure by plotting for the upcoming fishing season.

Me too, and I've found that the questions you're asking will be pretty interesting to everybody planning to soak a hook this season.

By Jerry Gibbs



FISHING TIPS

TO FIGHT CABIN FEVER

Q I'm getting into walleye fishing and am about to stock up on jigs and soft plastic lures for the early season—and maybe the end of ice season. Any recommendations, especially on color?

A Take a quick look at any pro walleye angler's box—like the one pictured—and you'll see that orange and chartreuse predominate for all kinds of lures (including the spinner blades on crawler rigs, and small jigs and spoons that you work through a hole in the ice). Consider some natural minnow-looking plastic swimbaits and, come later in the season, jig in clear, quiet water.

Q When was that recent world record hammerhead caught, and what bait was used?

A The bait was a live stingray that weighed about 20 lbs. The shark itself weighed 1,280 pounds! It took angler Bucky Dennis more than five hours to boat it. The hammerhead set the new all-tackle record and the men's 130-lb. test line record. The catch was made May 23, 2006. Dennis hooked the shark in Boca Grande Pass, Fla., and was basically towed out to sea. That pass is no place you want to fall overboard—especially in May or June.

Q I heard there's a new spinning reel that helps keep you from getting line loops and messing up your casts. Do you know the model?

A Sure! You're talking about the new Doug Hannon Wavecaster reels (wavecastreel.com; 989-967-8426). The reel has rounded teeth along the spool lip, and looks like a miniature skillsaw. Even if you start reeling and get slack line loops, they won't get onto the spool.

Q I'm finally going fishing in Alaska. I don't want one of those expensive fly-out lodges. Any thoughts on someplace you could drive and hire a guide by the day—especially for big trout?

A Yep—the Kenai River, which you can drive to from Anchorage. I'd suggest staying at the motel near Alaska Troutfitters in Cooper Landing, where you can book float trips by the day. Reach them at aktroutfitters.com or 907-595-1212. My favorite time for the huge rainbows is September into early October. The June 11-July 1 season can be good, but that overlaps with various salmon seasons. It can get a bit zoo-like then, although you can float sections with special regulations and avoid the crowds.

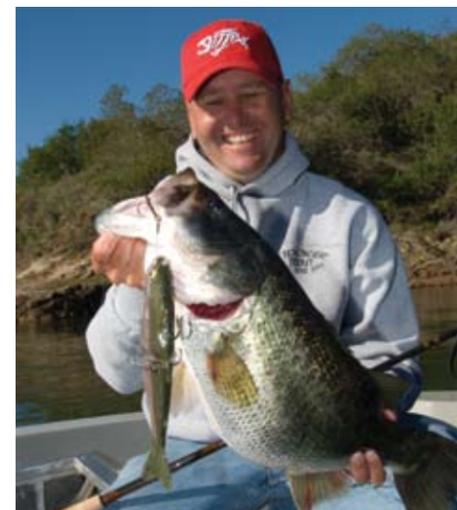
Q What makes the best rod for those huge swimbaits used in California for trophy bass—and do you think some of those lures would be good elsewhere?

A Several rod companies have heavy-duty swimbait rod series now, among them G. Loomis, St. Croix and Kistler. The rods are all for levelwind reels (baitcasters), and range from 7.5-8 feet. The key is that they have a long-enough handle (about 14 inches) so you can levercast those heavy lures all day without coming down with tendonitis. Anglers are finding success with largemouth bass in all parts of the country using the small swimbaits around 6 inches, compared to the biggest 10-plus-inch baits used mainly in California. You can use the same rods on muskies to throw big 'lunge plugs. Muskies and big pike will eat the soft plastic swimbaits, but they'll rip 'em to shreds in one or two goes.

Q What's your favorite technique for springtime bedding crappie?

A I'd rather fish them with flies, actually—small bead-head or cone-head nymphs that work great on smallmouth bass, too. Most guys like a limber 7-foot panfish spinning rod and tiny 1/32-ounce jigs (either plastic- or marabou-tailed). You can flip those lures beneath overhangs or dip them around docks. Nothing wrong with using a tiny live minnow, either. 🐟

Jerry Gibbs is the long-time fishing editor for Outdoor Life, and author of the award-winning book "Steel Barbs, Wild Waters."





MONEY MATTERS MADE EASY

5 No-Brainer Saving Tips

You probably aren't interested in reading another article about the monthly budget that you don't keep, but should. That's not what this is about. Consider these five ideas as found money ... the twenty found in the pocket of a seldom-worn jacket or those crazy Sacagawea dollar coins you happened to find in the bottom of your junk drawer.

The easiest way to save money is to make it painless and mindless. Here are five ideas:

Pay yourself first

Start with your next paycheck. Take an amount you can live without and stuff it into savings. Better yet, have your bank do it for you. Look, if the government isn't shy about taking money out of each paycheck, why should you be? Choose an amount that's close to being a pinch, but isn't—\$20, \$50, \$100, or whatever. Consider this as a side account. If need be, play a game with yourself and think of it as money you've already spent and no longer have. Or think of it as your James Bond account that's there as the ultimate safety net only to be used in dire need—an account that really resides in Switzerland, not down the block at your local bank.

Shrink the checkbook

It's foolish to keep thousands of dollars in a low-interest checking account. Your checking account balance should be enough to cover your monthly bills and living expenses. If you're using your checking account as a savings instrument, don't do it. Shift any extra funds over to savings (but not your secret James Bond side account), in a certificate of deposit or a money market fund. You want to keep your money growing, earning interest to the extent possible.

Shave the interest

Brace yourself, but read to the end of this paragraph. You know that carrying a credit card balance is down right stupid. Unfortunately, a child's orthodontia payment or a busted water

heater has a way of creeping onto the card. Two rules of thumb for credit card debt: (1) pay your complete balance every month or certainly pay as much as you can, on time, each month and (2) call the customer service number on the back of the card every few months to ask that your credit card interest rate be lowered. With point number two, the CSR will probably want to push you off the phone quickly. Politely ask if this is the best rate available. If you are stonewalled, then politely say, "Can I have your name and the name of your manager? I plan to tell your manager that you've been very professional and helpful, but that I want to see if there might be a lower interest rate that only they might be authorized to provide." With this approach, you are putting a gentle squeeze on the CSR to lower your rate - which, as you know, will save money.

Play the mortgage game

For many techs, your home is the biggest asset you have. Yes, you can save a bundle by refinancing your mortgage if you do it wisely. If you have nine years into a 30-year mortgage, your monthly payment can decrease with a new 30-year mortgage but you're adding another nine years of payments. Ask for a 20-year term or a 15-year mortgage to really benefit. Also, toss extra money when you can toward principle reduction. If you win the football pool or your Aunt Minnie leaves you a suitcase full of cash, invest some of it in your home.

Insure less

Insurance is a necessary evil. You need it on your home and vehicles. The insurance companies have us by the ball joints. We've all been refraining from filing small claims on our policies because we know we'll end up paying for the claims through higher premiums. So, to cut insurance costs, consider raising your deductibles on your homeowner's and vehicle's insurance. While you're at it see if you can trim your life-insurance costs. For many, term insurance is a better, more economical option. Great rates are available to those who shop around—especially if you're in good health and have never smoked. 



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SPIRIT OF THE BUFFALO PROVIDES HEALING

Time of harvest arrives

By Ted Nugent

The wild ground was as beautiful as God's creation could possibly be. Heavy white snowflakes drifted and spiraled down upon everything in a hypnotic swirl.

