Built for the Open Road SPECTACULAR SNOWBIRD DESTINATIONS 15 HOT NEW PRODUCTS THE FUTURE OF POWERTRAIN **TECHNOLOGIES ARE SAE TOW RATINGS COMING?** www.trailerlife.com Go To: TRAILER LIFE.com User Guide Contents

OK, it's time to get a

BIGGER BOAT.



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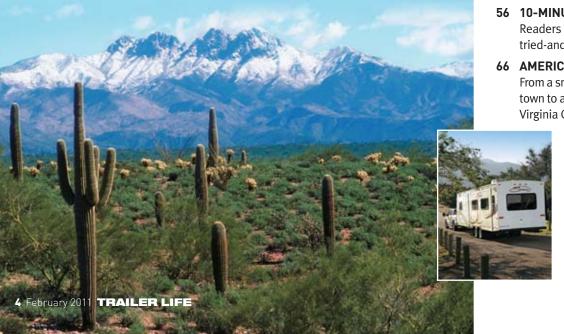
From a small post-World War II mining town to a current-day tourist hotspot, Virginia City, Nevada, has evolved

ON THE COVER:

The KZ Spree 323CSS hits the wide-open spaces at Lake Casitas, in Southern California.

See the walkthrough on page 42.

Photo by Rich Cox Photography



DRIVER'S SEAT -->

by Kristopher Bunker



A TIME FOR LOVE

h, February, a special time of year. The new year is upon us, spring is just around the corner and, perhaps most importantly, love is in the air. Yes, around this time every year, we should all seize the opportunity to profess our undying love ... of the annual towing guide. What, you were expecting flowers and chocolates in an RVing magazine?

As always, the *Trailer Life Guide to Towing* features hundreds of listings of various makes, models and trim packages from all the major manufacturers, making it a must-read before setting out to buy a new tow vehicle. In addition to an exclusive look at what to expect in tow-vehicle technology for this year, the guide also features stories on hitching up, trailer-brake controls, tips for towing and so much more, making it the most comprehensive RV-centric towing guide available. What's not to love about that?

And following the lead of the annual towing guide, the magazine itself also focuses on new products and technologies aimed at making RVing easier.

In "New Powertrain Technologies," we examine the current state of tow-vehicle muscle and discuss the benefits — and potential drawbacks — of utilizing diesel, alternative fuels, hybrids and turbos to improve efficiency in addition to boosting power. Turn to page 33 to catch a glimpse of the future, where vehicle manufacturers are working feverishly to meet consumer demand.

In a long-overdue development, the Society of Automotive Engineers (SAE) may finally require tow-vehicle manufacturers to standardize the methods at which they arrive at tow-vehicle gross combination weight ratings (gcwr) and tow ratings, meaning side-by-side comparisons of vehicles across the board will actually be feasible (a novel concept, to be sure). "SAE Weight Regulations" on page 37 details the rigorous testing procedures that would be required should the all-important Standard J2807 be adopted.

"The SEMA Sweet Shop," beginning on page 39, features a behind-the-scenes look at new towing products unveiled at the latest Specialty Equipment Market Association industry show. We pull back the curtain and aim the spotlight at more than a dozen products designed to enhance your trailer-towing experience, from performance boosters to suspension add-ons to some of the newest hitches on the market.

And finally, we take a look at a trailer that's designed to make RV living easier. You'll find the KZ Spree 323CSS featured on page 42, with details about its wide-open floorplan that's sure to be a hit with RVers who like to share the wealth and host social gatherings. Space abounds in the living area, and the galley features a flow-through footprint that's conducive to food-prep and entertaining.

It is true that love is all around us; and with so many things to love within these pages, it's no wonder we had to put it all in the February issue. \blacksquare

TRAILER

EDITORIAL

Publisher **Bob Livingston**

Editor Kristopher Bunker

Senior Managing Editor Marleen Canniff

Associate Editor Meaghan Alfier

Assistant Online Editor Christina Bullock

Editorial Correspondent Betty Abramson

Consulting Editors **Wes Caughlan**, **Ken Freund**, **Jeff Johnston**

Contributors Stuart Bourdon, Len Cousineau, George Glonka, Bill Graves, Preston Gratiot, Donna Ikenberry, Bruce Leonard Jr., John Stewart, Richard & Ellen Thane

Midwest Bureau Chief Sherman Goldenberg

CREATIVE

Art Director Mirante Almazan

DDADICTIAN

Production Director **Bob Dawson**Senior Ad Production Manager **Brenda Hutchinson**

CIRCULATION

Circulation Director **Jill Anderson** Fulfillment Manager **Melissa Vizzo**

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LETTERS -->

from our Readers

Over the years,
I have used information provided in *Trailer Life* as a guide for purchasing products and accessories.



SMELLY HEATED HOSE

I am a full-timer and enjoy reading the hard copy version of this magazine. Over the years, I have used information provided in *Trailer Life* as a guide for purchasing products and accessories. Regarding the Pirit brand heated water hose identified in your December 2010 article, "Keeping Warm," I recently purchased the hose and found it had a very strong offensive chemical odor that transferred to the taste of the water, as well. Although considerably more expensive, there are alternatives such as heated water hoses by Conrad or No Freeze. I purchased a Conrad brand hose, and it has worked as advertised without any odor or bad taste.

Arthur K. Cave, Via e-mail

MEMORIES OF BOUDIN

I read Bruce Leonard's article on boudin (December 2010) and was surprised that he was not writing about blood sausage, as that's what boudin was to us. I grew up in Chicopee Falls, Massachusetts, during the early '50s in a French family where boudin, on occasion, was served for supper. On those occasions my siblings and I knew we'd be hungry. My father loved boudin. It must have been a generational thing, having been born in 1911. Over time and after many tears, mom would make us something different, and dad had his boudin.

Ray Jodoin, North Port, Florida

To contribute to this column, write to 2575 Vista Del Mar, Ventura, CA 93001, or e-mail info@trailerlife.com.

TANK SIZE CORRECT

In the December issue, a writer responded to an article regarding fuel-tank size on the Ford F-250 Super Duty Crew Cab, stating the shortbed Crew Cab has a 37.5-gal tank. I believe your article stating the truck has a 26-gal tank is correct. I ordered an F-250 Super Duty Crew Cab with the shortbed and the 6.7-liter diesel and the only tank I could get with the truck was 26 gallons. Great mag!

Larry Schneider, Sacramento, California

Editor's Note: Hopefully, this will clear up any further confusion: The Crew Cab shortbed has a fuel capacity of 26 gallons, as stated in the article. The Crew Cab longbed features a fuel cap of 37.5 gallons.

TRAVEL ARTICLES FAN

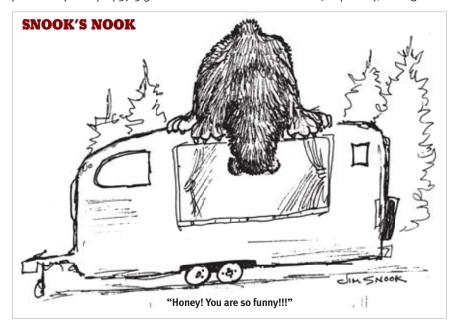
I enjoy reading *Trailer Life* every month. The travel articles are a must-read for me. I like them so much I clip and file them by state in a folder we keep in our trailer, to use as a resource when we arrive in a state. Thanks for the many wonderful travel articles and other useful information.

Richard Baldwin, Ventura, California

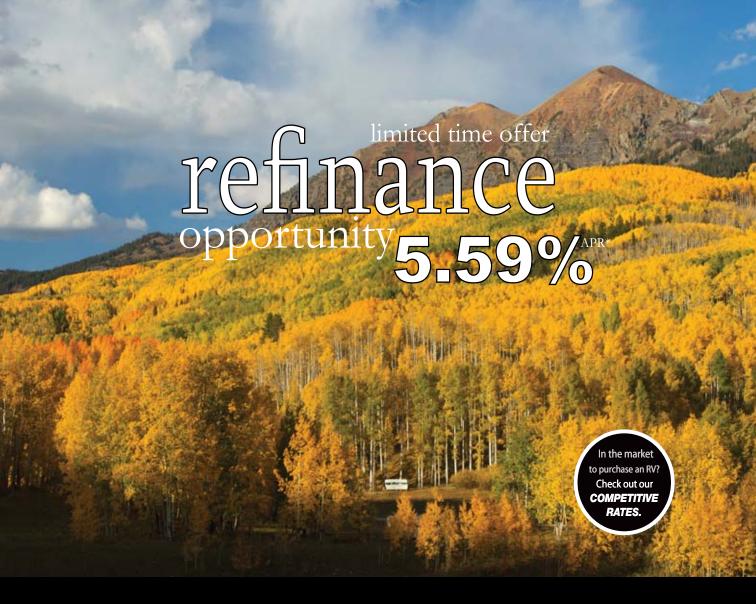
TECH ARTICLES FAN

I just sent in my renewal for one year. For me there are too many "places to see" articles. I enjoy the tech and trailer features the most. You have a tough job keeping thousands of subscribers happy, and I applaud you for the job you've done.

Dan Fritzsche, Rapid City, Michigan 🗭



6 February 2011 TRAILER LIFE



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EDITORIAL/BUSINESS OFFICE

2575 Vista Del Mar, Ventura, CA 93001 Tel (805) 667-4100, Fax (805) 667-4484

ADVERTISING

VENTURA, CALIFORNIA

VP/National Sales Terry Thompson RV Marketplace Sue Seidlitz Classifieds Joyce Reweda **Business Manager Denielle Sternburg** P.O. Box 8510, Ventura, CA 93002 Tel (805) 667-4100, Fax (805) 667-4379

ELKHART, INDIANA

Midwest Sales Director Chuck Lasley National Advertising Sales Tacy Hendershot,

Lou Cicirelli

RV Dealer Sales (East) Kathy Dresser 2300 Middlebury Street, Elkhart, IN 46516 Tel (574) 295-7820, Fax (574) 522-0418

SEATTLE, WASHINGTON

National Advertising Sales Scott Oakes,

John Marciano

1818 Westlake Avenue N, #420 Seattle, WA 98109 Tel (206) 283-9545, Fax (206) 283-9571

DETROIT, MICHIGAN

Crompton Holdings Scott Crompton 2031 Fernway Drive, Montgomery, AL 36111 scottcrompton@mac.com

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RV ACTION LINE

A TANGLED WEB ON THE WEB

Feeling slighted that he didn't receive the full refund he felt was due after buying trailer tires, a reader turned to RV Action *Line* for help:

I am requesting your assistance in getting a rebate as stated on the Goodyear rebate form. On June 28, 2010, I purchased six Goodyear tires for my fifth-wheel at Glen's Tire in Wakarusa, Indiana. At that time, I was given a rebate form the owner printed from Goodyear's website, with a \$25 rebate promised for each tire. Although the form read 2009, we were assured it was still valid. We sent Goodyear all documentation within 48 hours of purchase. On September 16, 2010, we received a check from Goodyear for \$60 — not the \$150 we were expecting. I called the company the following day and was told the website clearly states the tires are eligible for a \$10-per-tire rebate (not \$25).

I told the representative I didn't think I should have to visit a website to verify the documentation a dealer has given me is correct. She then told me to take it up with the dealer.

Per the Goodyear rebate form that was valid per the dealer, we feel we are still due \$90.

Charles Schell.

Rapid City, South Dakota

This is a tough one to call. Schell did, in fact, take the rebate form in good faith, without double-checking (which is a definite no-no, as we've seen time and time again within this column), but it does seem as though he's entitled to have somebody make up the difference — be it the dealer or the manufacturer.

Fortunately, in this case, Goodyear stepped up to the plate. But once again, be warned that most any promise, discount or rebate is best verified in writing before pursuing it. Goodyear responded with the following letter:

We are in receipt of your letter to advise us of Charles Schell's concern. Our goal at Goodyear is to have satisfied customers.

Schell's consumer claim was thoroughly reviewed and he was offered [and accepted] a check for the difference of \$90.

Kim Roy,

Consumer Relations, Goodyear Tire & Rubber Company

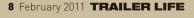
OLD IS NEW

Puzzled as to why the new tires he purchased for his RV were already a few years old, a reader asked RV Action Line for help:

In June 2010, I bought what I thought were new tires for my motorhome. I purchased six Michelin tires for a total of \$3,147 at Gene Jackson Tire Company in Ashland, Kentucky. Being a novice with tires, it wasn't until August when I discovered the tires were stamped 4607, which means they were made in the 46th week of 2007. This means my "new" tires were 3 years old when I bought them.

I have been advised by RV manufacturers and dealers that RV tires need to be changed every six to seven years, depending on dry-rot. This means that, in actuality, I have only three to four years left on these tires.

I contacted Steve Jackson at Gene Jackson Tires, and he suggested I deal with the tire distributor or Michelin, as lackson didn't think he was at fault.



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Mid America RV Show January 27-30 • Kansas City, MO

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Kansas Sports, Boat & Travel Show February 17-20 • Wichita, KS N.C. RV & Camping Show - Charlotte
 February 25-27 • Charlotte, NC

Atlantic City RV & Camping Show
 February 25-27 • Atlantic City, NJ

— Colorado RV, Sports, Boat & Travel Show March 3-6 • Denver, CO

— Rhode Island RV & Camping Show March 4-6 • Providence, RI

— Virginia RV Show March 11-13 • Hampton, RI

— South Carolina RV & Camping Show March 11-13 • Greensville, SC

March 18-20 • Raleigh, NC

— New Mexico RV & Travel Show March 25-27 • Albuquerque, NM





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RV ACTION LINE

I feel that for the amount of money I spent, I should have brand-new tires. I have been told by Steve Jackson that it's impossible to buy RV tires made in the current year due to storage and shipping issues. Is this true? Are my expectations unreasonable?

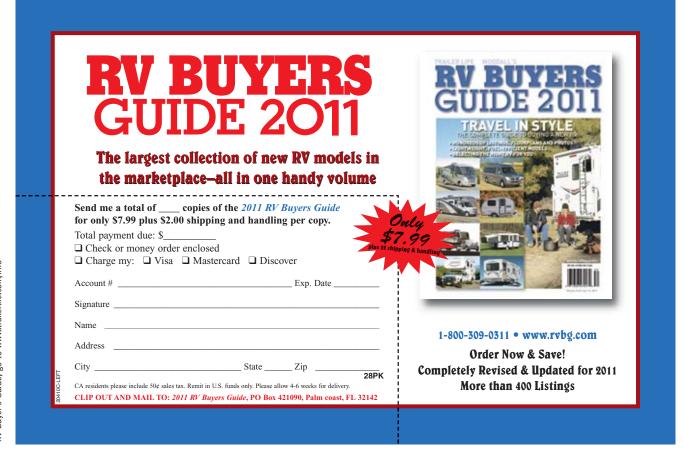
Mickey Salmons, Russell, Kentucky

We don't often run lengthy letters in their entirety, but we received a response from Steve Jackson at Gene Jackson's Tire Company that explains this matter perfectly. Here's his response:

I am writing you to respond to a letter from Mr. Salmons regarding a set of Michelin tires he purchased from my tire store.

Mr. Salmons is concerned (as am I) that his "new" Michelins were built 127 weeks before they were installed on his RV, leading us to a question of "how new is new?"

