

Destination: *Barranca del Cobre*



Text and photos by Gary Gouvea

Crossing the Chinipas river

A few months ago my neighbor and friend, Dick Baty, asked me if I would be interested in a jeep tour to Mexico, specifically *Barranca del Cobre*, or Copper Canyon. Dick had some descriptions of the tour, which was organized by ECO4WD, a company run by Harry Lewellyn and his wife Jenna, based in Costa Mesa, California. Harry is well known in the 4-wheeling world for his expertise on the technical aspects of 4-wheel drive vehicles, and for the many tours he organizes in the Southwest and Mexico, including Baja. I read over the material and it sounded interesting although I had never been on a 4-wheel tour before. Dick has a Jeep CJ7, a 1986 Model with a lot of miles but, over the years, he has given it meticulous care. With some reservations I said yes and we began to plan the trip. Harry is very specific about the vehicles on his tours. They must be equipped in a certain way, no exceptions. Dick had

to get a new single sideband CB radio and decided to put on a winch, a new clutch, carburetor and tires.

The tour would last 13 days and include traveling 1,100 miles on paved roads and about 300 miles on dirt roads, some of which were the worst I'd ever been on. This was going to be a real adventure.

Copper Canyon is really a series of canyons, some of which are as deep as the Grand Canyon, but the comparison ends there. The Copper Canyon area is heavily forested, not nearly as wide as the Grand Canyon, and there is not the "layering" of rock formations so characteristic of the Grand Canyon. The larger Copper Canyon area is also the home of indigenous people who are called *Tarahumara*. They are also known as "The Runners." For the most

See **DESTINATION**/p12

FOURWHEELING ACADEMY

RANCHO 9000X/RC9700 INSTALLATION

Text and photos by Harry Lewellyn

First, let's make some correction to last issue's RS9000X shock article (September-October 2003), share additional information provided by others, describe the RC9700 remote control system and then we'll get on with installing the cab adjustable 9000Xs.

CORRECTIONS

Figure 8, page 7 was completely mislabeled in the printed copy. The correct designations are: C is the Down flow area; I is the Check valve; J is the Adjustment valve; K is the Adjustment valve spring and L is the Adjustment knob. The Web copy is correct.

Dave Simpson, ex-Rancho Western Sales Manager offered the following: 1) Not all gas shocks are mono-tubes. Rancho RSX shocks are gas filled and use twin-tube construction. 2) Mono-tubes are mounting direction sensitive. Some manufacturers have the shaft up while others have the shaft down. 3) Twin-tubes can be mounted up or down since there is no air in the shock (if manufactured correctly). 4) Mono-tubes have a thicker pressure tube so the potential of rock damage is minimal. 5) Rancho 9000X shocks can be mounted rod up or down.

SUMMARY

Installing the Rancho RC9700 system definitely involves more labor, but it's not all that hard. It's about the same as regular shocks plus you run four air lines, install

See **RANCHO**/p16

FROM THE SILVER COYOTE



ABOUT ECO4WD

ECO4WD has led ecologically compatible 4WD tours since 1984. We also conduct 4WD trainings for both consumers and corporate clients, publish this newsletter and offer a few unique products. If you have a latent sense of adventure and are seeking to improve your 4WD skills, learn about an area or enjoy traveling with others, we're the folks to see.

Most tours are easy to moderate and focus on the appreciation of local flora, fauna, geology and history with driving and terrain discussions present throughout. We also offer four black diamond skills trips for those who wish to test their limits.

ECO4WD TEAM

I'm Harry Lewellyn. In case the grapevine hasn't reached you, Jenna and I got married on November 2002's Copper Canyon tour (after the last Bonus Issue went to print!). Thank you to all who made it happen and to Toyota Bill in Modesto, CA for introducing us!

We operate ECO4WD and lead tours throughout Southern California, Baja and mainland Mexico. Our "clean and easy" style welcomes and reassures our clients, as we have their best interest at heart.

Roger and Cecile Vargo, Don Carter and our extreme black diamond specialist,

Blaine Johnson, also lead ECO4WD tours. See pages 4, 5 and 33 for more on them.

NEW BLACK DIAMOND

We have added a super chest thumper to our repertoire. See *Introducing the Hammers* on page 33 for a preview of this extremely technical, black diamond skills seminar in Johnson Valley, CA on the "Hammer" trails.