I poked my head out of the old makeshift plywood groundblind, stuck out my tongue and tasted her essence. I was at once in a daze yet intensely awake, ultra alive with a vitality that only comes when miraculous conditions erupt. The wind was steady out of the northwest with a bit of a whistle, and though the temperature was below freezing, I actually felt snug and comfortable. This was certainly not my first snowstorm by any means, but I was drunk on the whole dynamic and electricity in the air as if baptized by Mother Nature's powerful hand for the first time. It always feels like the first time.

At the foot of a long ridgeline, bracketed by a virtual cathedral

of towering pine trees, now coated in total whiteness, I was cradled in the lap of The Great Spirit for sure. I had hammered and nailed this ramshackle coop together many years ago when I could still see over the top of the pine grove around me. My family and I had hand-planted this forest ourselves over the years, so maybe it was the sweat equity that so warmed my soul. Putting back more into nature than we take surely fortifies the mind, body, heart and soul, and spiritual BTUs were mine this stunning morning. Good Lord, I love this stuff.

A virtual flood of powerful memories catapulted through my mind sitting here. What was once wide-open corn and hay fields in 1970 were now a jumbled jungle of prime wildlife habitat, brought to you by the old guitar player who loves the good Mother Earth. A sea of white, jack and red pines augmented



by eternal rows of snagged autumn olive bushes created the ideal combination of insulating thermal cover and nasty tangles of both nutrition and escape habitat. Many a whitetail deer, wild boar, turkey, pheasant, squirrel, rabbit, crow, dove and an assortment of indigenous vermin were encountered and killed on this sacred ground over a lifetime of hunting, so far.

But today, I would pass on opportunities at all these exciting target animals, for I was buffalo hunting. Bowhunting for Tatonka, the American Bison. The SpiritBeast. ThunderBeast. My BloodBrother, majestic life-giving creature of our forefathers,

returned to these cosmic grounds of yore, thriving and ready for the Big Hunt.

Dreaming of running a year-round hunting operation, I had taken the plunge many years ago to perfect these prime family acres, manage the habitat, and offer custom hunts for our small game, whitetail deer, wild boar and mighty buffalo. And today was my day.

The herd was 29 strong, pushing the limit of the land, and now the time of harvest had arrived. I knew the buff often moved through the edge of my sacred pine forest, among the thick stands of autumn olive bush. The long grasses growing amongst this prime habitat were preferred by these shaggy beasts, and the wonderful snowstorm could push them to head for the protected sanctuary of my personally created natural "polebarn" of coniferous shelter.

Off and on now, I could see numerous deer skulking in the distant hardwood forest, and occasionally dark boar appearing within the foggy screen of heavy snowfall. Juncos, finches, chickadees, cardinals, tufted titmouses and downy woodpeckers were having a feast on the red autumn olive berries as the storm picked up steam. I was surely in heaven. A few crows sounded off overhead, and a flock of mourning doves lighted into the branches next to me for their share of fortifying berries. Never a dull moment.

Then I sensed them. Squinting through a wall of white, I could make out the unmistakable mass of hoary beasts, like mastodons moving toward me through the heavy snowscreen. Here they come. Four or five cows with varying ages of calves mingled in and out of the thickets, followed by a trio of enormous bulls. Their prime, winter-rich robes were elegant and luxurious as I began my prayer.

I am deeply fascinated by all-things wild, but the presence of buffalo always lights a fire in my soul. My right hand gripped my bow a little tighter, but I just sat there mesmerized by the wonderful animals. The cows and calves methodically strode past me, then one by one the bulls came on. The last bull was obviously bigger and older than all the others, his rich robe and massive head that of a mature monster. As is usual, he paused just slightly, angling toward me, his behemoth arrow-stopping shoulder protecting his vitals.

The ever-increasing snow brought about a dreamlike shroud to the mystical setting. Everything seemed to stop and start in ultra slow motion as his giant body moved before me. Glancing back over his shoulder, his outstretched foreleg invited my arrow into the crease, the entranceway to his heart.

Continued on page 16

In an instant, only the white feathers from my arrow showed right there. In a violent hump, the bull bucked and spun to gallop from whence he came, the swirling white flakes enveloping his mass as he disappeared. My goodness. Breathtaking. Truly spiritual.

Nothing but snow now. And my smile. I knew that arrow. Heartshot. I poured a cup of creamy coffee from my thermos and sat back. People talk about "getting away." I was gone.

We know that nature heals. I was healed. We compliment people as "grounded." I was indeed one with the ground as I pushed through the deepening snow, his tracks already obscured by the blizzard. I knew where he was headed. Already covered in snow, the mighty beast lay dead where the coniferous forest breaks into the deciduous. I slumped to the ground next to him and stroked his robe. I tried to lift his incredible head to examine his eyes and horns, but he was much too heavy.

Snow now covered me too, a windsong blowing the name of Cochise, Sitting Bull, Crazy Horse, Chief Joseph, Gall and Fred Bear. I sat there a long, long time and went back. Way back. 



LIMITED EDITION

TOOL BOXES BLEND WORK & PLAY

We know a lot of guys get off work on Friday and load the truck with rods, rifles or bows. That's why Snap-on teamed with Ted Nugent to create special-edition, tool-box combinations that are the perfect blend of work and play.



- ▶ KRA2411PNC Roll Cab - 54" wide, 24" deep and 39" tall.
- ▶ KRA2408PNC Top Chest - 54" wide, 20" tall and 24" deep with eight drawers (can be added to the roll cab).
- ▶ KRA2411WCPNC Roll Cab - 54" wide, 24" deep and 62" tall.
- ▶ KRWL5435PNC (Optional) Bulk Overhead Unit - 54" wide, 16" tall and 21" deep. Can be added to a roll cab or workstation.

Ask your Snap-on Franchisee for more information on the Ted Nugent special-edition, tool-box combinations.



Winning this would be the pits.



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Early Times and Snap-on are giving you the chance to be an assistant crew chief at a National Hot Rod Association (NHRA) drag race with the Snap-on Top Fuel Dragster team of Doug Herbert. To enter, visit your favorite spirits retailer or go to:

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Glo-mad™

NEARS COMPLETION

We have a winner in the Snap-on Ain't Street Legal naming contest. Selected from nearly 3,000 entries, Glo-mad was submitted by David Graves of Carrollton, Texas. David was rewarded with a Snap-on spending spree of \$1,957. He is a fleet manager and regular *Tech* reader who recently completed a frame-off restoration of a '56 Vette. Thanks to everyone who contributed a name.

As you will see when you crank up the videos at AintStreetLegal.com, the radical '57 Chevy Nomad is rapidly nearing completion. Doc Neon and many specialists from all around the country are traveling to Asheville, N.C., to work their magic. Glo-mad's first public showing will be October 30 to November 2, at the SEMA Show—part of the giant Automotive Aftermarket Industry Week festivities—in Las Vegas.

The finished car will be featured in the spring 2008 issue of *Tech*. There's still plenty of time to hitch a ride on the website for a firsthand look at the progress.

While there, you can:

- ▶ See cool video clips
- ▶ Tell Doc what you think on his blog
- ▶ Download the ASL wallpaper
- ▶ Sign up for e-mailed project updates
- ▶ Talk with your peers in a Car Community forum
- ▶ Acquire some cool Ain't Street Legal stuff
- ▶ Link to project sponsors / product contributors
- ▶ See what's new in the toolbox

Thanks to the tens of thousands of professional technicians who are already tracking project progress on the web. You'll have the privilege of seeing the finished mega-rad Glo-mad before the spring issue of *Tech* arrives. Be sure to ask your Snap-on Franchisee.