I contacted another American tire manufacturer (not Michelin) and asked



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rogress Manufacturing, Inc., go to www.trailerlife.com/info

about its policy regarding a tire dealer requesting tires made on a certain date, or anyone asking for the newest, latest or "freshest" production. I was told that the company "could not and would not" respond to a request for the latest tires. In fact, they told me that due to a first-in, first-out policy, I would receive the oldest tires in any given warehouse.

Tire companies need to move their merchandise; if people would insist on tires made today, the ones made yesterday would never be sold.

The tires on Mr. Salmons' RV are size 255/80R22.5, a little-used size, with only a moderate demand. For this reason, manufacturers do not build many this size. When they do build them, they tend to build a lot of them, in anticipation of future sales. This is why tires sometimes sit in warehouses waiting to be sold.

I do not represent Michelin in this matter, but I understand it is its policy to warranty tires for five years after their purchase date.





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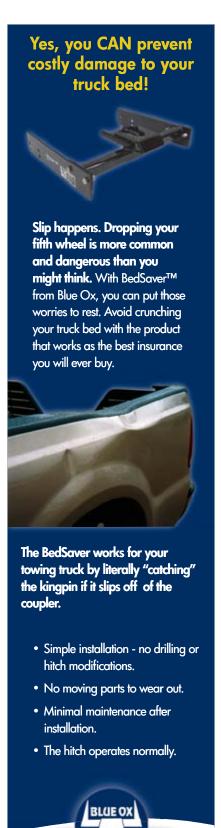
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RV ACTION LINE

So, why didn't I cancel the transaction and return the tires to Michelin the day we installed them? Mr. Salmons, for whom I have great respect and empathy, ordered "new" tires. He did not specify a certain date. If he had, I could have returned the tires, unmounted and unused, to Michelin. However, it was two months later that he took notice of the production date. The tires are now used, and no manufacturer will accept them for return.

So, how can we keep this situation from happening again?

- 1. Using the power of the market; if everyone would insist (before they are installed) on, say, tires less than 1 year old, the manufacturers would be forced to build them in smaller, more frequent production runs. However, since less production means higher costs, this would tend to run up costs and market prices.
- 2. Get out your RVs and drive them! We have taken many tires off RVs more than 12 years old with very few miles on them, still looking new. If we wear

them out, like the truckers do, the whole overstocking issue becomes academic.

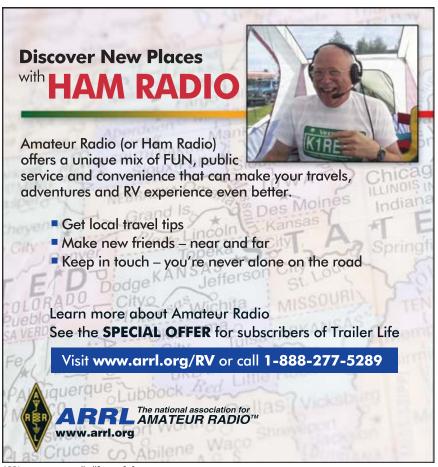
Steve Jackson,

Gene Jackson Tire Company 👨

After exhausting all other resources without success, please forward information (typewritten only) with copies of appropriate bills and correspondence to *RV Action Line*, 2575 Vista Del Mar, Ventura, CA 93001.

Please include a self-addressed, stamped envelope. No phone calls





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NEWS • EVENTS • PEOPLE • PLACES • PARKS & RV TRENDS THE BEND

Edited by Marleen Canniff

K9 KENNEL TRAVEL TRAILER

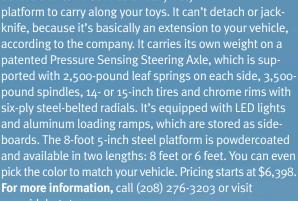


It's for the dogs ... and for the dog lovers. Riverside Travel Trailer has created the industry's first fully incorporated kennel in a travel trailer with its 2011 model 29RLSPB. Dogs can access the kennel from outside the RV or inside through a screen door, and it's outfitted with a drain for easy cleanup. The rest of this 31-footer is also designed to be dog- and people-friendly, with a rear-slide patio, linoleum-covered floors, large picture windows and a spacious layout that sleeps

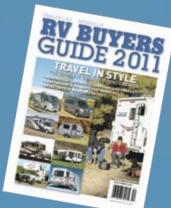
six. The travel trailer weighs 7,240 pounds dry and has an msrp of \$24,199. For more information, call (585) 703-7878 or visit www.riversidetrailer.com.

RV TOTE DOLLY

Leaving behind your big toys — like the golf cart, ATV, or motorcycle — due to lack of space is a thing of the past. The Idaho Tote Dolly is designed to bolt right on to your fifth-wheel or travel trailer to be used as a heavy-duty



Trailer Life and Woodall's have teamed up again to compile this year's RV Buyers Guide, the most comprehensive listing of new RVs available for 2011. The guide features photos, floorplans and specs for each unit, in



addition to information on different types of RVs, buying tips and contact information for the manufacturers. If you're looking to purchase a new RV, this is a must-have. Be sure to get your copy today by calling (877) 209-6655, or by logging on to www.rvbg.com.

FESTIVAL FOR ARTSY SNOWBIRDS

Arizona snowbirds are expected to flock to the 52nd annual Tubac Festival of the Arts in Tubac, Arizona, February 9-13. Tubac is a popular spot for golfing, hiking and bird-watching, and the art festival is a great complement to these activities, and it's a 2011 American Bus Association Top 100 event for RVers. Browse the work of hundreds of artists and craftspeople as they showcase their materials for the juried art show while musicians perform New Age music and other genres. A food court supplements Tubac's many restaurants, and several campgrounds and RV

parks are in the surrounding area. For more information, call (520) 398-2704 or visit www.tubacaz.com.





Always searching for something different, Judson Beaumont designed the Pet Camper, a silver-bullet-style doghouse that somehow makes people smile — and dogs seem to like it, too. Created with quality workmanship and a little personality (every purchase came with its own custom license plate), only 25 Pet Campers were produced, and each one sold for \$2,500. Shortly after, the mold was destroyed when the fiberglass factory went out of business. Straight Line Designs, manufacturers of the doghouse, is currently looking for an investor or factory to finance a rotation mold that could produce the campers in large volume, thus bringing the price way down.

For more information, call (604) 251-9669 or visit

NEWSWIRE

www.straightlinedesigns.com.

Results of a Campfire Canvas survey by the Recreation Vehicle Industry Association (RVIA) indicate that more new buyers are coming into the RV market and that seasoned RV owners are still as passionate as ever about RVing, even

in difficult economic times. According to survey findings released late last year, 16 percent of the respondents said they bought their first RV during the past year. This



is an increase over the previous year, when 12 percent of the respondents said they were first-time buyers. Among those surveyed, 90 percent cited the affordability of the lifestyle as a major benefit to owning an RV. Forty percent said they are considering another RV purchase, with 21.8 percent looking to buy in the next year and 43.9 percent within the next two years ... The National Highway Traffic **Safety Administration** (NHTSA) study confirms that states that have upgraded their seat-belt laws show belt-use gains of 10 to 12 percentage points. These tougher seat-belt laws and stiffer fines could have unbuckled motorists facing more severe penalties if caught. So, buckle up! ... Follow us on Facebook at www.facebook.com/TrailerLifeMagazine.

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Lately we've noticed a number of emails and letters from subscribers who have been contacted by "rogue" subscription agents. These companies and individuals pretend to be us or partners of ours, and attempt to sell unauthorized new subscriptions or renewals. The rates they use are much more than our regular prices. Recently, we were alarmed to discover that a reader who ordered through an agent received a notice that our magazine was going "paperless" and his bank account would be charged automatically for his subscription. The notice indicated that this rogue agent had our customer's banking information.

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We are doing everything in our power to stop these companies, but they are incredibly difficult to track down. If you are ever contacted by anyone who attempts to sell you a subscription or renewal to Trailer Life and you are able to obtain a name, location or phone number, please forward it to us at info@trailerlife.com.

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14 February 2011 TRAILER LIFE

THE OUTSIDER -->

by Bruce Leonard Jr.



HILL FROM HEI

"NOT ONLY DID I EXPERIENCE ONE OF THE WORLD'S MOST FASCINATING GEOLOGIC DISPLAYS AND ADMIRE GORGEOUS SCENERY, BUT I ALSO GOT AN AEROBIC WORKOUT: IN OTHER WORDS, A GREAT DAY."

he first time I stood on the South Rim of the Grand Canyon in the eponymous national park, I was somewhat underwhelmed. Yes, the deep Arizona chasm gaped in front of me on a grand scale, yet the scale itself was so grand that I lost perspective and context (though luckily not my footing). Standing on the edge of the giant geologic maw, trying to make out distant features through the hovering haze, felt somewhat like staring into

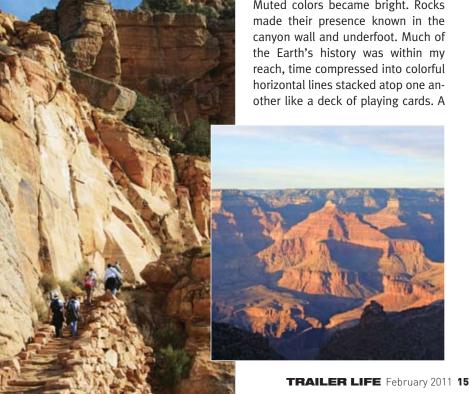
the seemingly endless expanse of the ocean: The horizon seems far away, but just how far far is only becomes clear while trying to swim through the surf. Yet, during that first visit to the Grand Canyon 16 years ago, when I took the first steps down one of the trails. I understood what all the fuss was about: Ages, epochs and eons display themselves in colorful striations, and the overwhelming scope of the canyon becomes clearer with every downward step.

So when I had the opportunity to visit the Grand Canyon again, I made sure to bring my hiking boots. This time I chose to explore the South Kaibab Trail, which visitors can easily reach via shuttle from the park's most popular campground, Mather Campground (operated by the National Park Service). Located only about a mile from the Grand Canyon

Visitor Center, the campground requires reservations from March 1 through November 30, and is first-come, first-served the rest of the year. Open year-round but limiting campers to seven consecutive nights, Trailer Village (run by the park's concessionaire, Xanterra Parks and Resorts) grants visitors another option, as does Canyon Village, a private campground seven miles south of the South Rim in Tusayan.

The descent along the South Kaibab Trail proved invigorating with every step. The nebulous beauty that I spied from the

> canyon's edge became specific. Muted colors became bright. Rocks made their presence known in the canyon wall and underfoot. Much of the Earth's history was within my reach, time compressed into colorful horizontal lines stacked atop one another like a deck of playing cards. A



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THE OUTSIDER

time-twisted pine clung defiantly to a ledge on the crimson wall. With each step farther into the canyon I descended, with every switchback I negotiated, with each rock I avoided and with each puff of dust my boots kicked up, the better I felt about the world and my place in it.

The South Kaibab Trail is steep, so not every hiker may want to tackle such elevation changes. Many hikers descend the South Kaibab, then ascend the less-demanding Bright Angel Trail. But I successfully managed the route as far as Cedar Ridge, which hikers reach after negotiating about a mile and a half of trail and descending approximately 1,140 feet. I took in the expansive views, downed some water and a protein bar, reapplied sunscreen, then prepared for the ascent.

One of my guidebooks advises that hikers allot one third of their available time to the descent and two-thirds to the ascent. Since I generally take such recommendations as challenges (if not personal affronts), I hustled upward, huffing my way to what runners call a "negative split," meaning that I completed the second half of my journey faster than the first. So not only did I experience one of the world's most fascinating geologic displays and admire gorgeous scenery, but I also got an aerobic workout: in other words, a great day.

Of course, not all travelers can hike one of the park's trails, but everyone should visit the Grand Canyon Visitor Center to become acquainted with the park's countless attractions. The friendly and helpful rangers there directed me to the South Kaibab Trail, and they will gladly steer visitors to whichever of the park's trails or features best suits travelers' needs, such as the Rim Trail, which is 13 mostly level miles and much of it is paved. Visitors can stay topside by taking a shuttle along the 16-mile roundtrip Hermit Road, or RVers can drive the 46-mile round-trip Desert View Drive (visit the Desert View Visitor Center near the east entrance for more information), along which numerous stunning vistas elicit gasps from visitors. Some travelers may be inclined to descend the canyon's trails on the backs of mules,

and others may want to take in the views while taking a motorcoach or a van tour.

Yet soon I found myself once again heading downhill, this time in Utah's Bryce Canyon National Park. Smaller and more intimate than the Grand Canyon, Bryce Canyon is best known for its spectacular geologic formations known as hoodoos. Over time, rain, snow and ice have chiseled these natural columns of rock into a virtual crimson-and-white forest of stone. Bryce's hoodoos seem well within our powers of comprehension, if only because their scale is more manageable. Or perhaps my belief that the hoodoos are knowable simply springs from their accessibility.

I began my visit to Bryce in the visitor center, where I learned that travelers should drive the 40-mile round-trip route through the park. So I drove south to the end of the road, to Rainbow and Yovimpa Points, where I took in the incomparable views. Then I slowly made my way back along the road, stopping at the dozen or so overlooks. Travelers inclined to gawk or snap numerous photos should allow three to four hours to make the round trip, if they want to appreciate the uniqueness of each turnout.

Although hikers can choose among plenty of trails, I decided to see the park's most famous, most photographed icon, Thor's Hammer, so I set out along the steep, 1.3-mile Navajo Loop Trail, which begins at Sunset Point. The proximity of the geologic features made the hike feel almost like walking through the trails in an ant farm, at least compared to Grand Canyon's terrain. I negotiated tight salmon-colored corridors, admired the tenacity of towering pines and rested on a natural bridge made of stone. So content did I feel in Bryce's landscape that I contemplated extending my hike, but I knew that a long ascent loomed in my immediate future. Then as I began that ascent, Thor's Hammer towered above. 🗭

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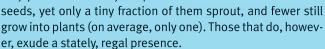
THIS LAND

SAGUARO NATIONAL PARK

ew places demonstrate more dramatically how difficult life can be than the Sonoran Desert. Within these 120,000 square miles in southern Arizona, southeastern California and northwestern Mexico,

grows North America's largest cactus, the saguaro (carnegiea

gigantea). Each of these imposing plants, which can rise to 50 feet and weigh up to 16,000 pounds, has defied incredible odds simply to exist. With the region's summer temperatures routinely exceeding 100° F, and with the constant tug of drought straining daily existence, these "desert monarchs" persevere, some for as long as two centuries. Over their impressive lifespans, saguaros may produce as many as 40 million



Arizona's Saguaro National Park, therefore, is a celebration of tenacity, a monument to nature's persistence. Consisting of two sections — the Tucson Mountain District to the west of the city of Tucson and the Rincon Mountain District to the city's east — Saguaro National Park showcases the features of both high- and low-desert environments. The 24,000-acre Tucson Mountain District, the more accessible of the two sec-

tions, showcases the hotter, drier ecosystem that exists in this region at elevations of approximately 2,400 to 4,600 feet. The higher 67,000-acre Rincon Mountain District features large areas of saguaros, as well as oak and pine forests. This section of the park has more miles of hiking trails in the saguaros

than the Tucson Mountain District, and persistent hikers will find ponderosa pines and very few people at higher elevations.