This seminar offers a supervised opportunity to experience hard-core trails with knowledgeable, understanding guides. Our intent is to improve your skills and generate increased interest in the art of using 4WD off-highway.

I selected Blaine Johnson to lead this trip because of his extensive, conservative experience. He has made over 40 Hammer runs, and the first 35 were without breaking his jeep!

Blaine and his wife, Kathryn, first took a Coyote tour in 1996, and have been "bitten" ever since. Learn more about Blaine and his black diamond fun on page 33 and at www.justaddrocks.com

WEB SITE NEWS

If you haven't visited our Web site lately, please do. We have totally reconstructed www.eco4wd.com and it is looking good! You'll find it much easier to navigate. Start with the "What's New" section (www.eco4wd.com/whats_new/new_choice.htm) for the most recent additions.

Check out the new "big picture" maps (under *Tours*) we've provided to help you zero in on different tour areas. Also added are more graphics and pictures, FAQs, "trail tips," our 2004 schedule, plus a complete article index that includes links to selected technical articles. In addition, we've added a "Store," featuring all of our products with PDF links to related newsletter articles for more information. You may also view this

newsletter online and click directly on the PDF links provided for each product in our "Backroad Buys" section on pages 31-39.

NEWSLETTER

All our 2003 newsletters are now online as **FREE** downloads, and more are on the way (see www.eco4wd.com/products/newsletter_choice.htm). Send us your email address to receive email notification when the latest newsletter hits the site and of other occasional ECO4WD announcements, including Web site changes. We neither sell nor share this information.

TOUR REGISTRATION

We've made it easier for you to register for our tours, too. Use the new "Tour Registration" line on page 39's Order Form to sign up. Simply list the tour name, fill in the deposit amount and your contact info, and mail it in with your deposit or payment! Web based registration is coming soon, so stay tuned. In the meantime, we've added downloadable registration and other forms to our site. These will jumpstart the registration process, but they are not required with initial deposit. See you soon?

ECO4WD CLASSES

We've cut back on college classes lately. Further, some get scheduled later in the year and, therefore, do not get published in this "catalog" newsletter. Check a current newsletter or our Web site for the latest offerings. Most "classes" are easy one-day tours offered through local colleges, but remember, you must register directly with the colleges for these tours.

COPPER CANYON ADD

By popular demand, we now include *Batopilas* on our Copper Canyon tour. November 2003's adventure will be our dry run staying at the bottom of this historical canyon. See page 27 for details.



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Copy Editor: Jenna Kane
Composition: Jenna Kane
Contributors: Roger and Cecile Vargo
Gary Gouvea

ECO4WD is committed to passive appreciation of Mother Nature and ecological backcountry travel on unpaved roads.

The ECO4WD newsletter is published every other month. Subscriptions are \$14 for six issues. January through September features the Coyote's technical articles. The 40-page November-December *Bonus Issue* is the only issue that contains advertising. Contact ECO4WD for advertising rates or to receive a free *Bonus Issue*. Bulk copies are also available. For *Newsletter Reprints* on selected topics and back issue orders, see page 39. Back issues are \$3.00 each.

We encourage the submission of articles and photographs for publication and reserve the right to edit them. Submissions are only returned when accompanied by a stamped, self-addressed envelope.

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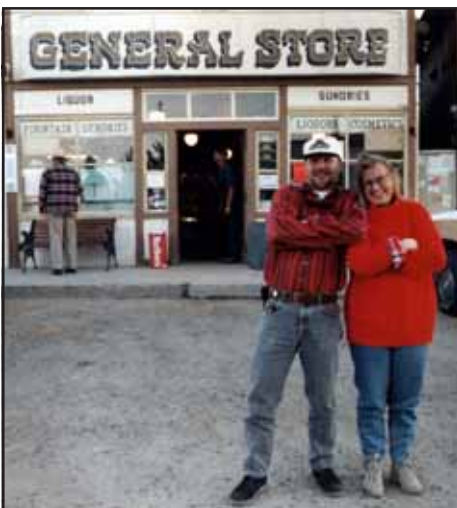
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Exploring the Backroads of History with Roger and Cecile Vargo



Sixteen years ago Cecile and I bought our first sport utility vehicle. We went to a one-night class at a local community college entitled "How To 4-wheel Drive" then attended the hands-on one-day tour that followed a few weeks later.