THE GUY WHO SAID
[DON'T REINVENT THE WHEEL]
 DOESN'T WORK HERE. NEVER DID.

GETTING A HANDLE ON SCREWDRIVER PERFECTION.
 1 The new Instinct Screwdriver series revolves around a uniquely sculpted 2 multifaceted handle design for maximum comfort, grip and control. The rounded crown and neck, combined with flared ends fit the natural curves of your hand and provide enhanced spinning finesse. Ergonomically designed facets offer unprecedented turning power and precise fingertip control. We also built in an exclusive non-roll feature, so your tool stays exactly where you set it. 3

SOME GRIPPING FACTS. The Instinct series is available in two handle types: Hard-grip with grease-resistant texture to help prevent slippage on those especially dirty jobs, and Soft-grip for unsurpassed hand comfort and tighter grip. Either way, you'll feel it 4 5 6 instinctively mold to your hand. Which is precisely the point.

THE MATERIAL DIFFERENCE. The Instinct handle 7 is engineered using three unique materials. This "three shot" handle is constructed of: 8 An inner core material that maximizes torque between handle and blade; 9 a tough middle-layer of brightly-colored material for impact and solvent resistance, as well as high visibility and quick identification; and 10 a textured outer material for the ultimate in grip, comfort, control and torque—even in the greasiest environments.

TIPS FOR INCREASED PRODUCTIVITY. 11 Icons molded into the handle crown ensure quick and easy identification at a glance. No more picking up the wrong tool.

TECHNICIANS AGREE. In tests, technicians preferred the Instinct series over any other screwdriver on the market for comfort, power and ease-of-use.

INSTINCT. Holding is believing.

SECTION CUTS
 Every part of the Instinct series was engineered to deliver control, comfort and power.

(A) Round section provided for guiding during spinning.

(B) Three-sided cross section provided for increased torque; prevents screwdriver roll.

(C) Six-sided cross section provided for easy spinning.

Section Scale

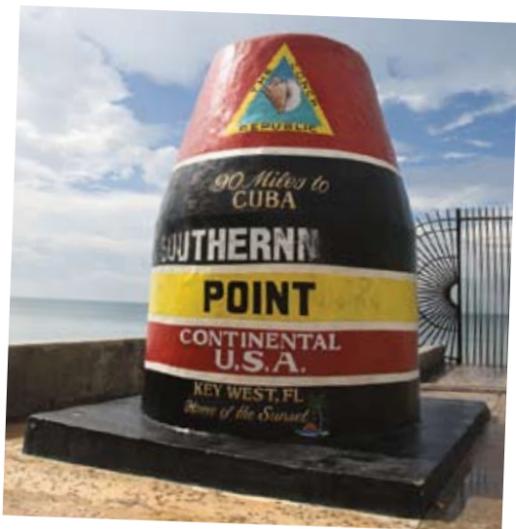
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a GETAWAY with some TEETH

Techs tackle extreme fishing



Deano's Cycle Therapy in Orangeburg, S.C., works on and sells some of the most extreme American motorcycles on the planet. The extreme theme continues after hours. When it's time to blow off steam, a day in the park doesn't cut it for owner Dean (Deano) Etheridge and his crew of skilled technicians—all fans of Snap-on tools.

They require an adventure with teeth, literally, which is why the Cycle Therapy crew headed to Key West, Fla., to fish with Capt. Tony Murphy of Key Limey Charters. Team Key Limey has won the Alberto Mad Fin Shark series for the last two years in a row. (Trust us, it's a big deal.) The crew from Cycle Therapy consisted of owner Deano and technicians Bubba Cooler and Zane Ferris.

Here's a little play-by-play for you ...

Game Day

Upon arriving at the marina early on a Key West morning, the Cycle Therapy crew meets Capt. Tony, who is waiting aboard his 31-foot boat Key Limey. One look at the outfitting and there is no doubt this guy means business. An arsenal of heavy-duty rods and reels rigged with braided line, steel leaders, and massive hooks are ready for battle. Powering the big center console are two 300-hp Mercury outboards.

Capt. Tony takes a good look at the three techs, tilts his head ever so slightly and gives a slight grin. This crew looks a little saltier than his average charter clientele, and the day promises not to be business as usual—in some ways. In others, the routine remains. And the most basic rule of the routine is that this is Capt. Tony's boat, and shoes must be wiped before entering. (Capt. Tony is very neat and organized and switches from captain to housekeeper several times during the five-hour expedition.)

The trio wipes their feet and steps aboard with a cooler and large box of fried chicken. They have taken care of all necessary refreshments, and Capt. Tony will have to take care of the fishing. The twin 300s quickly push the big boat out the marina and toward the blue-green waters of the Gulf of Mexico.

Captain Tony yells, "Hold on guys, I've got to get up on plane to make it over this shallow water." Running full throttle in only 3 feet of clear water gives the illusion of flying. We're off.

Barracuda on board

After heading less than 10 miles out to sea, Capt. Tony kills the engine and gets to work. The anchor is set—we're in only 6 feet of water—and the chum hits the water.

Two freshly baited lines run out the back of the boat, while Capt. Tony works on a third.

It doesn't take long—Capt. Tony is still working on the third line—when a rod bends, a reel screams, and a 3-foot Barracuda goes airborne behind the boat.

The captain, himself startled by the sudden attack, gives a yell. Bubba wastes no time grabbing the rod from the holder. Line whistles from the reel and the 'cuda is now





Captain Tony shown behind (L to R)
Bubba Cooler, Zane Ferris and
Deano Etheridge

tail-walking like a trained dolphin in a Sea World show—minus the cuteness.

Several moments later the big barracuda is brought to submission. We can feel the excitement and energy. This should be a good day.

One more barracuda is caught (by Zane) before the first big shadow—headed toward the bait—appears in the water. As the shadow approaches we realize we're dealing with a nasty predator. He moves counter-clockwise in increasingly smaller circles.

Deano stands ready, waiting for the strike. No disappointment is served by what is now identified, by eagle-eyed Capt. Tony, as a lemon shark—a BIG lemon shark.

It hits the line hard, and the drag sings. Deano, with a white-knuckled grip on the rod, retrieves line whenever there is an opportunity. This is a torque-driven fight, much different than the acrobatics of the 'cuda.

Deano finally gains enough line to get the shark to the boat.

But the lemon isn't done yet. He takes off, and round two begins. More line screams out, and Deano continues the fight. It's a replay of the torque battle just a few minutes earlier.

After 20 minutes of hard fighting, an exhausted Deano pulls an exhausted shark alongside the boat. Pictures are taken, and Captain Tony releases the shark—much to the dismay of Zane, who makes some culinary assumptions solely based on the shark's name.

"Hell, it's already lemon shark, all it needs is hot sauce," Zane says. But the consensus is the boys wouldn't know what to do with the shark if they had it in the boat. Better to release it to fight another day.

The barracuda and Deano's lemon shark are landed within the first few hours, and the rest of the day proves plenty productive. We catch several more sharks, and sometimes have lemons on two lines at once. All appetites for this unique form of big game fishing are satisfied before the twin outboards are started and the boat heads back to the marina.

It's been a good day. An extremely good day. 🍋



Weight loss strategies that stick

Easy tips for shedding pounds

Many of us want to lose a few pounds, but the reality is we aren't going to spend evenings at the gym or days gnawing on carrots.