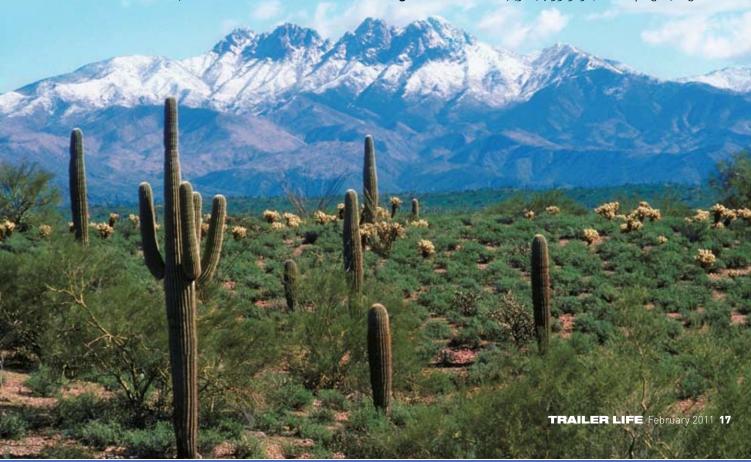
Travelers who want to see the nightly blooms of the park's name-sake plants should visit from late April through June, and RVers wanting to revel in the profusion of colors displayed by Mexican poppies, globe mallows, marigolds and lupines should enter the park in mid-March to

late April.

In Saguaro West, the Red Hills Visitor Center delivers a park overview. After making this first stop, visitors should take the Bajada Scenic Loop Drive, making sure to explore the paved Desert Discovery Nature Trail.

Although Saguaro National Park only has backcountry campsites, RVers can camp at nearby Tucson Mountain County Park.

Saguaro National Park, (520) 733-5158, www.nps.gov/sagu.



EXPLORING THE SECRETS — AND SCENERY — OF THE KAIBAB

by Richard & Ellen Thane

ild and remote, Arizona's Kaibab Plateau is paradise for lovers of the great outdoors. Whether you like to participate in outdoor sports or just marvel at the spectacular scenery, this unique corner of the world is sure to capture your heart. Stretching from the North Rim of the Grand Canyon to the red rock country on the border between Arizona and Utah, it offers more than a million and a half acres of quiet, wilderness playground. A portion of the Plateau lies within the Kaibab National Forest and a portion

within the North Rim section of Grand Canyon National Park. And while somewhere around 5 million people a year crowd the South Rim of the Grand Canyon fewer than 10 percent ever make their way to the North Rim, and those who do rarely venture far from the canyon rim around Bright Angel Point, leaving the entire region of the Kaibab Plateau to the adventuresome few who choose to explore it.

Spring through fall, miles of back roads and trails, from short handicapped-accessible paths to more strenuous overnight trips, beckon hikers. Auto, horseback, mule, bicycle and



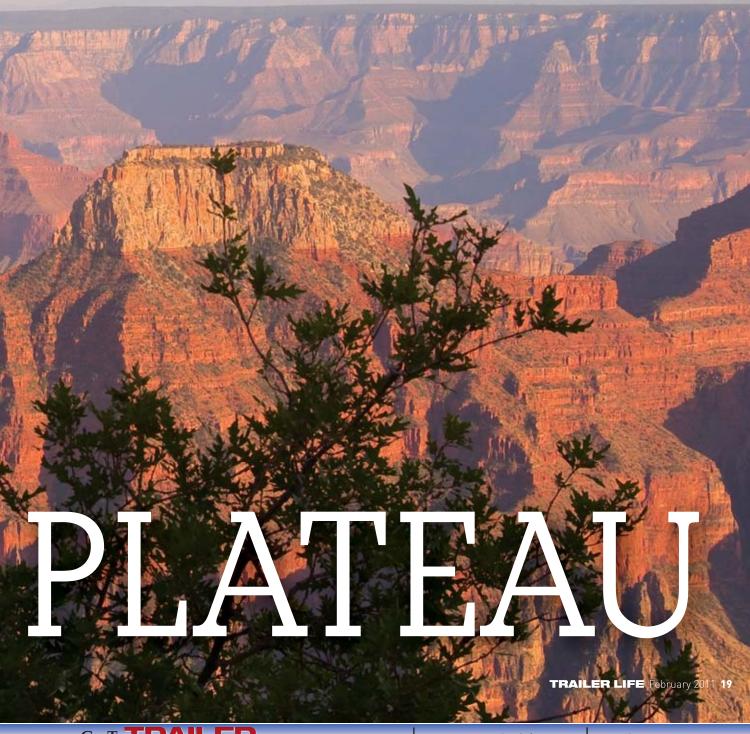


Photographers line up for a chance to shoot the view from Bright Angel Point, and you can see why (background).

ATV are also popular means of exploring the Plateau. Down on the canyon rim the beautiful old Grand Canyon Lodge offers nature programs, fine dining as well as quick snacks, a gift shop and a bookstore. If you'd like to take a mule ride down into the canyon or perhaps a river-rafting trip down the Colorado you can make arrangements there.

When winter arrives with heavy snow and fiercely cold weather, almost everything closes — including the roads — but then a whole new spectrum of outdoor activities unfolds as a quiet winter wonderland attracts cross-country skiers from around the world.

The winter snows had since melted upon our last arrival at Kaibab — a Paiute Indian word meaning "mountain lying down" to describe this vast tilted shelf of ancient seafloor that rises to an elevation a bit over 9,000 feet at its highest point.



Temperatures were in the high 90s as we reached the junction of Arizona Highways 89 and 89A. Turning west on Highway 89A, we drove along the southern edge of the brilliant Vermilion Cliffs just as the afternoon sun was striking the rock, intensifying vivid hues to even deeper shades of red.

Passing the old Cliff Dweller's Lodge — built into the massive boulders lying along the edge of the cliffs — we stopped to explore the curious old structure that resembles something out of Grimm's fairy tales. Early settlers to the region were certainly creative when it came to concocting shelter from materials at hand. Beside the sagging front porch, where visitors of the early 19th century to Grand Canyon's North Rim once found a shady spot to rest, Navajo women were selling colorful handmade jewelry.

Continuing west through the historic House Rock Valley, where recent attempts have been made to release and establish the California condor, we eventually reached the tiny village of Jacob Lake, at the junction of Highways 89A and 67. Built to serve Kaibab Plateau visitors, this is where you'll find a small lodge, store, gas, meals and the visitor center.

We picked up information and, most importantly, a forest service map of the Kaibab National Forest at the visitor center and then set up camp at the nearby Kaibab Camper RV Village (928-643-7804, www.kaibabcampervillage.com; open May 14-October 15). This was a nice central location for exploring the canyon rim as well as the plateau, and is the only campground in the area with hookups. Camping is pretty limited on the Kaibab, so be sure you have a spot reserved before arriving. And, although dispersed camping is allowed throughout the national forest, it is really only suitable for smaller RVs.

Tall ponderosa pines cast long shadows as we drove our tow vehicle the 44 miles along Highway 67 to the Grand Canyon's North Rim. Traveling first through a portion of the Kaibab National Forest, we passed miles of burned trees standing like gray ghosts along the road before entering a deep ponderosa forest interspersed with aspen. This eventually gave way to lush alpine meadows filled with wildflowers and deer. Entering Grand Canyon National Park 30 miles south of Jacob Lake we then drove another 14 miles to the North Rim. Designated a National Forest Scenic Byway and also a State Scenic Byway, this stretch of road is frequently described as "the most pleasant 44 miles in America."

Highway 67 ends at Grand Canyon Lodge, which is built into the cliff at Bright Angel Point. Originally built in 1928 for the Union Pacific Railroad, it burned in 1932. The building you see now was built in 1937 using the same footprint and floorplan as the original lodge and, with its massive ponderosa beams and limestone facade, offers a warm welcome. As we entered through the large front doors, our eyes were immediately drawn across the sunroom to its enormous wall of windows looking right into the canyon. This view is every bit as beautiful if not more so than anything you will see along the crowded South Rim. A few steps below the lodge entrance an elegant dining room is always filled to capacity.

On the front porch of the lodge, people with binoculars filled comfortable chairs watching as the sun dropped closer and closer to the canyon rim, while astronomers were busy



setting up telescopes for an evening star party. At this altitude the stars seem close enough to touch and, with the absence of big-city lighting, there is probably no better place on Earth for viewing them. We overheard excited voices discussing star clusters, super novas, Venus and Cassiopeia. You will find a variety of programs offered nightly at the lodge, so check the schedule for those that interest you.

Outside, descending a few stairs from the lodge, we took the half-mile, paved hike out to Bright Angel Point to see its incredible views of the canyon. Mesmerized, we watched as the setting sun brought dark shadows to canyon crevasses and soft pinks, mauves and grays tinged the sky, echoing their colors on the canyon walls. Driving back to camp at Jacob Lake, we kept our eyes glued to the road, watching for deer that would suddenly appear in our headlights.

Early the next morning we plotted out a course to follow a series of gravel forest service roads snaking through the thick ponderosa pine covering the plateau and eventually leading to remote lookout points along the canyon rim. Your campground hosts at Kaibab Camper RV Village will be happy to help you plan this drive. They can also tell you the condition of

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The view of the Grand Canyon from Monument Point, on the canyon's North Rim, is yet another opportunity for gorgeous photography. Plenty of room for RV parking at scenic Cliff Dwellers Lodge, with Highway 89A in the background. The Vermillion Cliffs watch over a lonely old homestead.

the road, as it can become deeply rutted and only passable with high-clearance vehicles during wet weather.

The roads are well-signed in most places, but be sure to have a map with you or you can quickly get lost in the maze. We had the road all to ourselves as we traveled west on Forest Service roads 461 and 462, just outside the campground, and wound our way down Forest Service roads 22 and 425 to Crazy Jug Point, with its dazzling views of Crazy Jug Canyon and Tapeats Amphitheater. Wildflowers and lavender clusters of desert willow lined miles of roadside, and we encountered an occasional old corral or cabin from days of long ago.

We continued to wind through a series of other forest service roads visiting more lookout points along the canyon rim that are seldom seen by most tourists. Parissawampitts Point, Timp Point and Fire Point. Each offered its own unique view of the Grand Canyon. Eventually we emerged from the forest onto Highway 67 just north of the Grand Canyon National Park entrance, and once again we dodged the deer on Highway 67 as we returned to camp.

For our next day's adventure, we took the paved Cape Royal Road over the Walhalla Plateau, just east of Bright Angel

Point, stopping at each of the lookout points and taking the short walks out to the canyon's rim. Point Imperial, Vista Encantadora, Roosevelt Point, Walhalla Overlook, Angel's Window and Cape Royal are some of the North Rim's most beautiful views. At the Walhalla Overlook be sure you find the Walhalla Ruins across the road, a site used sometime before A.D. 1150 by an ancient Pueblo people.

If you have a high-clearance tow vehicle, take the bumpy, 17-mile dirt road out to Point Sublime. Extending far into the canyon, it offers spectacular views along the North and South Rims, and you will even catch a glimpse of the Colorado River far below. The road leaves Highway 67 about 2.7 miles north of the Grand Canyon Lodge. Look for it on your forest service map. The road isn't always passable, so check at the North Rim Visitor Center before starting out.

The Kaibab Plateau is definitely one of the more beautiful places we've discovered, and we have no doubt you will enjoy it too.

Kaibab Plateau Visitor Center, (928) 643-7298, www.fs.usda.gov/kaibab.

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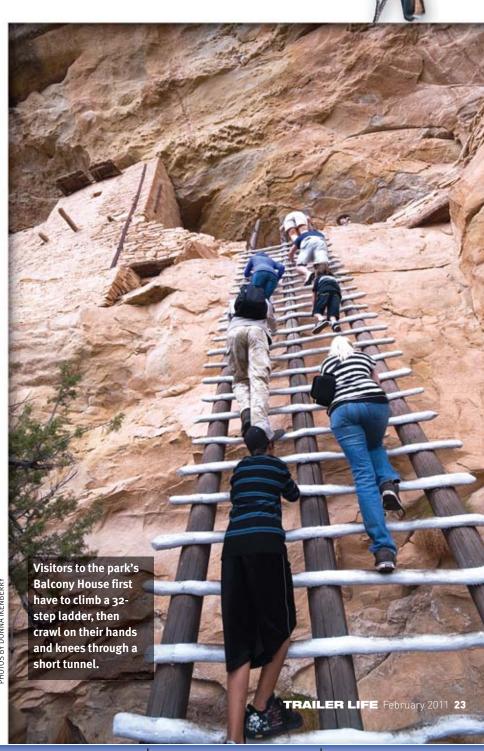
by Donna Ikenberry

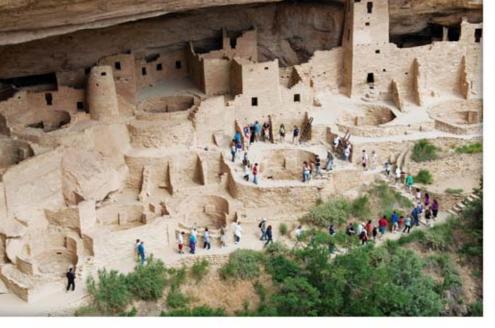
esa Verde National Park is a place that really causes one to think of the past. On a recent visit, I couldn't help wondering about life long ago, when cell phones and iPods were nonexistent. Instead, people communicated via ancient trails they traveled to visit each other. They chatted while they ground corn, and they carved images into rock and painted images as well. Perhaps these were messages passed on from one person to another. Equally intriguing, while we explored the various trails during our recent visit, we thought of the Ancestral Puebloans who used the same plants we were seeing for various medicinal purposes. It was an awesome time to visit and explore, especially because the wildflowers were in bloom.

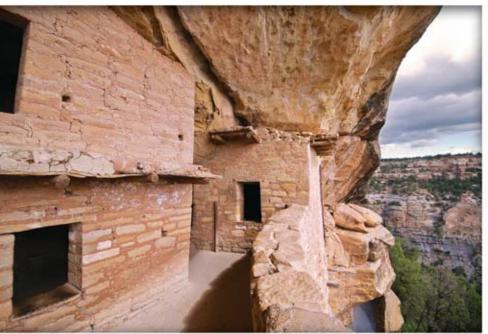
I recommend spending at least a day or two in the park; but if all you have is a few hours, it's better to see a portion of the park than to not see any of it at all.

Mesa Verde (Spanish for "green table") was the first — and still only — national park of its kind. Ranging in elevation from 6,900 feet to 8,572 feet, President Theodore Roosevelt noted the park's worthiness in 1906 by establishing the national park to "preserve the works of man."

The largest archeological preserve in the United States, with some of the most impressive cliff dwellings in the Southwest, Mesa Verde consists of nearly 5,000 known sites dating from A.D. 550 to A.D. 1300. The Ancestral Puebloan people are believed to have lived here for more than 700 years. Living in what







You can get a true bird's-eye view of Cliff Palace from an overlook. Once you make it to the Balcony House, you are rewarded with a lesson in ancient construction techniques. Park Road offers a spectacular view of the cliffs and the San luan mountains.

is now known as the Four Corners region, the Ancestral Puebloans were a group of people who chose to live in Mesa Verde, as well as other local sites such as Chaco Canyon, Canyon de Chelly, and many more. The sites include 600 cliff dwellings and mesa top sites that include pueblos, pithouses, farming structures and masonry towers, as well as more than 3 million associated objects in the research collection. And there are bound to be many other sites yet to be discovered! The 52,000-acre site on the Colorado Plateau is the only U.S. national park devoted entirely to protect man-made artifacts.