We liked what we were doing so much, we went out nearly every weekend and

learned how to negotiate a variety of dirt roads. Our spare time was spent doing research on the history and geology of our favorite areas. A one-day outing turned into 15 years of leading other people on mini-vacations throughout Southern California and the Owens Valley.

Our 4WD outings involve driving on easy to moderate dirt roads and are ideally suited to novice and intermediate level drivers. All our tours are suitable for stock vehicles in good condition, although some tours do have vehicle size restrictions.

We share our knowledge of the backcountry over the CB radio with our guests. We frequently stop to explore mining areas old and new, and ponder the rocks, plants and animals we may encounter. We'll occasionally visit an old cabin or deserted mountain lookout.

Currently, our tours are all of one or two night's duration or all-day adventures. The **Piute Passage** and **Monache Meanderings** tours are mountain camping

adventures with potluck dinners around a campfire. The **Land of Volcanoes, By God, to Bodie!**, **Golden Leaves and Golden Trails**, and the **Fat Hill Fandango** are based around motel or condo accommodations and restaurant meals. The **Mojave Expedition** and "**Bonus Trip**" are one-day high desert field trips.

California has a fascinating history, from geologic unrest and prehistoric petroglyph scribes to the Radium Queen of the Mojave and the Human Mole of Black Mountain. Load up your 4X, fasten your seatbelts, and get ready to explore historic California!



Contact us at (818) 352-9489 or
roger@eco4wd.com, or visit our Web
site (www.explorehistoricalif.com)
for more info on exploring historic
California and Vargo's Variety.

Big Red Rambles About the Rubicon

Don Carter, AKA *Big Red*, leads our **RUBICON RENDEZVOUS** black diamond adventure. Reach him at akabigred@aol.com (preferred), (949) 492-5415, or fax 492-5014.

Take one look at Don Carter and you'll understand why he is known as Big Red. Is there a more appropriate handle for a 6'-8" tall redhead? The 45-year-old San Clemente resident is a Project Manager building apartments throughout Southern California.

Big Red cut his back roading teeth in his youth while hunting and fishing with his Dad and brother in Washington State. In 1984 a friend invited him to ride shotgun on a hard-core 4X4 event (TDS Desert Safari). He was so amazed at what a 4WD vehicle could do that he went out and bought his first Toyota 4X4 two weeks later. The hook was set and he slowly started to build the little red Toy into the

truck that could. Driving skills developed along with truck building skills as he learned about tires, gears, suspension and locking differentials. Red's current truck is a red '96 Cherokee with a long list of improvements that include tires, suspension, air-lockers, winch and an ultra-low range transfer case. Don has transformed the former *grocery getter* into a very capable rock crawling vehicle hindered only by his reluctance to damage it. Currently Don leads the most difficult **Rubicon Rendezvous** trip. His favorite trip, it offers mountains, lakes, rivers, trees, and rocks...lots and lots of rocks. He also enjoys the full spectrum of 4-wheeling, from tagging along on "college trips" to looking for tough challenges with his 4Xing friends.

If you and your (non-full-sized) vehicle are up to the challenge, contact him about the next **Rubicon** trip that's scheduled for **August 19-22, 2004**; see page 30. This trip fills up early!

For some other black diamond adventures, warm up with the Coyote on **Pinyon**



Mountain (Feb. 14-15, 2004; see page 23) and **Truckhaven** (Feb. 28-28, 2004; see page 24). And preview the newest ECO4WD technical black diamond, **Introducing the Hammers**, on page 33!



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William E. Carder – Aurora's Assassinated Gunfighter



Text by Cecile Vargo
Photo by Roger Vargo

Our travels each September take us to the remnants of the prominent mining towns of Bodie and Aurora. Aurora, Nevada is so close to the California-Nevada border that it actually was the seat of Mono County, California from April 1861-September 1863. Bodie and Aurora were noted for not only for their mining wealth, but also for the bad men and women who lived there. The story of William E. Carder, who rests in the old Aurora cemetery, is an example of the wilder side of the mining towns.