Still, you can lose some weight without the help of a treadmill or the latest dieting fad. The key is making small changes that will stick (as opposed to drastic changes that won't).

Boosting metabolism is crucial to weight loss efforts. A higher metabolism means you burn more energy, also known as calories. Burning calories is how you reduce weight.

You might be surprised at how easily you can increase your metabolism. Here are a few ways to get your metabolic rate up—and your weight down.



Yardwork.

This can be a big energy burner if you get rid of the gadgets (like leaf blowers and riding mowers). Old-fashioned yardwork practices require use of virtually all muscle groups. That's a good thing.

Walk.

A 155-pound person can burn 150 calories during 30 minutes of walking. If you can't find the time at night or before work, consider hitting the road during your breaks. Two or three 10-minute walks are a great start.

Eat breakfast.

Getting some food in your stomach first thing in the morning

prevents you from making poor food choices out of desperation. Breakfast also kickstarts your metabolism.

Eat small meals.

Why? Bigger meals can create blood sugar highs and lows, which lead to cravings that send you to the vending machine. A steady supply of food, meanwhile, means your body burns energy while breaking down the meal. Also, if you skip meals, your body goes into conservation mode because of potential starvation. That means no burning calories, and a lower metabolism.

Eat frequently.

Experts say it's best to eat four to six small meals about two to three hours apart. Avoid eating gaps of five to six hours.

Eat slowly.

It takes about 15 minutes for your stomach to get the signal that you're eating. You could be out-eating your appetite before the signal arrives. Slow down.



Sleep.

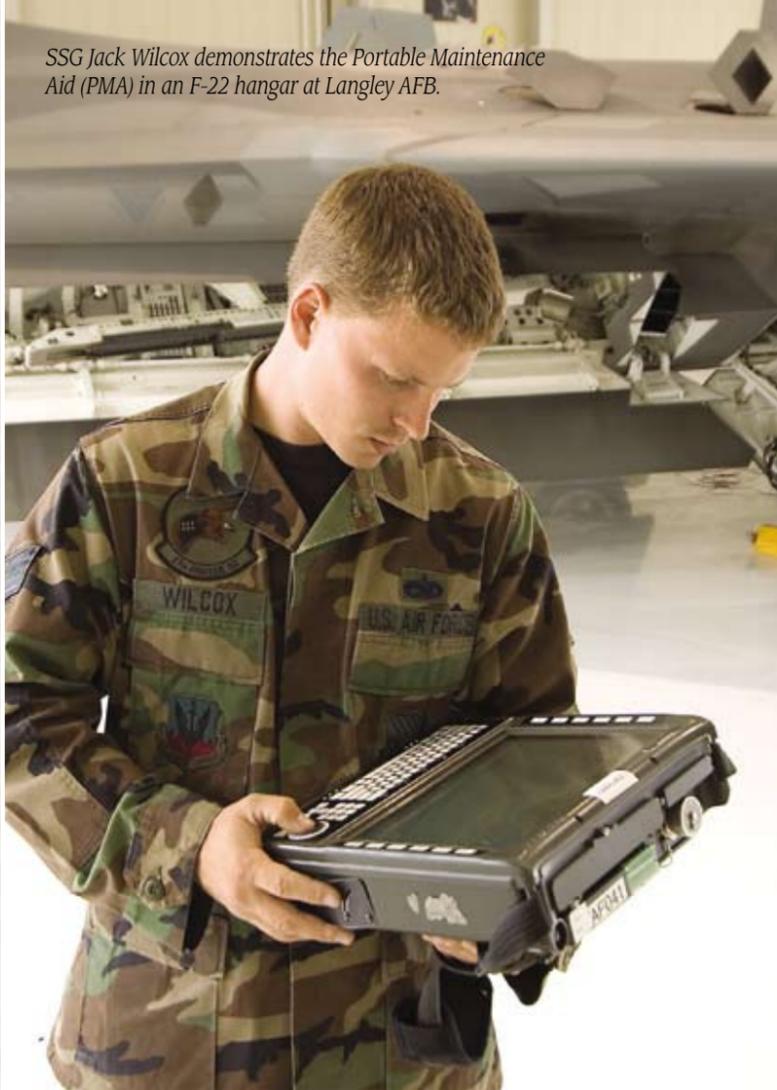
The proper amount of rest keeps the metabolic process working. Make sleep a priority.

With a few subtle changes, you'll improve your metabolic rate. The key is making the changes simple—and lasting. 🍋

HOW TO REACH THEM

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Orangeburg, S.C.
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deanoscycletherapy.com

Key Limey Charters
Key West, Fla.
305-293-1814
keylimey.com



SSG Jack Wilcox demonstrates the Portable Maintenance Aid (PMA) in an F-22 hangar at Langley AFB.

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THE RAPTOR RULES

High-tech diagnostics help the world's most advanced fighter plane stay airborne

The legendary First Fighter Wing, stationed at Langley AFB in Virginia, is the historic home of the infamous "Hat-in-Ring" squadron of World War I. Led by early air heroes like Eddie Rickenbacker and Billy Mitchell, they flew fragile paper and wood bi-planes with wheel frames that used bicycle tires. Their dogfights often ended with a gallant salute—and a ball of fire.

Fast forward to the 21st century. Wood has given way to titanium. Air speeds routinely surpass 1,000 mph, and pilots can take out an enemy without ever seeing him.

Comprised of the 27th, 94th and 71st fighter squadrons, today's Fighting First is home to the world's most feared and formidable fighter plane—the F-22 Raptor.

Of course somebody has to keep these babies up and running, which brings us to Staff Sgt. Jack Wilcox.

Wilcox, 26, was operating the "PMA" during *Tech's* visit to Langley.

PMA is an acronym for the highly sophisticated Portable Maintenance Aid. Made by Miltope, it houses all technical data. A library of books, papers and records no longer is required.

The PMA indicates faults or discrepancies in all F-22 systems and connects to the aircraft with a single cable.

You don't just pull the PMA from a box and get to it. Six to eight months of intensive training and course work at Boeing, on top of seven years as a crew chief on an F-15 Eagle, enable Wilcox to perform the high-tech maintenance required on the F-22.

The PMA can download a complete package of information in just 30 seconds. This downloaded fault data is very similar to what the pilot sees during the mission's flight—and to what you see on a MODIS.

The PMA can examine any system on the plane—engines, hydraulics, avionics, fuel, electronic, air starting, etc., and perform thousands of tests. Some take minutes, others just a few seconds. The entire post-flight check from nose to tail takes about two hours and tests everything down to the last screw.

After a PMA test, maintainers conduct a visual walk-around to check wheel wells, hydraulic lines and clamps, look for

Continued on page 26

cracks in the frame structure, and spot any bent or damaged panels.

There is just one tool box per plane with 280 tools—specially built for the F-22, though there are thousands of tools in inventory should they be needed.

Knowing the location of every tool is an absolute must; at the speed of sound, a loose wrench becomes a tool of destruction.

All tools are laser-etched by Snap-on as a key part of inventory control. Sockets, wrenches, flashlights, gauges, speeders, etc., are each carefully inventoried and kept in a box with foam cutouts for every tool to ensure absolute control.

Each box is checked three times before a launch, and might be checked 12-13 times per day—depending on the number of missions the planes fly.

The F-22 is a national asset that ultimately helps military families and U.S. citizens sleep a little better at night.

But who helps the F-22 pilots sleep at night? That duty falls on maintainers like Wilcox. 