The earliest inhabitants of Mesa Verde built and lived in subterranean

pit houses on the mesa tops. By 1000, however, the Ancestral Puebloans had progressed from pole-and-adobe construction to skillful stone masonry. From 1100 through 1300 they advanced even further, to the building of intricate cliff dwellings. (Most of the cliff dwellings were built between 1200 and 1300.) By 1300 the Ancestral Puebloans moved away, leaving everything — their homes, their kivas (pronounced keevahs, it's a Hopi word for "ceremonial room"), their reservoirs, everything. Their reasons for leaving remain a mystery, but some researchers believe it had something to do with drought and overfarming the land. Others argue that internal conflicts and a series of natural events ended the civilization. Currently, researchers believe the Ancestral Puebloans didn't disappear, they just began migrating south into what we now call Arizona and New Mexico.

Today, visitors marvel at such dwellings. Cliff Palace, the largest and most famous dwelling, is a four-story apartment-like complex with 150 rooms, with roofs of the lower buildings forming porches for the dwellings above. A quarter-mile trail leads to the amazing structure and 23 kivas, built beneath the rim of a cliff formed of Cliff House sand-stone. There are many alcoves within the park, but few are large enough to house a dwelling of this size. The population here probably numbered around 100.

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You have to be a little adventurous to visit the Balcony House, for it is accessible via a 32-foot ladder, plus visitors have to crawl on their hands and knees through a short tunnel. Although I didn't see any guests shy away from the short tunnel, many were obviously leery of climbing the ladder. But everyone did it and everyone survived! Billed as the most adventurous cliff-dwelling tour in the park, Balcony House is one of my favorite tours because it "illustrates how room and passageway construction evolved through time."

Long House is open only in the summer from the Sunday of Memorial Day weekend through Labor Day (Monday), but it's worth visiting just to be able to see the second largest dwelling in the park. Excavated between 1959 and 1961 as part of the Wetherill Mesa Archeological Project, it is a must-visit.

The 12-mile drive out to Wetherill Mesa is long, winding and very beautiful. Vehicle length is restricted to 25 feet or less. Open only in summer, the road promises turnouts and overlooks with information kiosks about the natural features and forest fires. At the end of the road you'll find restrooms, a snack bar, an orientation area, a tram-loading area and a shaded area with a ranger to answer questions. You can walk to Step House from this point. It's a self-guided tour and offers evidence of two occupations taking place in one location.

There's evidence of a modified basket maker site dating to A.D. 626, with the remainder and bulk of the alcove containing a masonry pueblo dating to Classic Pueblo times, A.D. 1226.

Take the free tram through recently burned pinyon-juniper forest to various sites including Badger House Community, Kodak House Overlook, Long House Overlook and the Long House and Nordenskiold Site No. 16 trails.

To visit Cliff Palace, Balcony House and Long House you will need to purchase tickets prior to your tour. Tickets are reasonable (\$3 per person for each tour) and available at the Far View Visitor Center from April 10 to October 15. From October 16 to November 12 you'll



need to purchase tickets to Cliff Palace

need to purchase tickets to Cliff Palace at the Chapin Mesa Museum. Although the park is always open, tour times and availability is determined by the season. In winter, the main houses are closed to tours. Spruce House is open year-round. Check the website for specific times and tours. You'll find the standard tours as well as some speciality tours too.

Nearly all Mesa Verde visitors see Spruce Tree House, located near the



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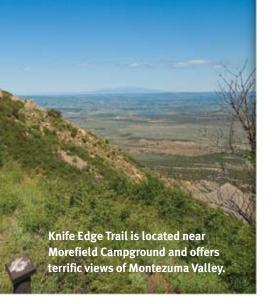


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museum. It's the third largest dwelling in the park. Also the best preserved dwelling, it was constructed between A.D. 1206 and 1280 and discovered in 1888 by two ranchers, Charles Mason and Richard Wetherill, who were searching for their stray cattle. The dwelling contains about 130 rooms and eight kivas, and was built into a natural alcove 216 feet wide and 89 feet deep.

Visit the cliff dwellings and you'll no

doubt begin wondering about the size of the people who lived here. The doorways were not made for those of stature. An average man was about 5 feet 4 inches to 5 feet 5 inches tall, while an average woman was about 4 inches shorter. They were the same size as Europeans of the same time period. The Ancestral Puebloans didn't live long lives. The average life span was 32 to 34 years, however there were some who lived into their 50s and 60s. About half of the children died before they were 5 years old.

Like Ancestral Puebloans, today's visitors can camp in the park — only with a few more amenities. Morefield Campground (www.visitmesaverde.com) offers about 400 sites located amid native Gambel oaks. In the spring, you'll find wildflowers and in the wooded canyons you may find deer and wild turkeys. Several nice trails begin near the campground and offer wildflowers in spring and good views all year. There are 15 full-hookup RV sites (reservations are strongly recommended), 17 group sites

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(reservations appreciated) and nearly 400 dry tent/RV sites (reservations accepted, but not required). Camp fees include access to an RV dumping station and hot showers. The campground is open from early May through early October. Dry tent/RV sites are \$23 plus tax and surcharge and are subject to change. For an additional cost, you can enjoy an all-you-can-eat pancake breakfast at Knife Edge Café. Served from 7 a.m. to 10 a.m., pancakes are available from Memorial Day through Labor Day.

Upon arriving at the park you can drive on your own or you can leave the driving to someone else. If you're interested, check out the Far View Explorer tour. Offered from mid-May through mid-October, adults are \$25, children 11 years and under are \$12.50. The tours are driver-guided and depart the campground at 8:30 a.m. The motor coach transports you to Far View archaeological sites, Mesa Loop overlooks, the museum, and a lunch stop (Grab & Go

picnic lunch included) at the Chapin Mesa picnic area.

The park entrance lies between Cortez and Mancos on U.S. Highway 160. The Far View Visitor Center, open 8 a.m. to 5 p.m. daily, spring through fall, is 15 miles from the park entrance. The Chapin Mesa Archeological Museum, open year-round, is 21 miles from the park entrance. It's a wonderful place to learn more about Mesa Verde and the Ancestral Puebloans. The road is paved. but it's also narrow and has sharp curves and steep grades. The views from the roadway are extraordinary you'll see into four states. Please note, trailers or towed vehicles are not allowed to proceed beyond the Morefield Campground. If you are not camping at the park, you may park your vehicle in the large parking lot located near the entrance station. 🗭

Mesa Verde National Park, (970) 529-4465, www.nps.gov/meve.



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THE SAN ANDREAS

A PILGRIMAGE TO THE INFAMOUS CALIFORNIA RIFT REVEALS MUCH MORE THAN A CRACK IN THE GROUND

by George Glonka



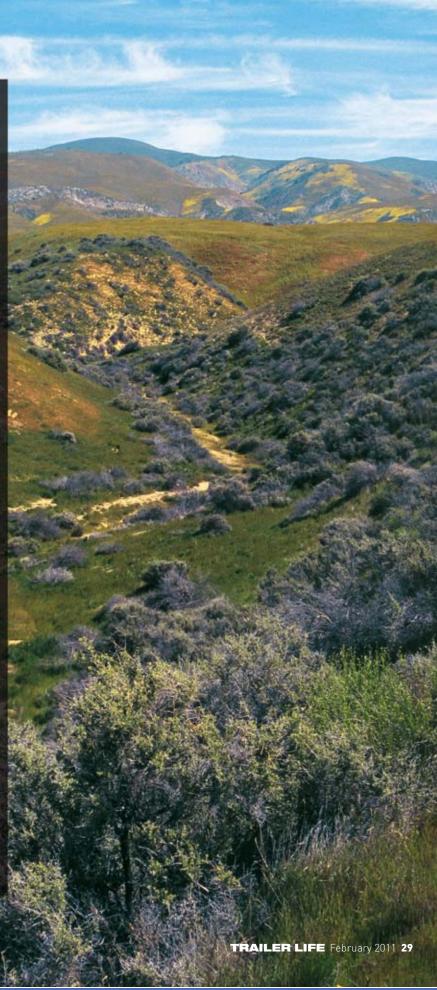
rundle is not a word I often use, yet, I am trundling up and down a rutted path better taken in a Conestoga than a horseless carriage.

Traffic on the trundle path is light. Not so on the Bay Bridge, according to an amazingly clear radio broadcast originating miles to the north. Here, on California's vast Carrizo Plain, the only things lined up bumper to bumper are wildflowers — and not one is tooting its horn.

The impetus to explore the middle of nowhere was a pre-dawn gathering to celebrate the Anniversary of San Francisco's great earthquake and fire of 1906. I just had to view that defining characteristic of California's image, the San Andreas Fault, as it rips the landscape miles from anyplace with a name you would recognize.

Central California's Carrizo Plain National Monument lies at the end of a 240-mile trip south from San Francisco on Highway 101 and another 50-mile drive east on Highway 58, a two-lane path rolling under a bright blue sky crowded with contrails.

PHOTOS BY GEORGE GLONKA



Highway 58 opens into a broad valley, where hints of color mix with roadside scrub, and you know what happens when you begin saying "ooh" and "ahh" — you almost miss the turnoff for Soda Lake Road. Enjoy the pavement under the wheels of your tow vehicle while you can.

After eight miles comes the turnoff for Soda Lake Overlook, where in spring wildflower panoramas stretch from your feet to the horizon. You understand nature's rite of spring will not take a back-seat to any fault, no matter how well-known it may be.

As far as your eyes can see, you'll spy no accustomed services — no gasoline, diesel fuel, food or water. Some stops have toilets, but plan to bring what you need.

Goodwin Education Center (805-475-2131) is four miles farther along Soda Lake Road. The center is open Thursday-Sunday, and closed on holidays. At Goodwin, you'll find information on the local flora and fauna and, of course, the topography. Do your homework and you might be joining a tour of Painted Rock, a Native American treasure. Had I done mine, I'd have learned the fault is best viewed from the air. Alas, I brought no plane.

Rangers answer frequent inquiries regarding the Carrizo's dirt roads, infamous for patches of sand and ruts of varying depths. Such roads can become impassable during rainy seasons. Even when the weather dries out, mud wallows remain, and drivers need to use half-circular detours providing a safer path. Because of this, I'd advise leaving the large trailer behind when making the trip.

Intrepid campers follow Soda Lake Road to Selby Road, a washboard track winding into deep solitude. Graceful raptors soaring on the breeze moving up the Caliente foothills add to the calm. Feel free to pull over on your way to Selby Camp and photograph poppies (seasonal) and lupine growing right up to abandoned outbuildings — just don't park in a mud hole. During my visit to Selby Camp, a single trailer was in residence, a tiny A-liner on its maiden voyage, piloted by David and George, who ventured south from the Bay Area on

Interstate 5, then west over Highway 58.

Surveying the plain toward the Temblor Mountains, I knew two more dirt roads needed to be negotiated today, so I said good-bye and jounced back downhill, unaware I was on the good road.

Simmler Road, linking Soda Lake and Elkhorn Roads, is a forgotten trench from the front lines of World War I. It is where my trundle began.

You don't watch glorious poppies opening as the sun moves overhead; you watch the road. Or you are in the road. If you heed the ranger's instructions to "go around," take your time and pull over where you can, the rewards are singular.

Waves of flowers ebb and flow around the bright white margins of Soda Lake wetlands, an enclosed drainage basin that becomes increasingly white as summer evaporation reduces brine to salt flats. How many pretty pictures can you take; well, how much space is on your camera's memory card, or how much film did you bring? Pack an extra battery for your digital camera, or make sure you can recharge the one you have.

Sheep!

I never expected to encounter pedestrians. Who knew sheep grazed here? But it seemed the sheep knew not to cross in front of a vehicle until the driver made eye contact.

Elkhorn Road resembles a freeway after an expedition on Simmler Road, and Elkhorn's well-packed dirt soon leads to Wallace Creek turnoff and tangible evidence of the San Andreas Fault.

Now afoot, visitors may pick up a brochure near the Interpretive Trail parking lot, after which they are assigned a large, buzzing fly as a guide. Lizards are on trail watch so no one strays from the appointed path.

The power of the fault is demonstrated at Wallace Creek. The usually dry creekbed slopes downhill, makes a 90-degree turn, continues for 420 feet (as of this writing) then makes another 90-degree turn to proceed in its original direction. This offset channel stretches longer than a football field as the upstream side (the North American Plate) moves toward Los Angeles and the downstream side (the Pacific Plate, the Earth's largest) progresses in the other



Clockwise from top: California poppies bloom by the thousands across the Carrizo Plain. Sheep wait until a vehicle has come to a halt, then wander across Simmler Road. A biplane is so light that museum volunteers easily move the still-airworthy plane in and out of the main hangar. A delicious aroma wafts from the smoking barbecue carts in Santa Maria.

direction toward San Francisco.

And where's the fault? It's where the two plates meet. It is a scientific construct. When the scientific construct ruptured a little after 5 a.m. in April 1906, a city fell and burned to the ground, capturing the imagination of the world in the process.

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Before leaving the plain, I found a splotch of pink paint and a crack in bleached asphalt marking Seven Mile Road's crossing of the San Andreas Fault. Just a splotch, as if a gallon of paint fell off the back of a truck, but ahead, what a summary view.

Seven Mile Road descended into the

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plain and, in a scene culled from the classic film "Giant," a lone coupe trailing a cloud of dust was climbing the dirt road toward my vantage point.

I've read that more than 90 percent of California's population inhabits urban areas comprising about 5 percent of the land, and less than 9 percent of the state is developed. The open landscape before me was the rule, not the exception.

With that thought, I followed the coupe out to the yellow-striped road.

CIVILIZATION

Once back on Highway 101, southbound travelers should lay over in Santa Maria. Those northbound from the Los Angeles area can stop in Santa Maria first, then take Highways 33/166 to the southeastern entrance of the Carrizo Plain, although that route will necessitate a long drive on the dirt portion of Soda Lake Road.

Santa Maria Pines Campground (805-928-9534) is nearby and has a colorful swing set campers can frolic on while their laundry tumbles nearby, as well as a handful of new amenities.

The bucolic setting is a perfect base for exploring the city of cowboy hats and pickup trucks. Food options are plentiful, though the hot tip is barbecue on South Broadway, best in summer when parking lot stands are numerous, but you can find a barbecue anytime of year.

Santa Maria's Museum of Flight (www.smmof.org), on Skyway Drive off South Broadway, is the labor of love of two dozen volunteers who come to the hangars adjacent to Santa Maria's airport for camaraderie and to share their experience with visitors.