A lonesome tombstone, cracked and fallen to the ground, appears cast aside & forgotten amongst the pinion pines and sagebrush of the cemetery in the ghost town of Aurora, Nevada. The word "assassinated" is included in the engraved inscription on the marble stone that was so loving erected by the man's wife in December of the year 1864. "William E. Carder, Native of Tennessee, 'I will avenge saith the Lord.'"

William Carder came to the California goldfields in the 1850s, as so many men were inclined to do in those days. His claim to fame was not the gold he found, but his reputation as a gunfighter. An escapade robbing a Chinese miner of several hundred dollars of gold dust got him arrested at least once, but the evidence against him was insufficient for a conviction. Carder went on to other crimes, as well as helping prevent a few more from being committed. In the golden foothills of the western side of the Sierra, Carder was chosen second in command of the posse that tracked down and eventually captured the killer of the Columbia City Marshal, John Leary. William Carder fought on both sides of the law.

At some point in time William Carder married a woman named Annie, and became stepfather to her son. By the time the son was eight, the family lived in Aurora, Nevada. How he supported his family at the time is not recorded, but he had apparently decided to pursue his reputation as a feared gunman. Stories told by R. K. Colcord, *Reminiscences of Life in Territorial Nevada* claimed that Carder "...could push his hat off the back of his head, draw, and put a bullet through it before it reached the ground." The *Esmerelda Union* noted that, "Carder's only method of fighting, was with deadly weapons, in the use of which, he was probably



Assassinated shootist William E. Carder's grave is set apart from other graves in an obscure corner of the Aurora Cemetery. Square inset at top may once have held Carder's likeness.

more expert than any other man on the Pacific Coast. His quickness and proficiency in the use of deadly weapons were almost beyond belief, and his remarkable coolness and bravery rendered him the terror of the community. When he was not busy gun fighting, Carder was seen gambling and drinking in the saloons of Aurora.

On February 2, 1864, in the wee hours of the morning, Carder was seen in the Porter Saloon on Antelope Street playing poker with John Daly and some of his gang. Included in the group was the notorious John "Three-Fingered Jack" McDowell. McDowell had immigrated to New York during the 1840s from Ireland. He fought in the Mexican War, then joined the rush for gold to California as Carder had. He shot his way around the Tuolumne County mining camps, moved on to Virginia City, then to Aurora. On this morning the boys argued over the money at stake. Carder laid his hand on his revolver and let it be known that anyone who contradicted him was a "damned liar." McDowell jumped up and replied, "Fight, you son of a bitch, fight." Carder backed down.

In the fall of that same year, Carder left Aurora with a man named Moses

Brockman. They were headed to the Montgomery mining district to conduct business of some sort. When they returned to Aurora, Carder arrived first, and Brockman showed up later. Brockman had been asked by Carder to bring a horse with him from Adobe Meadows. When Carder realized Brockman did not have the horse, he threatened to whip him. Over the next days, Brockman kept on the lookout for Carder. Carder was next seen on Saturday, December 10, provoking quarrels amongst the peaceful citizens of Aurora. The *Esmerelda Union* reported that he outrageously abused them "...by slapping them in the face, kicking them, pulling their ears and twisting their noses." He also was said to have threatened to kill Brockman. Rather than sit and wait for Carder to kill him, Brockman hid in an unused doorway near the entrance to the Exchange Saloon and waited with a double-barreled shotgun loaded with buckshot. At half past eleven, as Carder strolled out of the Exchange, Brockman shot him in the neck, "...tearing a most shocking hole", which killed Carder

See GUNFIGHTER/p33

TRAIL TIP

ROCK STRATEGIES

Chapter 6 (Terrain and Obstacles) of "SHIFTING Into 4WD" offers more discussion on driving techniques for different terrain.