Above: SSG Allan Fletcher

Below L to R: TSG James Coleman, SSG Jeff Paggeot, SSG Dave Everett and Airman 1st Class Brad Gray gather around a PMA for a post-flight check.



The F-22 Raptor is one high-tech ride

The Raptor can fly very high, very far, and very fast with little risk of detection. Here are some details:

- At \$140 million a pop, only a handful of America's best and brightest pilots will ever earn the chance to fly the world's ultimate fighter.
- The F-22 provides "first look, first-shot, first-kill" capability. It can see the enemy first while avoiding detection itself.
- The Raptor's super-low radar signature is classified but experts guess it to be about the size of a small bird, making it virtually undetectable.
- Two powerful Pratt & Whitney F-119 engines deliver over 70,000 lbs of thrust, enabling the Raptor to scream to uncontested heights and speeds.
- Thrust vectoring uses moveable plates surrounding the exhaust to instantly push the aircraft in the chosen direction, enabling it to turn on a dime and leave bewildered pursuers behind.
- Main weapons bays carry radar-guided missiles. The F-22 also packs two heat-seeking AIM missiles, one in each side weapons bay. And a 20mm cannon fires 100 rounds per second.

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Father-son team on top of the mountain as they attack Pikes Peak



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Surface: Pavement and gravel

Turns: 156

Elevation at start: 9,390 ft.

Elevation at finish: 14,100 ft.

Leonard and Clint Vahsholtz spend their days wrenching and diagnosing customers' vehicles. Everybody has to make a living, right?

But once a year, they have a chance to chase their passion: racing in the Pikes Peak International Hill Climb (PPIHC).

They've had more than their share of successes.

Leonard has competed in 139 hill climb races (including but not limited to Pikes Peak), with 95 wins. Clint, meanwhile, won 11 straight PPIHC Stock Car Division races, widely considered the most competitive class. In addition, Clint and Leonard have accumulated 32 wins as a father/son team, surpassing Bobby Unser Sr. and Robby Unser, who have 22 titles.

Here are some assorted thoughts on PPIHC racing to the clouds from the father-son kings of the hill.

Leonard on Pikes Peak

"Going in, you have to know the mountain will kick your ass. That's part of the mystique of Pikes Peak. You never conquer Pikes Peak."

Race-day philosophy

"I don't really adjust the car too much. Once I get the car neutral, I just figure out how to tune my style to the car—and not the other way around.

"If the car is neutral and happy, all I have to do is grab a hold and drive it."

The early years

Leonard started as a drag racer in the late '60s. "At the drags, I broke the car a couple times." He nearly went broke in the process. "Every time I broke down, I couldn't go back to the races again. I had to get money." He quit from 1970-77, telling himself, "I'm never going to go racing again until I can afford it."

Leonard met a racer who had built a Torino for Pikes Peak and a trade was made for Leonard's Ford Pinto powered

by a 351 Cleveland. "I thought maybe it was a way to get back into racing," Leonard said. "I wasn't getting any closer to gaining in drag racing."

He gained quickly at Pikes Peak, being named rookie of the year in 1977. "I kept going from there," he said.

On the conditions

The PPIHC course is a combination of pavement and dirt. "It's just a matter of setup. You figure out where you're going to go fastest and tune your car for that. This year, we set up for a dirt race course. We felt we could more than make up for time lost on pavement on the dirt stretches."

His day job

Leonard has two automotive shops. He runs one, Clint runs the other. "Between the two of us, we can do about everything," Leonard said.

His shop handles a lot of engine building. He bought the equipment in part for his own racing needs, but of course needed outside business to help pay for it.

"Racing is only about 30 percent of the business," Leonard says. "The rest is regular automotive service."

On Snap-on

"I like the feel of the tools, and that we have a support vehicle that's here when we need it. Also, I've been served by only three dealers in 30 years. The tools are good, and the program is excellent."

On his business philosophy

"If you buy a (racing) product from us, you will get the product before I work on my own vehicle. There's not going to be this issue where you say, 'Yeah, you fixed your motor first, or made yours better.' That's always been a part of my deal. If you don't think your motor's just like mine, we can switch."



On the preparations

"The minute we finish the race, we ask what can we do to run better. If you won, why didn't you set a record? If you set a record, why didn't you break the old one by more?"

Clint on his ride

Leonard switched to an odd-fire V-6 motor, but Clint stayed with even. The vehicle is 100 pounds heavier, but the car doesn't handle as well if the weight is shaved off.

Still, he's running 100 pounds heavy and has to make up that time. "A hundred pounds is a tenth of a second in drag-racing," Clint said.

On weather

"It's always a factor. This year it was hot and dry, so the surface was hard because of the traffic. Where you run in the order also makes a difference."

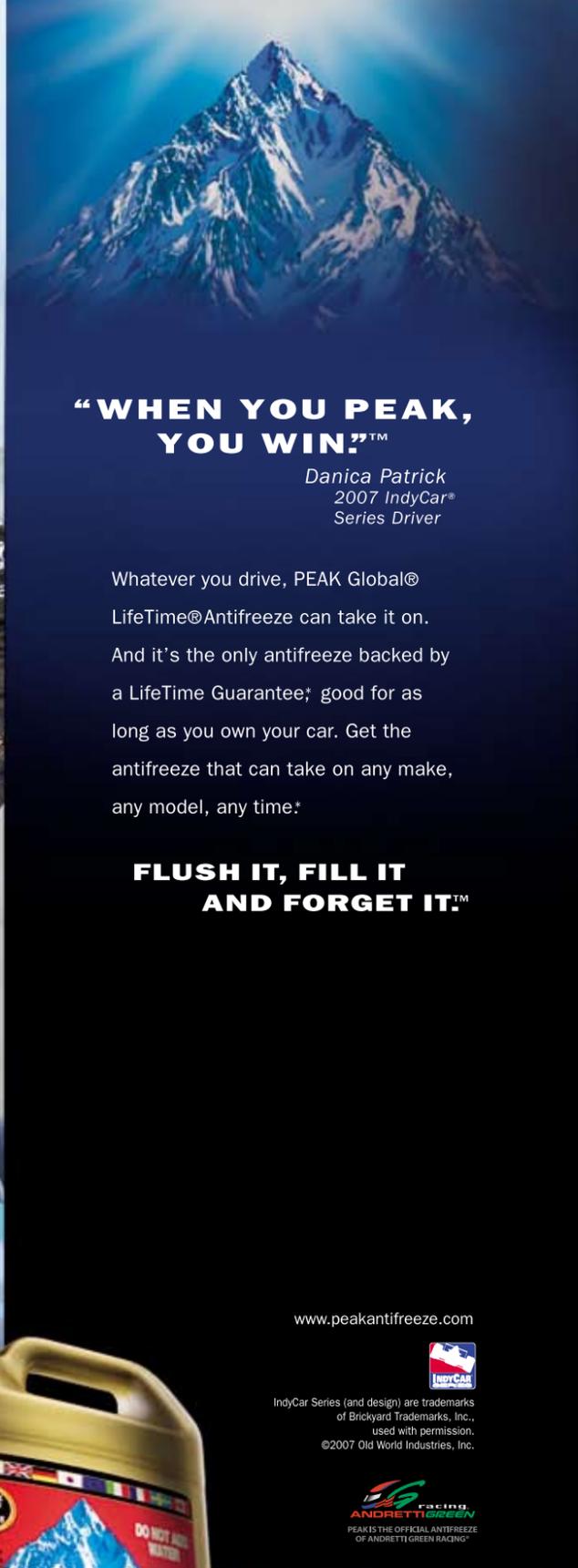
On the preparations

Thinking ahead is a necessity—especially with the even-fire motor. "You can get odd-fire cranks made in three months," Clint said. "Evens are made of billet and it takes a year." (That's where it helps to have your own machine shop.)