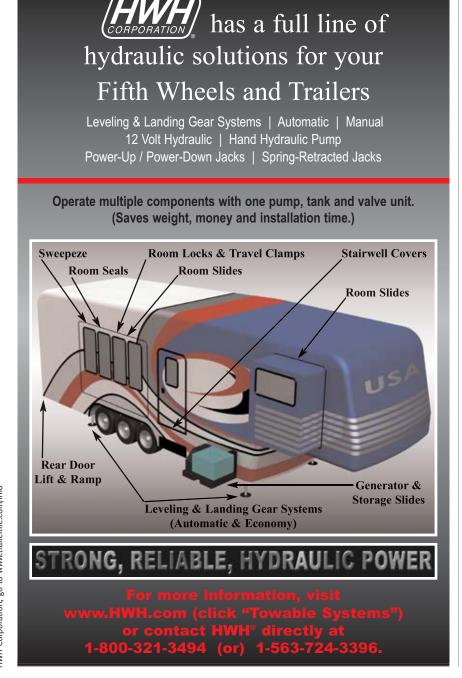
Volunteer Bob Allington explained how P-38 fighter pilots trained nearby before deployment to the Pacific Theater during World War II, and that "The Aviator" movie about Howard Hughes, had filmed scenes at the museum. Donated memorabilia packed all available space.

"Stay all day. Take all the pictures you want," Bob said as he left, allowing me to wander the property. When I returned to the front desk to ask who knew about the local barbecue, another Bob said simply, "Look for the smoke."

Tending his oak wood grill, barbecue chef Targo Salazar estimated his churchsponsored stand on South Broadway would sell 15 cases of chicken, 15 cases of ribs and 20 tri-tips on a typical summer Saturday. The trailer-size grills, marked by billows of smoke, raise funds for activities benefiting the local community.

In the dining tent, I shared fork-tender tri-tip with a dozen contented folks and silently thanked Bob No. 2 for his scouting report. Do you think I could trade an order of barbecue for a flight over the San Andreas in one of the museum's biplanes? It would sure beat trundling. 🗭

California Wildflower Hotline (818) 768-3533, www.theodorepayne.org/hotline. Santa Maria Valley Chamber of Commerce, (800) 331-3779, www.santamaria.com.



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NEW POWERTRAIN TECHNOLOGIES

A LOOK AT THE FUTURE OF MOTORING

by Ken Freund



s you read this, scientists and engineers are working on the future generations of powerplants that will drive our vehicles in the coming decades. Eventually, we'll all probably be required to move about in driverless transportation modules powered by electricity from hydrogen fuel cells, induction or batteries. But in the near term, to paraphrase Mark Twain, the news of the death of internal-combustion engines has been greatly exaggerated.

The four-stroke gasoline engine designed by Nikolaus Otto, and the oil-burning engines named after inventor Rudolph Diesel, continue to offer benefits that often outweigh other com-

peting systems. And with a bit of modern technology thrown in, they'll be with us for quite a few more years. Mileage-boosting technologies such as direct injection for gasoline engines, plus cylinder deactivation, turbochargers, superchargers, special fuels, particulate filters and selective catalytic reduction for diesels have extended the useful lives of these designs.

The overall solution won't come from one magic bullet, but rather from a wide variety of technologies. A study by the National Academy of Sciences (NAS) determined that fuel economy in America could be improved in the near term by switching to more diesel and hybrid powertrains, but their cost may cause gasoline engines to continue to be popular through 2025.

GASOLINE ENGINES



Supercharged Ford V-8 engine

According to the NAS, it costs about \$75 for every 1-percent gain in efficiency from a gasoline engine. Simple stop/ start systems add \$670-\$1,100 per vehicle, but promise only about a 4-percent fuel-economy gain. Gasoline direct injection adds \$230-\$480 per engine, while a turbocharger adds up to \$1,000. Combined, those two items can raise fuel mileage 8-10 percent. Variable valve modulation can boost gas-engine economy 1 to 11 percent at a cost of \$52 to \$760 per engine.

If every known practical fuel-economy tweak — from more-efficient engines and transmissions to lighter weight and friction reduction — are combined, the study concluded that manufacturers could improve mileage of gasoline-powered midsize or large vehicles by almost 30 percent for a cost of about \$2,160 per vehicle at today's prices.

DIESELS

As trailerists know, diesel engines are about 30-plus percent more fuel efficient than gas engines, but at a high initial price. And with current fuel prices, many buyers don't want to pay for the added cost of diesel technology. More efficient diesels are expected to become available between 2011 and 2014.

According to the NAS, with technology already available, automakers could

increase diesel fuel economy another 13 percent. Using the latest upcoming technology would cost about \$5,900 per vehicle and improve efficiency 37.5 percent. Research is under way to reduce internal friction and waste heat and add variable valve timing. A number of companies, including Gale Banks Engineering, are working on extremely high injection pressures and special injectors, along with heating the fuel to get more complete atomization and combustion. Diesels are already running successfully on alternative fuels such as natural gas and LP-gas, and we can expect them to be around for quite a while thanks to improving technology.

HYBRIDS



GM hybrid VVT V-8 engine with cutaway transmission

Hybrids have the advantage of being able to recover energy during braking and downhill descents, which makes them more efficient, but their smaller engines are not well-suited to heavy towing. Currently about 2 percent of U.S. vehicle sales are hybrids. The NAS predicts that full hybrids won't be a significant fraction of the light-duty vehicle market in the next 15 years.

BATTERY POWER

Limited range has always been a challenge for battery-powered vehicles, and it is especially a problem when towing, which rules out electrics for heavy trailers and long distances, unless a major breakthrough in battery technology occurs. Charging time, the ease of finding recharging facilities, the number of recharges possible before batteries need replacement and replacement cost are also major hurdles.

CAFE & ALTERNATIVE FUELS

Corporate average fuel economy (CAFE) for U.S. light vehicles could hit 43 mpg by 2035. A report by the Energy Information Administration (EIA) suggests that fuel prices could increase demand for alternatively powered cars and trucks, such as flex-fuel vehicles (FFVs) and plug-in hybrid electric vehicles (PHEVs), to nearly 50 percent of sales in 25 years. FFVs may account for more than 40 percent of alternatively powered vehicles sold by then and 20 percent of all cars and trucks made. According to Wards data, 10.2 percent of all 2009 modelyear light vehicles produced included a flex-fuel engine, up from 6.9 percent in 2008.

Let's take a look at what some manufacturers are doing to increase power and efficiency of these engines that were invented well over a century ago.

FORD



Ford EcoBoost with turbo

Ford Motor Company recently introduced a new Power Stroke V-8 diesel with the exhaust coming out at the center of the V, which is a significant efficiency breakthrough. Ford has also

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been a large producer of FFVs. Ford just introduced its EcoBoost engines, which are the cornerstone of Ford's near-term strategy. EcoBoost combines direct fuel injection, variable cam timing and turbocharging to reduce fuel consumption, emissions and weight, and deliver performance equivalent to larger-displacement engines.

Ford claims it has competitive trailer-towing performance compared to diesel engines. By 2013 Ford expects to be producing approximately 1.5 million EcoBoost engines globally. Ford currently offers EcoBoost technology on the Ford F-150, Edge, Taurus and Flex, plus the Lincoln MKS and MKT, and has announced future availability on the Ford Explorer.

GENERAL MOTORS



Turbocharger cutaway by GM

General Motors is developing homogeneous charge compression ignition (HCCI) engine technology, which combines some of the advantages of both gasoline and diesel engines. HCCI employs spark ignition during certain driving conditions and compression ignition (like a diesel) during others. HCCI reduces waste heat and is expected to improve mileage about 15 percent over conventional gas engines.

Currently the 2.o-liter Ecotec is General Motors' only direct-injected (DI) turbocharged gasoline engine, but more are expected. GM also announced plans for 18 models with DI gas engines, including the GMC Terrain CUV. Other GM models with DI include the 2010 Buick LaCrosse, Cadillac SRX, Chevy Equinox and Camaro. There's also a new V-6 Duramax engine designed for the 1500 series pickups that may go into production.

CHRYSLER



Jeep Pentastar V-6



Fiat MultiAir cutaway

Chrysler, which is now controlled by Fiat, has received Fiat's Fully Integrated Robitized Engine (FIRE) featuring MultiAir technology. FIRE features four valves per cylinder with Fully Variable Valve Actuation (FVVA), also known as MultiAir, which allows full control of valve lift and

timing. MultiAir is said to boost horsepower up to 10 percent, increase lowend torque 15 percent and reduce fuel consumption and emissions up to 10 percent, compared to similar engines. A turbocharged version of the engine is also planned that may improve mileage up to 25 percent.

MultiAir uses electro-hydraulic variable valve actuators filled with motor oil (from the sump) between the camshaft and each valve. A solenoid valve is energized once every camshaft rotation, regulating the amount of oil that goes to the actuator. Valve opening depends on the quantity of oil going to the actuator, varying from full lift to none at all. Each solenoid can also delay or advance valve opening for best performance at various rpm.

Fiat's 1.4-liter FIRE with MultiAir is the world's first production engine with this technology. Chrysler's new fourcylinder World Gas Engines and Pentastar DOHV V-6 used in the Grand Cherokee (with variable valve timing on both intake and exhaust valves) now have it. MultiAir can be used in other types of engines, including V-8s and diesels; expect to see it in more applications.

NISSAN

Nissan claims to have developed the most fuel-efficient gasoline engine in the world, with its new three-cylinder 1.2-liter, direct-injected supercharged engine. Nissan employed the Miller Cycle, in which the power stroke is enhanced by the compression stroke by delaying closing the intake valves, so that heat energy is converted to kinetic energy more efficiently than with a conventional four-stroke engine.

The supercharger only operates under heavy loads. Using 13:1 compression, the air-fuel mixture is burned more efficiently and combustion-chamber temperatures are controlled by a piston-cooling channel and sodium-filled

valves. Friction is reduced up to 30 percent by using piston rings coated with a diamond-like carbon coating, along with a variable displacement oil pump. If this engine is successful we can expect to see larger versions.

CUMMINS

Biodiesel fuels promise to reduce our dependence on imported oil. Testing found that diesel engines using a blend of biodiesel and ordinary diesel fuel dramatically reduce particulate emissions (soot), but the engines can emit up to 40 percent more harmful oxides of nitrogen (NOx). Researchers from Cummins and Purdue University using a Dodge Ram powered by a 6.7-liter Cummins diesel have developed a closed-loop control system that keeps diesels from emitting more smog-causing NOx when running on biodiesel.

The researchers also developed a closed-loop control system that determines fuel blend. The system identifies

changes in fuel and adjusts injection timing, air-fuel ratio and EGR rates. Biodiesel has 10-12 percent lower energy density than regular diesel fuel, so mileage is lower for biodiesel. Researchers improved combustion efficiency and were able to get better mileage than before, while reducing NOx to conventional diesel levels and maintaining reductions in particulate emissions over ordinary diesel fuel. While researchers focused on sovbased fuels, the approach can also be used for other types of fuels and engines, including advanced lean-burn gasoline engines running on ethanol blends and the method is ready for commercial use.

TRANSMISSIONS

Transmission technology has progressed from single-speed transmissions to the point where six-speeds are common. More ratios are better for mileage, and seven-speed transmis-

sions are already used by some manufacturers. Continuously variable-ratio transmissions (CVT) eliminate pauses between shifts and keep engines in their most efficient rpm ranges. With current technology they can't handle the high torque output of larger diesels and gasoline engines, but look for breakthroughs in CVTs and more ratios in conventional transmission.

FUTURE TECHNOLOGIES

In the future we can expect an increasing mix of alternative fuels, electric vehicles and hybrids, along with more efficient gas and diesel engines. It also seems safe to predict that most vehicles will be downsized with improved aerodynamics and made of lighter, stronger materials, with low-friction tires to optimize mileage. The needs of the commercial-trucking industry should help keep vehicles with high tow ratings available for the foreseeable future, along with amazing improvements in efficiency.



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NEW PERFORMANCE REQUIREMENTS FOR **DETERMINING TOW-VEHICLE GCWR AND TRAILER** WEIGHT RATINGS ARE MEANT TO HELP LEVEL THE TOW-VEHICLE-RATINGS PLAYING FIELD

by Stuart Bourdon

hen consumers compare tow vehicles it's generally an applesto-oranges situation, as most manufacturers use their own methods to determine the vehicle's tow-weight rating. That may change soon if a new set of recommendations from the Society of Automotive Engineers (SAE) is adopted by all manufacturers. The standard establishes minimum performance criteria for the gross combination weight rating (gcwr) and calculation methodology to de-

rated to tow 12,000-pounds might perform differently with identical trailers. The new SAE protocols are designed to level the playing field, so, finally, consumers will be comparing apples to apples.

WHAT DOES SAE STANDARD J2807 DO?

The recommendation establishes tow-vehicle performance requirements for combination-vehicle (truck and trailer) acceleration, grade-climbing ability, understeer, trailer-sway response, braking and park brake at gcwr, and tow-vehicle



hitch/attachment structure at twr.

There are different requirements based on vehicle gvwr, but the following are some of the highlights.

TOW-VEHICLE REQUIREMENTS

It must take into account a 150-pound driver and 150-pound passenger, plus any necessary trailering equipment if not already included. In addition, if there is a vehicle drivetrain, cab configuration, or chassis that yields a lower twr based on the testing requirements, the manufacturer must test with that setup.

In a case where there is more than one axle ratio or tire size available with no change in gcwr, the combination producing the lowest numerical final-drive ratio must be tested.

If there is an optional cooling system that is not required to attain the gcwr, the tow vehicle should not be equipped with that equipment.

Manufacturers still have the option of using analytical methods to confirm conformance to the new SAE J2807 requirements. However, physical test results — whenever

available — supersede the analytical method results.

There are structural requirements as well. The tow vehicle frame, body sheet metal, trailer hitch or hitch receiver, rear bumper and/or any other structure intended to react to trailering loads must be capable of handling the forces encountered while trailering at the gcwr.

Arizona SR 68, which is a grade heading eastward away from Davis Dam on the Colorado River, is the test course used to determine the ratings. Again, here are some of the highlights of that test.

The highway-grade climbing ability test is accomplished by running Arizona SR 68, or a simulated dynamic grade in a climatic wind tunnel. The posted speed limit changes from 45 mph to 55 mph, and then to 65 mph.

PHYSICAL TESTS

For the physical tests, ideally, the vehicle is loaded to gvwr, the rear axle is at the gawr, and the trailer is at the twr (with 10 percent of the trailer weight on the A-frame).

The physical tests (except for the smallest trailers) must be conducted with an enclosed box trailer (typical enclosed trailer, but front must be flat for the propulsion testing) that is properly loaded to the gcwr.

The minimum temperature at the base of the grade is 100° F. The air conditioning should be set at maximum cold, outside air vent open, fan on maximum. The vehicle must go 40 mph or faster.

It must maintain 40 mph or greater and not overheat, lose fluid, or experience any type of failure or malfunction.

The Level Road acceleration test requirements are:

0-30 mph in 12 seconds

o-60 mph in 30 seconds

40-60 mph in 18 seconds.

The vehicle must be able to launch on a 12-percent grade both forward and reverse (only 16 feet), and it must perform this five times in five minutes.

HANDLING AND BRAKING PERFORMANCE

Hitch-mounted sway control devices should not be used while testing. When used, a weight-distributing hitch should consist of one or two spring bars with a chain at the trailer end. No other mechanisms may be used to increase friction or articulation stiffness.

There is also a specification for the amount of trailer sway (or yaw) that is acceptable, and this is conducted at 62 mph.

The tests are to be run without the use of trailer brakes. The braking-stability test is that it must remain in an 11.5-foot lane throughout a stop from 80 mph. Trailers heavier

than 3,000 pounds must stop in 80 feet or less from a 20-mph start. And finally, parking-brake performance is tested on 12-percent grade facing both up and down the grade.