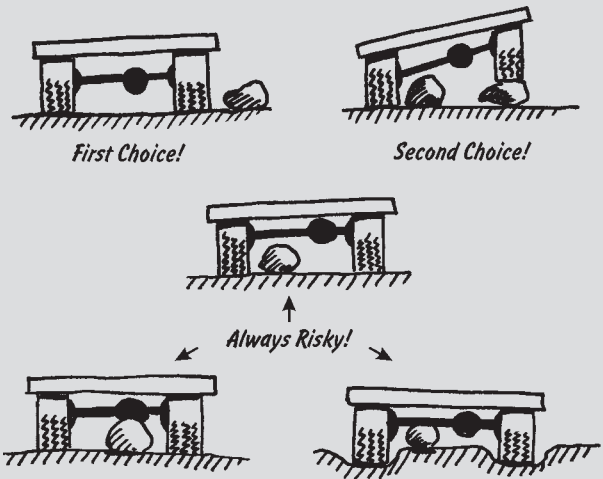
I chicken out early on rocks. My first rock strategy is to avoid them altogether: Life does not have to be hard to be good and rocks are real hard! If there's a track around the obstacle, I will use it. For rocks, my first recommendation is drive around them. Avoid them individually or completely (take a different path), but avoidance may be too easy for some.

My second strategy is to drive *on* them and that may appear novel to the novice. By driving on the rocks, you effectively increase your ground clearance. You've now turned that 10-inch obstacle into 10 inches of added ground clearance. The tough part is cautiously crawling up on the rock and considering fast wheel drop off as you descend. Remember that 10-inch rock is still an obstacle until you're beyond it.

Tire placement is critical and complicated by the fact that you have four tires to manage. With time you'll get better and better, and with help, you'll safely learn the tricks.

My next to last choice is to straddle rocks. Usually, this is the second choice for those who have little experience. However, "straddle" ground clearance is difficult to judge.

When you straddle rocks, your calibrated eyeball says go for it, but your peepers don't fully factor in the loss of ground clearance due to the deceptively low tire tracks. I'm frequently surprised at what bangs up under my 4X. [page 180]



See page 36 for more on SHIFTING Into 4WD and page 39 to order!

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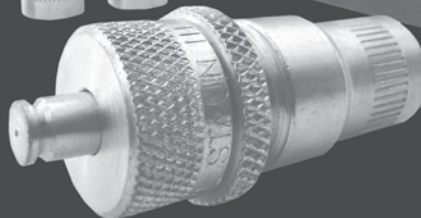
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FOURWHEELING ACADEMY

IMPROVED AIR FILTER TECHNOLOGY

By Harry Lewellyn

With no doubt, an effective air filter is crucial to off-highway travel! Look for a more technical article in the future. My air filter quest started quite a few years back when I tried a K&N replacement filter. I had installation problems with the unit it sent. The size and seal stressed the OEM plastic filter housing. Had I forced the K&N in, it would have broken the housing. Also, I could see 1-mm (0.039") holes directly through the filter – that's big dirt! I contacted K&N for filtration data and it never returned my calls. I can only guess it knew I was on to something it wanted to ignore.

Apparently, I'm not the only one who is suspicious of K&N air filters with regard to contamination. In Australia, I'm told some engine rebuilders will not guarantee their rebuilds if you use K&N. The rumor mill also has it that the earthmoving industry tried K&Ns and immediately gave up due to contaminated oil. Precision Diesel Services, Inc. published similar info in its newsletter, which I have placed on our Web site (www.eco4wd.com/K-N/PrecisionDiesel.htm). Go to AMGhummer.com/Maintenance/Filter/K-NFilter.htm for a Hummer owner's point of view. The Hummer and Precision Diesel reports are based on Advanced Flow Engineering's ProGuard7 line of filters and should be your choice of aftermarket filters for off-highway.

For me, clean air is more important than horsepower. The K&N experience left me apprehensive about its filters. I've been waiting for viable, technically competent competition for a comparative article. It's here.

ADVANCED FLOW ENGINEERING (aFe)

Now there's a new kid on the block that could make a dent in K&N's massive market share, and do a better job for you and me. This "David against Goliath" environment has created better products for the consumer.

Advanced Flow Engineering, Inc. (www.afeilters.com) produces high flow, high efficiency air filters for the automotive industry. Founded in April 1999, aFe was created to address an obvious need in the automotive aftermarket industry: a lack of choice for high performance aftermarket air filters.