This year's race

Clint's winning streak ended at 11 years. "We had a card thrown that wasn't an ace," he said.

Continued on page 31



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2007 IndyCar®
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The trouble surfaced the morning of the race. The car wouldn't turn over when he took it off the trailer. In the pit, he turned the engine over backward and it fired right up.

“You wouldn't have thought there was a problem.

“We changed the oil and the plugs. It was still unclear exactly what was

His all-time favorite wins

“They're all good, but my first year, '96, stands out. I was a rookie (in that division) that year and my dad told me, ‘The competition is pretty vigorous in your division. Stay focused and don't try to make up for any mistakes. If the road isn't there for you, then other people will be making some mistakes too.’

“I spun out in the Ws, but I kept my head down and won it my first year. Everyone else had similar problems too.”

Clint also has fond memories of his third consecutive win. “A lot of drivers had won two, but no one had ever won three,” Clint said. “I was going up Ragged Edge, about three-quarters up. I felt a superbly bad drive-line vibration. I started thinking back to the spinout year and told myself, ‘Keep focused and drive the race. If it breaks, then it breaks.’”

He later learned a weight had fallen off the driveline and come through the sheet metal of the car. But by not changing his approach, he won the event.

“Those two years were probably my most outstanding,” he said.

On Snap-on

Clint's shop features a few more diagnostics than Leonard's. In particular, Clint uses a Solus™. “It's definitely a good product,” he said. “I try to get the best equipment for the job.”

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PPIHC.com



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A LIFE OF TURBULENCE

High-flying tech keeps research plane running

Kip Eagan's job is to keep C-130s flying high. Well, most of the time. "We had a flight in Mexico, where the scientists were doing wave studies," says the veteran technician. "We were flying at an altitude of only 100 feet—90 degrees into prevailing winds of 50 to 60 knots. The salt spray was literally blowing off the plane."

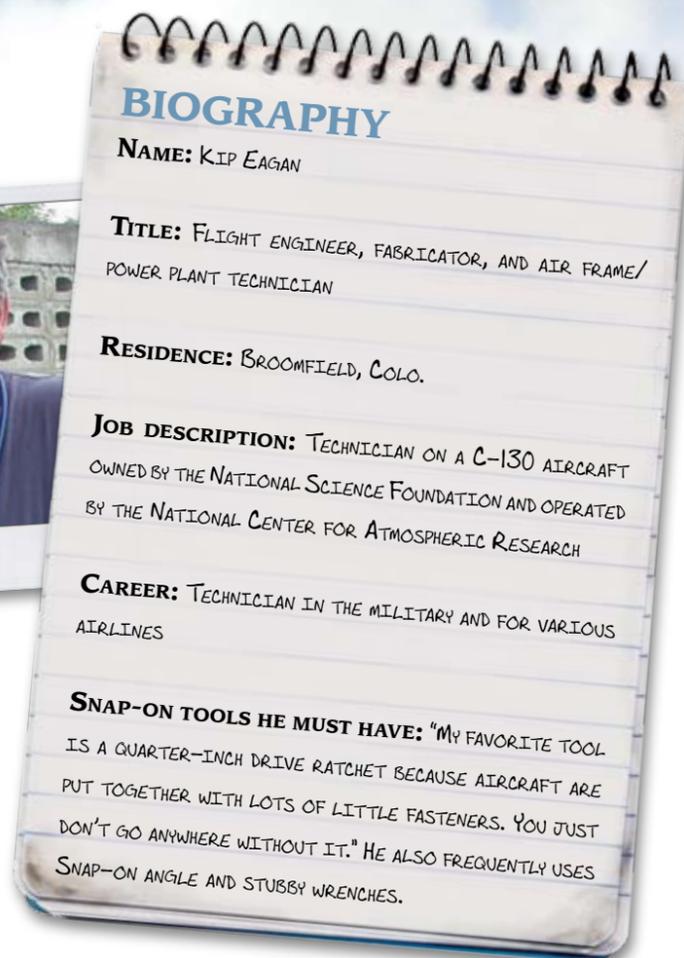
"It was sporty."

Yes, the job can be, uh, sporty—and Eagan gets in the mix thanks to his varied job descriptions. He was hired as a technician, but his employer—the National Center for Atmospheric Research (NCAR)—needed a flight engineer. There is only so much space on some of the trips so double-duty was required. The center realized it was easier to turn a tech into a flight engineer than the other way around.

That means Eagan sits in the center seat of the C-130, which travels the globe with scientists conducting atmospheric research. The projects are varied, and so are the flights. They go high and low—and some places most would avoid.

"'Trouble' wouldn't be the right word, but we do fly through conditions that the airliners normally wouldn't experience," Eagan says.

There is lots of cloud penetration and "tons of turbulence."



Don't ask to borrow his tools

Kip Eagan travels with atmospheric research scientists who wield plenty of instruments—but not very many tools.

So when trouble strikes, those scientists inevitably want to borrow a tool from the tech.

"I love Snap-on, which is why I don't give those tools to the scientists," he says. "I have a small box of cheap stuff I bring along and let them borrow."

"We have to buy all of our own tools. You don't have to get burned too many times before you stop lending your good tools. Before, I would just say no, which leads to hard feelings. Now I just keep the Snap-on tools to myself and lend out the other tools that aren't as good."

"It keeps everyone happy."

Share Your Story

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E-mail us at: TechMagazine@Snapon.com

"We've also done studies where we deliberately fly through ice," Eagan says. During one, the crew heard communication from a pilot near Montreal who was having trouble with ice. "We called the plane, and wanted to find out where it was. That guy thought we were nuts."

But they don't do hurricanes. Two other groups do. "There's no reason to have a third platform for hurricanes," Eagan says. "We experience more turbulence than bad weather. We're not that crazy."

Yet they go to some pretty crazy places. "We fly all over the world," Eagan says. "I like the challenge of being totally self-supportive on the road. There isn't anyone to call if you have trouble."

Because of that, they bring along anything imaginable—including a backup engine.

"When we go out on the road, we have to take everything," Eagan says. "There is no overhaul facility or someone we can call."

The spares come in handy.

"We had to change an engine on the island of Male, about 600 miles or so south of India," he says.

Even with the backup, installation was an issue.

Fortunately, the island had a lot of twin-engine planes on floats—and a crane to get them in and out of the water. It wasn't long before that crane lifted the C-130 engine.

"We changed it out and had it operational eight hours later,"

Eagan says. "It was the only crane in the whole area. If we hadn't been able to use that, we would have had to bring one in by barge."

That would have been a bad thing. "The scientists do not appreciate downtime," Eagan says.

Neither do the pilots—or Eagan. So now he has another tool to bring along. "We have a crane that mounts on the wing of the airplane," he says. "That's the latest addition. So there's that, a power unit, an air-start unit, our own oxygen and nitrogen—just about anything you can imagine."

"Every time we get in a jam someplace, we remember what we needed and take the necessary action to be even more prepared next time." That action can mean bringing along a crane or just a part. And no part is too small.

Back home Eagan and the five other techs at the facility work on routine maintenance. They also have to mount the scientific instruments for the next flight. "It can take two to three months to outfit the aircraft," he explains. "We completely gut the aircraft and reconfigure the whole interior for a different payload."