2013 COMPLIANCE DATE

As we stated earlier, some manufacturers have already complied with SAE J2807. Toyota is one of them, and as a result some of its vehicles' tow ratings were reduced. However, the Toyota Tundra Double Cab in its current model year form can still tow up to 9,800 pounds. And the 4Runner was the first of the company's vehicles to undergo J2807 reassessment and is still rated at 5,000 pounds, standing as an example for others to follow in its class.

We contacted some of the other major manufacturers about their vehi-

cles and how compliance to the new SAE J2807 standards might affect current ratings. As of this report filling, we heard back from only General Motors. Brian Goebel at Chevrolet Communications told us, "GM's full-size pickups have been using trailering performance requirements similar to those of SAE J2807 for many years and is confident its products will meet or exceed the J2807 requirements." GM plans to adopt the J2807 requirements on schedule, as suggested, as of the 2013 model year.

New vehicle shoppers will gain confidence and benefit from the adoption of the SAE J2807 trailering requirement standard. Knowing that the vehicles they are comparing are all J2807-rated vehicles will make it possible to compare apples to apples and help eliminate much of the hype that has clouded the tow-vehicle buying experience over the years.



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POWER AIDS

For the popular GM Duramax turbodiesel engine, advanced Flow engineering (aFe) developed its new Bladerunner Turbo Inlet Manifold (\$261) that is said to increase airflow to the turbo, producing 23 lb-ft of additional torque. Also from aFe comes a new Bladerunner Intercooler (\$1,465) for the Ford 6.4-liter Power Stroke turbodiesel. The Bladerunner Intercooler is designed to outflow the factory intercooler by up to 74 percent and reduce intercooler temperatures by as much as 200° F and exhaust gas temperatures (EGTs) by up to 100° F.

advanced Flow engineering, (951) 493-7100, www.afepower.com.

Airaid introduced its MXP Cold Air Intake System
(\$420) for the 1994 to 2002 Cummins
5.9-liter turbodiesel. It features a full
6-inch-venturi intake and a one-piece
CAD-designed air box with an aluminum heat
shield to keep the air charge inside the box cool. The
more cool air comes in, the richer the mixture gets, which
results in more engine power.

Airaid, (800) 498-6951, www.airaid.com.

Banks' new Ram-Air Intake System (around \$359) for the 2011 Ford 6.7-liter Power Stroke is said to keep the intake air up to 26-percent cooler than stock and help generate greater power and better fuel efficiency. The giant lifetime filter flows more freely than the factory's highly dense paper filter, and the aerodynamic shape eliminates restrictions. One of the system's finest points is easy access, removal, cleaning and re-installation as compared to the factory setup.

Banks Power, (888) 294-5231, www.bankspower.com.

BD Diesel Performance displayed its new 6.o-liter
Turbo Thruster II/Diverter Valve turbo (\$2,965). It's
designed as a replacement for the stock
Ford 2003-2007 6.o-liter Power Stroke

Ford 2003-2007 6.0-liter Power Stroke variable-geometry turbocharger and offers much improved performance over the factory unit. BD also introduced its 7.3-liter Turbo Thruster II (\$1,395) replacement turbo for the Ford 1999.5-2003 7.3-liter Power Strokes

that is designed to provide a 40-percent up-tick in airflow.

BD Diesel Performance, (800) 887-5030, www.dieselperformance.com.

Bully Dog offers a line of RFI Cold Air Intake systems, and the recently released product for 2009-10 5.4-liter Ford F-150 engines is said to add 10-plus hp and 20-plus lb-ft of torque. The Ford F-150 5.4-liter Kit No. 51200 (\$340) is made from a cross-link polyethylene and is designed to insulate from engine heat and keep the intake

air cool. Among its many features are precision MAF sensor mounts, a high-flow reusable cotton gauze filter and an easily removable lid for filter maintenance.

Bully Dog Technologies, (877) 285-5936, www.bullydog.com.

MBRP jumped into the fray with its ultra-cool looking set of diesel intercooler pipes (\$261) for the popular 2004.5 through 2007 Duramax engines. The pipes feature an increased cross-sectional area for restriction-free airflow, and will give you lower EGTs for improved fuel efficiency and more power. MBRP is also making pipes for other applications.

MBRP Inc., (888) 636-7223, www.mbrpautomotive.com.

Eco-friendly Ground Force Green Filters are made of premium woven cotton and non-layered gauze, so they don't break up or peel apart over time or with washings, and the mesh is steel rather than aluminum for greater durability. The oil used on them is a lightweight synthetic that's better for mass air sensors and temperature sensors than those using petroleum-based oils, according to the company. The filters are available for the new Duramax 6.6-liter (\$118) and Power Stroke 6.7-liter (\$123) turbodiesels. Ground Force, (724) 430-2050, www.greenfilterusa.com.

The new Superchips Vivid uses Google's Android 2.2 operating system and the new ARCHOSTM 4.3-inch Internet tablet screen to deliver its engine-tuning system, as well as other features such as additional gauges, entertainment, Web access, GPS and view of a back-up camera. As of this report final pricing had not been set, but we were told that it should be between \$500 and \$600.

Superchips Inc., (407) 585-7000, www.superchips.com.

Edge Products' new CS (Color Screen) and CTS (Color Touch Screen) systems are complete in-cab controller, monitor and digital gauge displays. Our favorite was the CTS (starting at \$399), which features a 4.3-inch touch screen with access to and control of performance programming, vehicle vitals monitoring, performance testing and vehicle diagnostic modes. Both models offer a rear-view camera.

Edge Products, (888) 360-3343, www.edgeproducts.com.

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SUSPENSION MODS



Products has delivered a Ride-Rite rear-coil to air-bag conversion system for the 2009-2011 Dodge Ram pickup in an easy-to-🖈 install, no-drill

\$1,599 and features everything you need, including the air storage tank, air pump and all the electronics, and it replaces the coil rear springs with air-bag springs. It kneels and levels the truck, and improves its ride and handling performance, especially in towing and load-carrying situations.

Firestone Industrial Products, (800) 888-0650, www.ride-rite.com.



Chassis Tech showed off its bolt-on, heavy-duty rear four-link suspension kit for the Ford Super Duty F-450 application (\$2,095) that increases load capacity and improves ride and handling control. The Chassis Tech links, brackets and hardware are super-beefy, and the kit installs in a matter of hours. Similar Chassis Tech tow kits are available for the entire Ford Super Duty series, as well as Chevy HD and Dodge HD pickups.

Chassis Tech, (800) 842-8789, www.airbagit.com.

Hellwig Products introduced a heavy-duty air-spring kit for the tail end of the Ford Super Duty trucks (F-250/350 only) and put it on display this year at SEMA. This kit (\$596) features the largest air spring in its class, according to Hellwig, and the heavy-duty powdercoated brackets are easily assembled and installed. The kit provides increased handling stability and load-carrying capability, while delivering better overall ride quality.

Hellwig Products Company, (800) 367-5480, www.hellwigproducts.com.



HITCHED UP



Curt Manufacturing introduced its new 20,000-pound capacity Q5 fiver hitch (price N/A). The Q5 - rated at 5,000 pounds pinweight capacity — features a spherical axial bearing that is said to ensure safer, smoother towing. Its positive locking dual-jaw system offers 360-degree pin contact, and lock indicators for peace of mind while hitching.

Curt Manufacturing, (877) 287-8634, www.curtmfg.com.



towing. It uses the Reese-patented system to pop the tow ball in and out of its slot in the hitch cradle that is permanently mounted just beneath the floor of the truck bed, and the fifth-wheel saddle can be switched in and out in a matter of minutes, too. It's available now for GM and Ford pickups; as of this report, product for Dodge was soon to come.

Cequent Performance Products, (745) 656-3010, www.cequentgroup.com. 🖷

ide-open spaces are synonymous with RVing. Getting outdoors and going off the beaten path to your favorite camping spot — or even to a posh RV resort, to an extent — means appreciating your vast surroundings, without the sense that the walls are closing in.

It's that feeling of freedom that KZRV has tried to duplicate with the floorplan of the Spree 323CSS.

The Spree features two streetside slides — one in the living area and one in the bedroom. It's the slide in the living area that really opens things up, creating the feeling of an even larger floorplan than the lightweight Spree's 32-plus-feet actually offers.

The rear door opens up to the living area, which begins with two comfy chairs separated by a small magazine table. This type of seating arrangement is generally reserved for larger fifthwheels, and the picture window on the back wall further evokes the feeling of a fiver layout.

The slide contains a sofa bed (with air mattress, \$690) and a dinette, offering comfortable sleeping for up to four guests. Entertainment for all is provided by a 26-inch LCD TV (\$690), which could almost be considered a tad small due to the seemingly far-away seating in the rear chairs.

Of course, TV isn't the only indoor game in town, and the Spree's airy living area offers plenty of room for hosting a

gathering, socializing, playing board games with the family or even an impromptu Twister match.

The L-shape countertop in the kitchen ensures the host has ample room for food prep; with the ability to comfortably accommodate several adults and children, you're going to need it.

The requisite three-burner stove, microwave and refrigerator handle food duties. One interesting feature in the galley is the adjustable shelving in the pantry. The shelf supports are simple plastic arms at varying heights throughout the cabinet, so the shelves can easily be moved up or down depending on the size of your kitchen staples.

The bathroom is located amidships, with the "open" theme continuing in a



QUICK INFO

EXT LENGTH: 32' 4"
EXT WIDTH: 8'
EXT HEIGHT: 10' 10"
INT HEIGHT: 6' 6"
FRESHWATER CAP: 40 gal

BLACK-/GRAY-WATER CAP: 32 gal/32 gal

LP-GAS CAP: 15 gal HITCH WEIGHT: 888 lb UVW: 6,515 lb GVWR: 7,900 lb MSRP: Starts at \$28,965



non-cluttered area. Above the toilet is a doorless oval opening used as a clothes hamper, which is a neat space-saving idea so long as you don't mind being that close to yesterday's dirty socks. The shower is spacious around, but headroom is limited for taller RVers.

The second streetside slide actually begins in the bathroom area and contains a cavernous linen closet, as well as the bedroom dresser. A sliding door separates the lavy from the bedroom.

The bedroom features dual nightstands and storage cabinets, and is perhaps the only part of the trailer that isn't completely wide open (the manufacturer had to give somewhere). A leather-type headboard is attached to the wall, an idea that works nicely. The queen bed itself is comfortable enough, and below is a large storage area that's accessible via an exterior cabinet. The weather was SoCal cold (50-60° F) during our evaluation, but no drafts were apparent from beneath the bed, which is a testament to the trailer's flex foil insulation (\$455). The second entry door, which opens directly into the bedroom, likewise showed signs of good insulation.

The test Spree was equipped with the LX Package, which includes aesthetic enhancers such as aluminum wheels and a raised-panel reefer door, in addition to a fiberglass front cap (which helps justify the \$1,885 price tag) and assist grab handle.

With the Spree, KZ has created a free-flowing, open floorplan by utilizing dual slides to open up the living area. Plus, the numerous windows throughout lend a bright and airy feel. And, with enough room to handle a campground Super Bowl party, it's easy to envision all that wide-open space being filled by friends and family.

KZRV LP, (866) 472-5460, www.kz-rv.com.



ROADSIDE FLASH -->

Whether you're an RVer who enjoys weekend holiday escapes from the workday grind or a retired full-timer touring the tarmac, unexpected pitfalls should never be met without serious prior planning.

Advanced preparation includes, among other things, making sure the spare tire has air in it, you have a working jack and, if you are really ready for roadside maladies, a pack of safety flares. Even in the brightness of the noon-day sun, I've felt much more secure when pulled off to the side of the road changing a tire or analyzing a mechanical breakdown if I could lay out a few safety flares to alert oncoming traffic of our vulnerability to danger. This need is especially magnified at dusk or dawn.

Roadside Safety Supply has taken the basic premise of the foul-smelling, strike-and-light flammable roadside protection device to a technologically advanced level by creating a fully contained package that provides a more durable, safer and longer-lasting alert system. The Duro Flash LED system consists of six flares, a standard wall outlet (AC) adapter, a car lighter (DC) adapter and a rugged carrying case with built-in charger and keyed-latch closure. The system is designed to keep your disabled RV visible for hours on end, which is a critical issue because exposing yourself to traffic by having to replace the old-style flares as they burn out is an unsafe practice.

Those old-school strike-and-light flares might produce a brilliant light, but they also produce a lot of noxious smoke and can be a potential fire danger to surrounding vegetation or leaking fluids. Plus, they last only about 15 to 30 minutes each. The Duro Flash LED system, on the other hand, is rechargeable, plugging into a 12-volt DC in-dash wiring system (so you can recharge while you drive) or a residential 120-volt AC



HANDSOR

by Preston Gratiot

outlet, to bring them back to full charge while connected to campsite power.

This electronic safety system comes with six flashing units that utilize ultrabright LED elements producing 15,000 mcd (millicandela) of illumination per LED (10 LEDs per unit with five per side). You simply arrange each unit behind your disabled RV. They are easily visible from nearly a mile away — flashing approximately 120 times per minute in each direction — and will continue flashing for hours on end. Plus, these durable units are rated to survive 10 tons of weight and can even handle being run over by a truck (I tried it) without damage.

We compared the cost for a one-hour burn of six old-school flares (20-minute flares costing about \$1.80 each). They ran about \$32 total in our test; however, they must be stored in a cool, dry space and replaced over time to ensure reliable operation when an emergency situation arises. The \$199 purchase price for the Duro Flash system may seem a bit steep, but these electronic units will last for at least four hours per charge, they can be recharged over and over so you shouldn't have to buy flares again, they are safer and more convenient and they're rated water-resistant to a depth of 15 feet — all of which ensure roadside safety in just about any condition, and all of which, we believe, warrant the heftier price tag.

Roadside Safety Supply, (909) 598-6361, www.roadsidesafetysupply.com.



BANKS BIGHOSS SYSTEM

A WELL-DESIGNED APPROACH TO INCREASED POWER

by Ken Freund

ickup manufacturers have steadily increased power outputs of their engines for decades, but al-

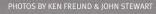
most everyone who tows a heavy trailer still seems to want increased torque and horsepower. You can increase power by simply downloading a new program into the computer that just raises boost and timing and sprays more fuel into the engine as some other aftermarket kits do. This method offers extra power, and for trucks that are only driven solo—with short bursts of passing power lasting a few seconds—you might be able to get away with it. But for

trucks that do heavy-duty towing on long grades in hot weather, sooner or later this will cause an internal meltdown, as combustion temperatures soar beyond safe levels. Therefore, a well-engineered and thoroughly tested system approach is the way to get improved power with reliability from modern high-tech vehicles.

Just installing a few parts that weren't engineered to work in unison simply doesn't cut it anymore. You need to reduce the temperature of incoming compressed air and reduce backpressure to further allow the engine to breathe freely and keep temperatures under control. We recently tried out a system called Big Hoss Bundle for Duramax applications by

Gale Banks Engineering that's carefully





designed and tested for turbodiesel engines with common-rail injection. It's engineered to boost performance solo and when towing, which is an important distinction.

WHAT IS IT?