The payload, and therefore requirements of the techs, constantly change.

"I like the variety," Eagan says. "There are some flying days, some time spent fabricating and even the regular maintenance is a good change of pace after you return from a trip."

All to keep the C-130 flying high—or low. 🛩️



P0172 Fuel System Too Rich Bank 1			
OPEN/CLSD LOOP	CLSD	COOLANT (°F)	180
ST TRIM (%)	-2	LT TRIM	101
MAP ("Hg)	19.8	ENGINE RPM	1877
VEH SPEED (MPH)	40	INTAKE AIR (°F)	72
1	2	3	4
2002 BUICK RENDEZVOUS AWD 3.4L V6 CHEVY SFI 08/27/07 10:53a			

All injectors dropped within one PSI of one another. A quick check of the fuel pressure with engine running verified the correct level under all conditions. I even installed my clear vacuum hose to the fuel pressure regulator to see if raw fuel was going past the diaphragm. After all of this, the source of the problem still remained a mystery.

I decided to transfer my data captures from SOLUS PRO to my PC using ShopStream Connect™. This allowed me to examine exactly what the MAF sensor was reporting compared to other inputs and the subsequent PCM outputs. When I disconnected the MAF and retested, there was a significant change in engine behavior and the data reported by SOLUS PRO.

This led me to a visual inspection of the MAF. Once disassembled, it was plain to see that someone installed the MAF sensor backwards in the air filter housing, presumably when that filter was replaced during the last oil change. I installed the MAF correctly, retested with SOLUS PRO, and the fuel trim and O2 numbers reported onscreen were normal.

As technicians, we see MAF sensors fail and cause lean conditions frequently; however, it's rare to see one cause a rich condition. The key to finding the incorrect installation of this one was to use a logical process of elimination using SOLUS PRO, Vantage PRO and ShopStream Connect. 🛠️

decided to perform some basic functional tests with my SOLUS PRO. I used SOLUS PRO to command the EGR open using the variable control test. As I expected, the engine idle characteristics deteriorated with the EGR-open command, thus eliminating the EGR as a potential problem.

I also tried some bi-directional testing of the purge control system with SOLUS PRO. With the purge valve commanded either open or closed, however, there was very little difference in the O2 feedback.

Next, I decided to perform a few fuel pressure checks. I connected my 100 PSI transducer to the fuel line to use with my Vantage PRO™. Using it with SOLUS PRO at the same time, I activated each injector, while I watched the fuel pressure changes onscreen with Vantage PRO.

A RARE CASE OF A RICH CONDITION

SOLUS PRO™, Vantage PRO™ and ShopStream Connect™ key to process of elimination

There are times when finding the root cause of a diagnostic problem requires a technician to eliminate all other possibilities before he or she is left with the true culprit. This strategy worked for me in the following case.

A 2002 Buick Rendezvous with a 3.4-liter automatic came into the shop with an illuminated MIL. The customer did not complain of any drivability issues, nor did the vehicle exhibit any during my initial test drive.

I began by checking for codes with my new SOLUS PRO™. The PCM stored the following trouble code: P0172, Bank 1

Lloyd Jones
Master ASE, CMAT, LI Certification
Pickering Automotive
Lakewood, Colorado



Sensor 1 Too Rich. I then took a look at Freeze Frame Data, which confirmed a rich condition was present when the code set.

My next step was to use SOLUS PRO to help determine what was causing the excess fuel delivery. Viewing live data in graphing mode confirmed a rich condition was present at all times given the negative fuel trim and rich O2 readings.

After checking the vacuum against MAP sensor readings, I

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THERE IS A DIFFERENCE™



GARAGE FLOOR ARTISTRY REWARDED

Besides having great-looking garage floors, eight *Tech* readers were rewarded with Snap-on gift cards and EPOXYShield prize packages courtesy of Rust-Oleum. The winners responded to an offer contained in the summer 2007 issue. Their before and after photos documented some great results. The winners are:

(1) Gold Prize Winner - a \$1,000 Snap-on Gift Card

Chris Cullen
Harpers Ferry, W.Va.

(2) Silver Prize Winners - a \$250 Snap-on Gift Card

Bill Tuttle
Drayton, N.D.

Jim Gutsch
Osseo, Wis.

(5) Bronze Prize Winners - a \$50 Rust-Oleum cash prize

Lee Blume
Belle Plaine, Minn.

Alex Bautin
Benicia, Calif.

Mark Hook
Lansing, Mich.

Robert Grey
Bridgeport, Conn.

Brad Scholze
Rudolph, Wis.



Easy to prep and paint

Gold-prize winner Chris Cullen chose the gray, solvent-based product for the first two stalls of the four-car garage attached to his new home. He utilized the decorative chips and added a seal coat for additional shine and protection from stains, drips, dust and dirt. The whole project was completed in less than seven hours spread over a couple of weeks. Preparation required about 90 minutes. One week later, actual painting took four hours including the decorative chips. After a couple days of drying, the seal coat was applied in less than one hour.

"The instructions are easy to follow and the process produced a great look," said Chris. "I'm very satisfied with the results and plan to paint the two other stalls next. I'll have a great place to work on and store my '87 Mustang, my family vehicles and any future project cars."

An 11-year veteran, Chris is employed by Koons Ford in Rockville, Md. During his early years, Chris tried several tool brands. He quickly learned which one provided the quality, durability and value that he expected. For the past eight years, he has been a loyal Snap-on user. "I quickly learned Snap-on makes the only tools that I need to buy," said Chris.

Log on to find a nearby retailer of EPOXYShield and other quality Rust-Oleum products.



On the Web:
EPOXYShield.com
Rustoleum.com

CARRY THE WEIGHT IN YOUR SHOP.

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We engineer our roll cabs and tool chests to carry their loads better and longer. To prove our point we set this 21,000 lb. Peterbilt dump truck on six Masters series KRL1022 Roll Cabs. Even with this insane amount of punishment, the drawers still worked smoothly. We set the standard for durability. Maybe that's why technicians named Snap-on their number one choice in tool storage by an astonishing 6:1 margin – earning Snap-on the 2007 Frost & Sullivan Technicians' Choice Award. See why taking more punishment than the competition isn't the only reason these roll cabs deliver a knockout at www.theundisputedchamp.com



UNQUESTIONABLE STRENGTH

Display puts new ratchet in the spotlight

Snap-on Ratchet with Dual 80™ Technology:

300 ft. lbs. of torque

Dual pawls

80 teeth

Seven teeth in contact with gear to provide strength and durability

25 percent less ratcheting arc than the nearest competitor

Yes, that adjacent toolbox is hanging from the square drive of the ratchet. Dual pawls, 80-tooth gear (bottom) being smooth and strong.



No one questions the feel of the new line of 3/8" ratchets offered by Snap-on. Now with Dual 80™ technology, these ratchets feature a dual pawl and 80-tooth design, which makes working the wrench effortless.

But the ratchet felt TOO smooth to some involved in field tests. How could anything so finely tuned be strong enough to handle a tech's daily demands?

"In the past, fine-toothed ratchets typically weren't viewed as being as strong as a traditional pear-shaped ratchet," said Todd Brincks, product manager at Snap-on. "Technicians would buy a fine-toothed ratchet with the understanding it wouldn't be as strong, and use them when finesse was required."

But the new Snap-on ratchet is much more than a finesse tool. Recent production delivers a minimum of 300 ft. lbs. of torque (3,600 inch pounds or double the ANSI standard) and is built to be every bit as strong and durable as it is smooth. Yet those who felt the gears glide weren't convinced, and their opinion counts the most. So Snap-on engineers and marketers

got together to see how they could transform the reality into perception. "We wanted to erase any doubts about the strength," Brincks said.

The team recalled an earlier marketing campaign, where a 21,000-pound Peterbilt truck was parked on six Snap-on Master series KRL1022 Roll Cabs. No one questioned the strength of the toolbox after that display.

"We wanted to do something along those lines, something radical that showed the strength of this tool," Brincks said.

Eventually, someone came up with the idea of hanging a toolbox from the ratchet. And then the group took it a step further: "Why not use the same toolbox the truck was parked on in the other display?"



That toolbox, the KRL1022 Roll Cab, weighs 632 pounds. The group knew the ratchet was strong, in great part thanks to the 80 teeth and dual pawls, but it hadn't been tested to see how much weight could hang from it. That was step one.

"Engineering came back and said it would be possible to do," Brincks said.

Next came a brainstorming session on how to put the display together. The engineers took direction from the group and came up with a display. Once engineering developed the display, the team decided to enclose the ratchet and toolbox to keep onlookers from getting too close and perhaps compromising safety.

"Engineering designed the whole platform," Brincks said. "Everything in that display is off the shelf. The only thing we made is the piece the ratchet hangs from."

The display was constructed at the corporate office in Kenosha, Wis. Employees were given a peek before the display was painted and enclosed. It drew a crowd, to say the least.

"We put it together and let it hang for a few days," Brincks said. "Employees were coming over all day long to look at it. We knew we had accomplished our goal."

Then came black paint and some lighting to show off the ratchet's chrome, and the display was ready to make a splash.

The first appearance was at the National Franchisee Conference in Las Vegas. A sign designed by Doc Neon, a key player in the building of the Snap-on project car "Glo-mad," pointed to the display.

"I can't tell you how many pictures of that ratchet and toolbox were taken," Brincks said. "We had a ton of feedback, all good. It is a testament to our engineers and manufacturing facility—the driving force behind the innovation, quality and performance of this product."

The display definitely made the case for the brute strength of the new ratchet, Brincks said.

"Those who saw the display had all sorts of questions, but there was one they never asked: 'Is it strong?'"

Cool Stuff

A bright idea—with an edge

The Guppie™ is an adjustable wrench, knife, screwdriver with four hex bits, a bottle opener, and non-weight-bearing carabiner. The magnetic bit holder has a bright LED light, too. The Guppie, developed by Columbia River Knife & Tool, was named Best Buy of the Year at the 2007 Blade Show and International Cutlery Fair in Atlanta.

\$29.99 Crkt.com



Flashy upgrade

Looking for a light that stays brighter longer than ever? Upgrade your existing 2, 3, & 4 C- or D-Cell Maglite® flashlights with the new MAG-LED™ Technology. The Maglite LED Upgrade modules can give a boost to an existing light. After the upgrade, you'll have an LED light that balances high brightness with efficient power usage. And the modules are specifically engineered for Maglite flashlights, ensuring they work (and fit) properly.

Maglite.com



Off to a good start

AirSept's new Compressor Turner Tool helps prevent a dry start and premature failure for millions of GM air conditioning compressors. The R, H, and V series compressors now are manufactured with no holes on the clutch face for a spanner wrench to grip. That leaves technicians unable to rotate the compressor manually to help spread lubricant prior to initial start. The Compressor Turner Tool allows a technician to easily rotate a compressor using only one hand.

\$28.95 Airsept.com

Get your Adrenaline going

Motorcycle and ATV enthusiasts who want to travel in comfort and style might want to have a Blast. The Blast 210 MPH Power Plus, introduced by Adrenaline, combines practicality (can be towed by most lighter-duty pickups, and the ramp can handle 1,500 pounds) and comfort (shower, toilet and galley). The hauler can sleep six.

\$20,000 Adralinerv.com



EARTH-SHAKING EXPERIENCE



Prior to the 19th Annual Fram Autolite NHRA Nationals at Infineon Raceway in Sonoma, Calif., during July, Doug Herbert and the Snap-on Tools top-fuel dragster participated in an experiment of seismic proportions.

Members of the media and several fans were taken aback by the sheer power and thundering sound when Doug snapped the throttle of the 8,000-hp nitromethane burner. Dr. Doug Brittsan of Brittsan CPT was also on hand to measure the movement of the earth with a mobile seismograph.

Upon evaluating the data, Dr. Brittsan found the movement of the earth created by the hulking 500-cu. in. hemi was equivalent to an astounding 3.9 on the Richter scale. "The biggest earthquake Sacramento could possibly experience was projected to measure 0.2 Gs of horizontal acceleration," said Dr. Brittsan. "We recorded a reading of more than two and half times that—0.56 Gs when Doug hit the throttle. It was just wild!"

Qualifying for the Countdown

Just one month later, Doug and the Snap-on Tools team arrived in Reading, Pa., needing a win in the Toyo Tires NHRA Nationals to qualify for the NHRA POWERade Top Fuel

Countdown to the Championship. Heading into the season's 17th event, Doug sat 11th in points, 53 out of the eighth and final qualifying position. "The odds weren't in our favor, but crazier things have happened," said Doug.

Although persistent rain extended the last of the four elimination rounds to Wednesday, Doug prevailed for his ninth career NHRA Top-Fuel win and a coveted spot in the Countdown to Four.

"Wow, nothing like a little drama, huh?" said a happy Herbert. When the team returns to California for the early-November season finale at Pomona, Doug hopes to be in a position to shake the earth one more time on the way to the NHRA Top-Fuel Championship. 

BE DOUG'S ASSISTANT CREW CHIEF

You can be Doug's assistant crew chief at a 2008 NHRA event. For details, see the **Early Times** ad on page 17 or log onto **EarlyTimes.com**



FAST FACTS:

ENGINE:
Chevy 350

TRANS:
GM 700R4

WHEELS:
18" American Racing
Hopsters with
Nitto rubber

TIME TO BUILD:
15 months

TELL US ABOUT
YOUR RIDE

Share your ride with your fellow *Tech* readers. Just mail a brief description and a photo or send an e-mail with a digital photo to:
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A Tribute to BILLIE JEAN

FRANKLIN AND DANA MACHICEK'S 1950 CHEVY 1/2-TON

Within 15 months after acquiring a very rough '50 Chevy 1/2-ton, Franklin and Dana Machicek of Point Comfort, Texas, created a masterpiece. Its very first public showing resulted in a best-of-show trophy.

The very classy truck was dedicated to a very classy lady, Dana's mother, and was named Billie Jean in remembrance of her. Franklin and Dana know that makes her proud. Although it's Dana's truck, Franklin enjoys driving her too.

The running gear is all Chevy—a 350 small block, GM 700R4 overdrive transmission and an '87 Camaro lockup rear end. Low-profile Toyo skins run on 18-inch American Racing wheels.

The largely stock appearance featuring the silver base-clear and the simple chrome accents makes for one eye-pleasing ride.

Franklin's passion also happens to be his business. As the owner of Frankie's Paint and Body, he's been restoring memorable vehicles and repairing crash damage for more than 30 years.

Snap-on tools have been contributing at every step along the way. Franklin relies on a broad range of hand tools, and also appreciates specialty tools such as ball joint pullers and A/C system leak detectors. "There's no question," said Franklin, "Snap-on tools are simply the best out there."



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