The Big Hoss combines Banks' freerbreathing intake and exhaust upgrades, along with an electronic diesel tuner. With this system, Banks reports gains of 130 hp and 244 lb-ft of torque at the rear wheels, while staying within recommended internal temperature limits. Banks' Big Hoss does this by maximizing engine efficiency to deliver constant-duty power and keep exhaust gas temperatures (EGT) in check. All the components in the Big Hoss Bundle are engineered to work together to maximize your truck engine's power, efficiency and durability. Big Hoss protects your investment by staying within the limits of your engine and drivetrain, so your truck will run stronger and last longer.

Starting at the front, the kit consists of a Super Scoop, Ram-Air, Techni-Cooler Intercooler, Monster exhaust and Six Gun tuning software to take advantage of improvements in airflow. This is all monitored and controlled by Banks' IQ Dashboard PC, which allows you to operate the tuner and Speedbrake (which improves brake function), plus view vital temperatures and much more. There's even a dedicated "tow-safe" range of power settings.

The Super-Scoop fresh-air intake picks up cooler, denser air outside of the engine compartment with an opening below the front bumper. It's designed to reject debris and rainwater and a large reusable pleated filter in the Ram-Air intake system removes dirt and dust particles, while a lower-restriction duct routes air to the engine.

The Duramax comes with an intercooler, which helps reduce air temperature after the turbocharger compresses it, but Banks' testing found it to be too small and restrictive. Banks' Techni-Cooler intercooler was designed on the flow bench and is 25 percent thicker with 28 percent greater depth and 36 percent greater volume. It fits directly into the stock location and provides 29 percent more cooling capacity, while its



The Big Hoss kit we tried out had the optional dual exhaust, which splits just forward of the rear axle.

all-aluminum design is far more durable than the stock plastic end caps.

The Monster exhaust is said to increase flow by 80 percent and reduces backpressure with a 4-inch pipe from the diesel particulate filter (DPF) rearward. The test truck had the optional dual rear exhaust section, but all kits come with specially designed Cool Cuffs, which cool the exhaust gasses before they exit — especially important because of DPF regeneration cycles. The system retains the DPF and is designed to pass diesel smog tests that are being introduced.

INSTALLATION & TESTING

The Big Hoss system was installed on a 2007 Chevrolet Siverado 2500HD Crew Cab powered by a Duramax LTZ turbodiesel engine. The truck was first tested in stock condition for a baseline of comparison, using a Mustang chassis dynamometer to measure rear-wheel torque and horsepower. Then two technicians working together spent about four hours on the complete installation. All the needed parts were in the kit and everything fit properly. After that, the truck was tested again on the chassis dynamometer, and the results were excellent. Each test was done three times to check consistency and the best stock and modified runs were used.

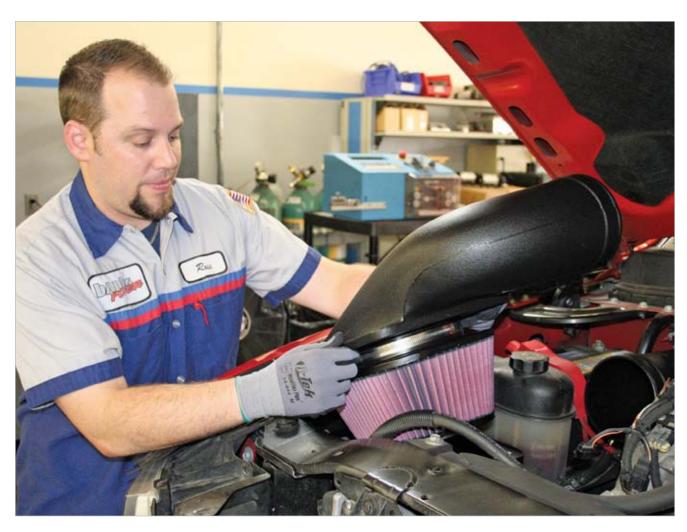
We test drove the pickup with a large

HORSEPOWER								
RPM	Stock	Banks	Gain	%				
2,300	246.2	Tire Slip	N/A					
2,400	249.5	Tire Slip	N/A					
2,500	256.4	Tire Slip	N/A					
2,600	257.9	Tire Slip	N/A					
2,700	264.3	393.3	129.0	48.8				
2,800	269.8	395.0	125.2	46.4				
2,900	279.6	404.2	124.6	44.6				
3,000	289.9	405.3	115.4	39.8				
3,100	300.4	418.0	117.6	39.1				

TORQUE								
RPM	Stock	%						
2,300	562.3	Tire Slip	N/A					
2,400	546.0	Tire Slip	N/A					
2,500	538.6	Tire Slip	N/A					
2,600	520.9	Tire Slip	N/A					
2,700	514.0	765.0	251.0	48.8				
2,800	506.0	741.0	235.0	46.4				
2,900	506.3	732.0	225.7	44.6				
3,000	507.5	709.6	202.1	39.8				
3,100	508.9	708.1	199.2	39.1				

Peter Treydte, Banks' Test Group Manager explained: "The sweep tests that were done go much faster than our normal step testing, but they are also prone to tire slip, especially with more power, so we are limited in the lower rpm range. For this test, we only have comparative data from 2,700 to 3,100 rpm, but the trends are clear and closely match the original step-test data."

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The o-6o and 4o-6o mph times improved as follows (the data is the average of three runs):

7,400 LBS (SOLO)

STOCK 0-60 MPH: 8.02 sec **BANKS 0-60 MPH:** 6.92 sec **GAIN:** 1.10 sec (13.7%) **STOCK 40-60 MPH:** 3.93 sec **BANKS 40-60 MPH:** 3.05 sec **GAIN:** 0.88 sec (22.5%)

18,500 LBS (TOWING)

STOCK 0-60 MPH: 18.52 sec **BANKS 0-60 MPH:** 14.48 sec **GAIN:** 4.04 sec (21.8%) **STOCK 40-60 MPH:** 9.72 sec **BANKS 40-60 MPH:** 6.90 sec **GAIN:** 2.82 sec (29.0%)

travel trailer in tow and were very favorably impressed by the truck with the Banks Big Hoss installed. Curb weight of the truck is 7,400 pounds and the combination weight with the trailer is 18,500 pounds. The truck pulls strongly and



The Big Hoss kit comes with everything needed for a complete installation.

smoothly throughout its rpm range with no glitches or drivability problems. Turbo lag is reduced and the truck feels very responsive and powerful. There's no droning or annoying resonance from the exhaust and sound levels are well-controlled. Thanks to the increased airflow, exhaust smoke didn't increase and the truck operates like stock only feels much more powerful. The IQ controller is amazingly versatile and now has

A Banks technician installs the Super Scoop intake with air filter.

added features that include fuel economy and cost computations, GPS navigation, elevation and gradients.

The Banks system proved to be well engineered, the components all appear to be made better than stock items, and everything worked as claimed in conjunction with each other. Suggested retail price for the Big Hoss Bundle with single exhaust for the 2007-10 Chevy/GMC 6.6L LMM is \$3,267. The Big Hoss Bundle we tested with dual exhaust retails for \$3,527, plus installation. If you intend to do a lot of heavy towing we also suggest installing the Banks Billet Torque Converter, which replaces the weakest link in the powertrain. A converter failure can ruin the transmission as well, so it's good insurance. 🗭

Gale Banks Engineering, (800) 601-8072, www.bankspower.com.

PERFORMANCE CORNER

••••

by Ken Freund

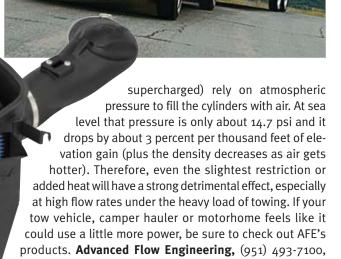
ADVANCED FLOW ENGINEERING

To paraphrase an old saying, what goes in must come out. Advanced Flow Engineering (aFe) had some interesting products on display at the 2010 Specialty Equipment Marketing Association (SEMA) Show in Las Vegas that help engines do just that; increase airflow and therefore volumetric efficiency (see page 40 for more info, including a spotlight on aFe's Bladerunne Turbo Inlet



Founded in April 1999, aFe now has a wide variety of performance-enhancing products including cold-air intakes, intercoolers, charged-air manifolds, throttle-body spacers, low-restriction exhausts and filters. One of the things that make this company stand out is the fact that it offers products not only for the most popular turbodiesel pickups, but also for gasoline-powered models, imports and SUVS. I found items for models such as Nissan, Toyota, Mazda and Dakota pickups, plus Jeep, Hummer, Explorer, Durango, Infiniti and Escalade SUVs, in addition to the usual GM, Ford and Dodge full-size pickups.

Intakes are an often-overlooked area to gain performance. Engines are basically air pumps, and anything you can do to make it easy to get air in, through, and then out again should help improve the engine's ability to breathe and make power. Naturally aspirated engines (those that aren't turbocharged or



LEGISLATIVE NEWS

www.afepower.com.

FUEL-EFFICIENCY REGULATIONS FOR TRUCKS

The U.S. Transportation Department and Environmental Protection Agency (EPA) has announced a proposal to establish new fuel-economy and emissions standards for trucks. Heavy-duty pickups and large vans with more than 8,600 pounds gross vehicle weight rating (gvwr) would be required to meet separate gasoline and diesel standards that would be phased in beginning in 2014. Gasoline-fueled trucks would have to meet a 10 percent reduction in emissions and fuel consumption, while diesel-powered trucks would be required to meet a 15-percent reduction.

SUIT FILED AGAINST E15 FUEL

In an effort to overturn the EPA's plan to permit higher levels of ethanol in gasoline, several food-trade associations have jointly filed a lawsuit with the U.S. Court of Appeals for the District of Columbia Circuit. The groups, which have support from oil and gas companies, object to the EPA's decision to approve E15, a blend of 15 percent ethanol with 85 percent gasoline. One of its concerns is that diverting more corn to fuel use will result in higher food prices. Currently, most gasoline in the United States is blended with 10 percent ethanol, and E15 could be harmful, especially in older vehicles. Auto manufacturers are also concerned about warranties on vehicles using E15 and say the higher blends need more testing. Proponents say increasing ethanol content would create farm jobs and lessen reliance on foreign crude oil.

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HOOKLESS HANGERS *

Find yourself competing over closet space in the trailer with your significant other? With Hookless Hangers, you can create a closet just about anywhere. Instead of metal hooks, the hangers have strong magnets that allow them to attach to any magnetic surface, or you can use their "closet strip," a powder-coated metal strip, to create a magnetic surface anywhere you have space. In addition to regular hangers they also make pant hangers and coat hangers. You can also save space in your existing closet by eliminating the 6 inches of vertical space taken up by metal hanger hooks. A set of 10 natural or walnut hookless shirt hangers has an msrp of \$29.66.

For more information, call (806) 853-7211 or visit www.hooklesshangers.com.

PRODUCTS

WHAT'S NEW

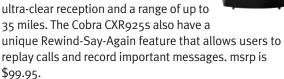
OVERHEAD PROTECTION &

Anyone who's ever scraped the bottom of a bridge or overpass due to vertical clearance not being displayed or being mismarked knows how expensive it can be to repair the RV's damage. The GiraffeG4 overhead protection system uses waterproof sound technology to measure overhead hazards up to 16 feet and displays the height on an in-cab driver-programmable readout. Since the driver can program the highest point on the RV into the device, the system will warn the driver when a collision is about to occur. It mounts to the tow vehicle's rear-view mirrors, so you can slowly move the truck under a potential hazard but still have enough time to stop the fifth-wheel or trailer from moving under it. msrp is \$189.95 and the magnetic adapter for RVs is \$19.95.



POWERFUL WALKIE-TALKIES

When you're about to embark on some off-road, off-the-grid fun, it's a good idea to pack along a pair of two-way radios for you and your companion for safety, also because they're cool! Cobra's CXR925 model has a built-in NOAA radio receiver and contains the maximum power allowed by law with lithium-ion batteries that are the highest capacity in the industry. Feel more secure during a storm or emergency with the knowledge that your radios provide



For more information, call (773) 889-3087 or visit www.cobra.com.

continued on page 60

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Advice from our **Tech Team**

FIFTH-WHEEL JERK

I have a 2007 GMC 2500HD diesel with the Allison transmission. I tow a 31-foot Sydney Outback fifth-wheel. When I go around a curve, either left or right, I feel a sudden jolt in the truck. It is almost like the trailer is shifting to the right or left, depending on the curve's direction. I have looked at the suspension to see if anything is loose. Everything appears to be tight. Do you have any ideas of what this can be?

Ed Genest, Julian, California

This could be a matter of worn hardware or brake adjustment. First, you didn't say if this happens every time you deviate from a straight-ahead route, such as when you drive through a broad curve on a state highway or freeway, or just when you make a sharp corner when driving in town, for example. The in-town scenario has a couple of possibilities, while the freeway-type turn could be a puzzler.

Every fifth-wheel hitch has some free play between its parts, including the hitch pin and latch; the head-mounting cradle and the base; the pivot-mechanism parts, if so equipped; and sometimes, the base and its truck-bed mounting points. Your kingpin, or the latch mechanism on your hitch, could be somewhat worn and allowing more "slop," or free play, than usual. You can check for this by having someone else drive your truck around corners, braking and accelerating, while you watch the hitch assembly. Pay special attention to the trailer pin-box to hitch-head interface to see if there's any apparent movement between the parts during these maneuvers. Even a small shift can cause the jolt you feel. If you see excess movement, have the hardware inspected by a qualified hitch shop and repaired as needed.



Your hitch pin, or the latch mechanism on your hitch, could be somewhat worn and allowing more 'slop,' or free play, than usual.

I'd also suspect your trailer-brake adjustment. If it's too lean, and doesn't apply as fast as the truck, it's going to "push the truck" until its brakes catch up, then it pulls back and causes the jolt. That could be caused by the inertial sensor rolling the trailer brakes up too slowly. A review of your brake-controller instruc-



To send your questions to *RV Clinic*, write to 2575 Vista Del Mar, Ventura, CA 93001; or e-mail jjohnston@affinitygroup.com or freund@affinitygroup.com. No phone calls.

tions may help, or have a shop do the adjustment for you, and it may reduce or eliminate the jolt you feel.—**Jeff Johnston**

MAXIMUM TRANSMISSION TEMPERATURE

In the August 2010 RV Clinic there is a submission about transmission-temperature readouts. We have a 2009 Chevy Silverado that came with a digital readout for the transmission temperature. The manual does not give the maximum temperature for when you should pull over and let it cool. So, I called the factory number in the manual, and the representatives did not know. At what temperature should I pull over and stop?

Howard Davis, Lumberton, Texas

General Motors' in-house towing expert provided me with this statement: The maximum allowable automatic-transmission fluid temperature is dictated by the

www.trailerlife.com

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rogress Manufacturing, Inc., go to www.trailerlife.com/info

transmission oil itself. The oil begins to degrade significantly above 270° F, so we design vehicles so that in all but the most extreme conditions, the fluid temperature in the transmission sump stays below 270° F. We allow for up to 285° F in extreme conditions (i.e., towing a trailer with combination loaded at gcwr in Death Valley). But for customer usage anywhere else in the country, even at gcwr, transmission-sump temperature should stay below 270° F. Above this point, certain internal components such as seals begin to disintegrate rather quickly. Although newer synthetic fluids can withstand higher temps, we still recommend this as a maximum temperature. — Ken Freund

GMC DOUBLE TOWING

We have a 3500 GMC Duramax pulling a 36-foot fifth-wheel with a gywr of 15,500 pounds, and behind this is an enclosed tandem axle 14-foot four-wheeler trailer. Is the Reese #16 fifth-wheel hitch big enough for what I am doing? Secondly,



If there is any single reason why HitchHiker owners continue to return to a NuWa dealer for another HitchHiker, it is this statement. "Once experienced nothing else compares". It's not always easy to communicate to customers why spending more is in fact a better long term investment. But those who experience the NuWa difference begin to truly understand. Whether it is the "detail of design", the reliability of higher quality components, the upgrade of frame, tires & suspension, the transparency of no haggle/low haggle pricing, the genuine response to customer service needs, or the obvious premium of re-sale value, HitchHiker owner's will typically say that investing more resulted in a premium return on their investment. And thus they do it again and again. Whether you want the "latest and greatest" or want to save on 2010 models, check nuwa.com for dealer location and factory inventory.

> Go to www.nuwa.com for more information NuWa Industries, Chanute, KS 1.800.835.0676 or email sales@nuwa.com with your questions.



both trailers have brakes. How do I handle using the brakes so the small trailer is not locking up when the brakes are applied to the larger trailer, or are the brakes needed for the small trailer?

Linda Tanner, Via e-mail

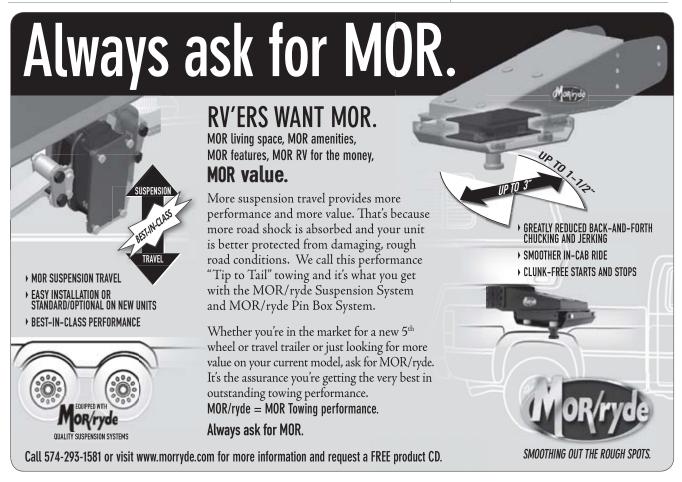
Wow, that sounds like a scary combination. Your first question relates to the others. The "#16" hitch you described (and

you didn't specify the specific hitch model, so we can only speculate, as it might be a 16,000-pound rated hitch) and both trailers combined certainly weigh well in excess of that. To be safe, you'd be best using a hitch rated at least 20,000 pounds or somewhat more.

Yes, you certainly do need brakes on the second trailer. That fifth-wheel alone is likely pushing the truck's maximum gross combination weight rating (gcwr) and it's a safe bet that the extra trailer — you didn't say what it weighed — is overloading the truck's gvwr as well as its factory tow rating. Have you ever run your combination, loaded and ready for the road, over a commercial scale at a truck stop? You'll be surprised at the weight numbers.

If you're using just one brake control - you didn't say the year of your truck, if it's new with the integrated brake control, or uses an aftermarket unit — it's going to be nearly impossible to get the brakes on both trailers working well. In addition, most brake controls are made for a maximum of three axles, so your setup could be exceeding that rating by one or two axles, depending on your fifth-wheel trailer axle count. You should install a second brake control and the associated wiring on your truck, plus a brake-wire extension line along your fifth-wheel trailer, so you can individually control the second trailer's brakes. Use extreme caution when driving that combination — and only with





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a properly rated hitch. If it were me, I'd come up with a different plan than a double tow setup like that. - **].].**

TOW-RATING UPGRADE

We have a 2006 Chevy 1500HD 4WD Crew Cab pickup with a 6.0-liter engine and 3.73:1 rear-axle ratio that has a tow rating of 8,600 pounds. We have a 2007 fifthwheel trailer with a loaded weight of 8,300 pounds. We are in the market to trade trailers but the unit we like has a dry weight of 8,700 pounds and a loaded weight of about 10,000 pounds. I have looked at the tow ratings of the 2500HD and it seems that with the same setup as my truck they could handle this weight rating. My question is: If I add overload springs to my 1500HD, would it increase the tow capacity?

Kent Bower, Columbia, Missouri

Absolutely not! A fifth-wheel trailer puts about 18-20 percent of its total weight on the hitch. Therefore the trailer's pin weight will far exceed the capacity of the







RV CLINIC

1500 model's rear axle, rear wheels and tires. Additionally, the brakes, chassis and other parts on your particular 1500 are not made to handle this much weight. For safety's sake, upgrade your truck if you get a heavier trailer. — **K.F.**

ULTRA GUARD QUERY

We ruined our dinghy vehicle due to rock chips on our first trip with it. It was \$8,700 in paint damage. We have an Ultra Guard mud flap on a Class A Winnebago. It's probably not installed in the right location. Do you know how we can get a hold of Ultra Guard?

Donald Parrish, Ojai, California

I did an online Google search and found many dealers for Ultra Guard flaps, including Camping World, and most product photos seemed to show it installed just ahead of the back bumper. A guard like that works best when it's mounted rigidly and hangs straight down, more or less, during travel. If yours is flexibly mounted so it can "sail



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back" when driving, that causes it to lose effectiveness because debris can blow past it. Check to be sure yours is rigid, and have it modified as needed.

For extra protection for your car you might also want to consider one of the tow-bar-mounted products like the Guardian Rock Shield from Roadmaster. This type of product can help further reduce dinghy vehicle damage. - **J.J.**

FORD FACTORY BRAKE-CONTROL TIP

We have a 2005 Ford with the built-in brake control, and I, too, had problems with the alarm going off while going down the road. I thought it was the trailer plug, but it is a problem in the truck's circuitry. I have found out after I hook up my trailer, before I move it, if I mash the brake pedal hard I don't have that problem any longer.

Guy Lancaster, Midlothian, Texas

Thanks for sharing the tip you learned. I'm sure it will help other readers. — K.F. 🗭

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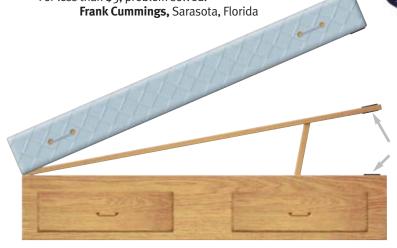
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10-MINUTETECH

A compilation of tried-and-true tips From RVers

♣ LOWER THE DRAWBRIDGE!

The queen bed in my trailer is on a raising platform controlled by gas struts. All too often, I'd find the bed had lifted during travel, which can't be good for the struts, as they bounce around while on the road. I placed one side of a 5-inch section of hook-and-loop fastener to the edge of the platform box, and the other side on the bottom edge of the platform itself. For less than \$5, problem solved.





Andy Davis, Cedar Creek, Texas

TIRED OF HEAD BANGING?

After slightly injuring myself by banging my head on the sharp corners of my fifth-wheel's hitch-pin assembly, I set about preventing any future mishaps. I settled on a 20-inch bicycle tire.

I cut the tire, drilled a hole near the end of each cut, strung a rope through each hole and secured the tire around the assembly. The entire fix was less than \$10 ... and who knows how much money I saved on Band-Aids!

Reid Landers, Pueblo, Colorado

INTRUSIVE SHOWER CURTAIN

Whenever I'd shower in my trailer, the shower curtain would suck in and stick to me. As a result, I'd have to hold the curtain out with one arm and wash with the other. The solution was simple: I bought a spring-loaded shower-curtain rod and ran it the length of the shower stall, about waist high. Now the curtain stays put, and I can use both hands to wash.

Carl Landry, Ames, Iowa 🗭

To send a submission to
10-Minute Tech, write to
2575 Vista Del Mar, Ventura,
CA 93001. Please include an illustration if applicable.

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FREE TRAVEL INFORMATION

Trailer Life's Free Travel Information is designed to assist RVers with their trip planning. The following destinations offer free information about their facilities and services. Visit www.trailerlife.com/info to request information, or visit each travel company's Web site for immediate information.

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Alaska Marine Highway System: Experience 3,500 miles of spectacular scenic waterways in a casual atmosphere aboard an Alaska state ferry. With or without a vehicle, don't miss this unique way to see Alaska. Call (800) 642-0066, or visit www.alaskastateferry.biz.

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Arkansas state parks' campsites are nestled among The Natural State's most scenic settings atop mountains, on lakes, alongside mid-America's premier trout stream, at historic sites and a diamond site where you can search for real "finders keepers" diamonds. For free brochures, call (888) AT-PARKS, or visit www.arkansasstateparks.com. This historic mountain resort town is home to natural scenery, attractions, thoroughbred racing and gaming, botanical gardens, exciting theme parks and more. In America's first resort, we offer something for every age and taste in our RV-friendly city. Call (888) SPA-CITY, or visit www.hotsprings.org. Arkansas' DeGray resort state park offers campsites on the shores of a 13,800-acre fishing and watersports paradise lake. Enjoy the dining at the lodge restaurant and golf at the park's championship course. Exit I-30 at Arkadelphia. Call (800) 832-8512, or visit www.degray.com.

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spaces and a 550-slip marina settled on the south San Diego Bay with two waterfront restaurants, swimming pool, spa, fitness room, clubrooms and laundry facilities. Call (800) 770-2878, or visit the Web at www.chulavistarv.com.

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Ohio State Parks. Discover Ohio at any of our 57 state-park campgrounds statewide. Open year-round — hiking, golf, swimming, picnicking, boating, family nature programs. Call (866) OHIO-PARKS for reservations, or visit www.ohiostateparks.org.

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Oklahoma, Native America. Visit vibrant cities, vintage towns and world-class museums. Enjoy shopping, sightseeing, more than 200 lakes and more. Call (800) 652-6552, or visit www.travelok.com for a free travel guide.

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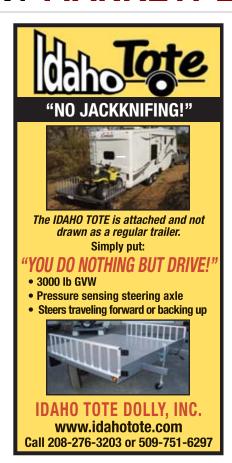
SOUTH DAKOTA

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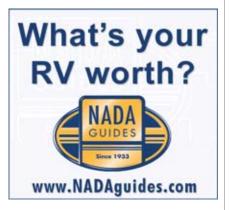






RV MARKETPLACE







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See page 58!

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2003 300HP FL-60 MOUNTAIN MASTER RV FL-60, 65K mi, cust interior, like new tires, Amsoil, cust sound, air ride seats-cab & susp, huge storage, hitches, \$54K. 623-521-2222.



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See page 58!

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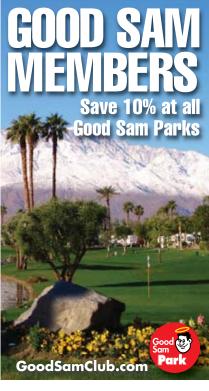
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AMERICA'S OUTBACK

by Bill Graves

GROWING UP ON The comstock

"WITH A PAST AS RICH AS ITS STORIED SILVER VEIN, ITS BUSINESS NOW IS TOURISM."

irginia City, 150 years ago, was the richest place on Earth. It was the crown jewel of Nevada's Comstock Lode. The jewel was silver, tons of it that flowed into our country's coffers for 30 years. It funded an estimated \$400 million of our young nation's westward-expansion, and paid the Union Army during the Civil War.

The riches of the Comstock were the reason President Lincoln in 1864 declared statehood to Nevada, long before it had met the population requirement.

Built into a steep mountainside, it was a modern town in the 1860s, with theaters, churches, opium dens and newspapers. Indeed, a young reporter at Nevada's first newspaper, the *Territorial Enterprise*, made a name for himself here, quite literally. He arrived as Samuel Clemens; when he left 22 months later he was known as Mark Twain.

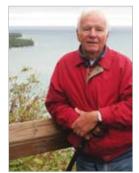
For 25 glorious years, it was the leading city in Nevada and the brightest and most important settlement between Denver and San Francisco. It had the only elevator this side of Chicago.

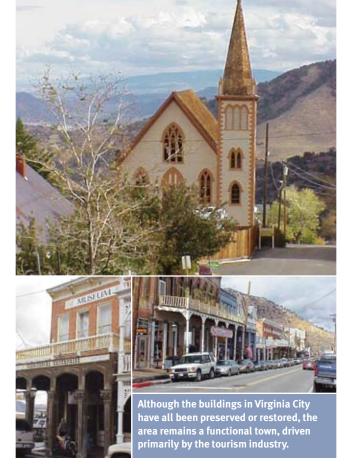
Today, Virginia City is the largest historic district in the United States. Its old buildings preserved or restored, it's still a functioning town of private enterprise and remains the seat of county government.

With a past as rich as its storied silver vein, its business now is tourism. But that's just evolved in the last 40 years. When LeRoy Goodman grew up here, in the years after World War II, it was simply an old mining town with no real future.

"We were just hanging on then. During the war, county government almost shut down. Most of the men were away in the service," LeRoy told me. "In 1949, the mine shut down where my dad worked. He was good at fixing things, so he bought a garage. I hung out there out a lot.

"It was across the street from the Silver Queen Saloon. When Clark Gable was making the movie 'Misfits,' down in Dayton, he'd drive up here from Reno on his way to work and stop in there for a couple shots. He was easy to talk to. He drove a





Lamborghini. Its doors swung open from the top like wings.

"We had 12 kids in my graduating class. That was a big class ... 38 in the whole school. After school, we usually went to somebody's house. My mother was the telephone operator, so she always knew where we were. She knew where everybody else in town was, too. People all the time would pick up the phone and ask her where so-and-so was. She would know, or ring a few places and find out.

"At lunch time, I'd walk home and listen to 'One Man's Family' on the radio. We all did that. At night we'd hear the 'The Shadow' and 'The Green Hornet."

Kids grew up here with a wonderful simplicity of desire. They knew one way of life, one standard of living. LeRoy explained it: "We had no doctors or lawyers or anybody here who lived differently than we did. If we were missing out on something, we didn't know it.

"We had a sheriff and one deputy for the whole county. They had it easy. Nobody ever got in trouble.

"We were everybody's kids — even people who didn't have kids. Heck, they often took us fishing and to ball games $\,$

in Reno. At Christmas, the fire department had a party for us. Every kid in town got a present.

"My mother's telephone switchboard is in the museum now. We had party lines. Each family on the line had a different ring. She knew everybody's ring. They were like names to her."

Welcome to America's Outback. 🗭

Bill's e-mail address: roadscribe@aol.com.

Next month Bill will be on the open range in Florida.

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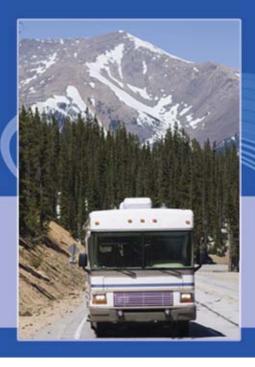
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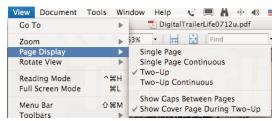


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