Its purpose was not just to be another vendor that offers air filters. I'm pleased to

see that it chose to pay attention to those finer details that set its filters apart from the competition.

aFe FILTER DETAILS

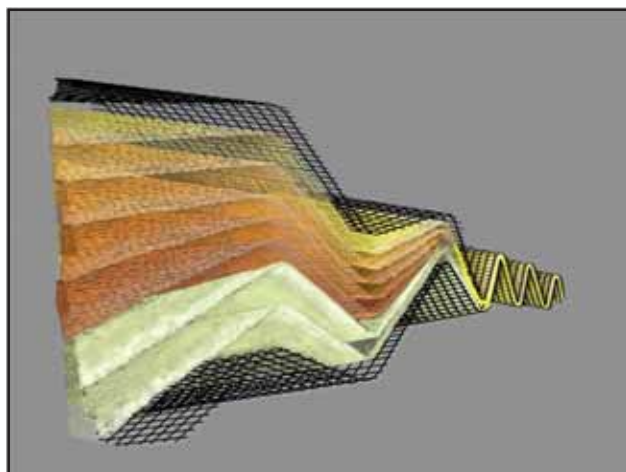
The aFe air filter uses deeper pleats than the competition. Using deeper pleats means more pleated media resulting in more surface area for air to flow through while reducing flow restriction. The aFe air filter is able to achieve this without choking airflow by using a precision crafted pleat pitch. This allows smoother airflow into the engine. Competitive products, while attempting to increase surface area, over pack the filter with excess pleats, thus resulting in the unfortunate side effect of choking airflow. The aFe filter media, with its uniquely designed pleat depth, pitch and material, prevents air velocities at the filter face from reaching critical speeds. Exceeding critical speeds result in increased backpressure and reduced engine performance. It also improves filter longevity by allowing for better dust retention.

The pleated media sandwiches multiple layers of high quality surgical cotton gauze between two layers of aluminum wire mesh (pictured). The special oil-treated surgical gauze filters out contaminating particles with less physical obstruction than typical paper elements. The oil is absorbed and wicked through micro fibers of the surgical gauze. Suspended particles are filtered out of the air stream through static charge attraction with the gauze/oil media. The aluminum wire mesh serves two purposes: first, it removes and prevents large solid particles from entering or damaging filtration media; and second, it provides a lifetime structural skeleton for the filter.

The aFe air filter is simply more efficient than competitive products. Multiple discrete layers facilitate depth filtration, which contributes to efficiency. This also promotes longevity over paper filters, which depend on quick clogging surface filtration. In addition, oil in the media enables the cotton gauze to filter out particles at a higher degree of efficiency without restricting airflow.

The aFe air filter features a superior seal

design with a 100% polyurethane material construction. Poorly designed seals either permit air leakage or distort the filter housing. Many other filters use plastisol or air/foam seals. Over time, heat and chemical attack and cause this material to lose its elastic characteristics, which results in seal failure. Complex curing processes also prevent consistent quality manufacturing of plastisol. Since visual inspection cannot distinguish between a good quality (fully cured) and out of specification seal (not cured), the problem



is not detected until the seal fails in service. On the other hand, foam type seals simply cannot pass the test of time. Use of a foaming agent reduces the amount of polyurethane used in the part. Minimal heat exposure tends to turn this material into powder.

ENVIRONMENTALLY BETTER

aFe filters are reusable and much easier on the environment in several ways: 1) aFe filters are made from cotton, which is a yearly renewable resource vs. paper filters that are made from cutting down trees; 2) aFe filters are washable and reusable, eliminating large volumes of discarded filters in our landfills; and 3) aFe filters allow the engine to breathe easier than paper filters, thus reducing emissions and keeping pollution levels down.

SUMMARY

Promises of more horsepower are hard to resist, but make sure you are not sacrificing engine life and reliability for a few extra ponies.




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FOURWHEELING ACADEMY

SOLAR CAMP SHOWERS

Text and photos by Harry Lewellyn

As I've said in the past, "Cleanliness is next to Godliness until you're in the wilderness, then it's foolishness." Trying to keep everything, including your body, "mother" perfect clean is a losing battle, but an occasional hot shower is most refreshing. This article looks at how to efficiently use solar camp showers. This is not a side-by-side shootout of various bags, but a study on how to use them.

What started this quest were the different instructions on various brands of solar showers (see Figure 1). One manufacturer said to put the "black" side up, while most others said the "clear" side up is the way to go (Figure 1, top three vs. bottom).

CAUTION

As innocent as these bags look, they are dangerous. Even water heated by the sun can do body damage. Test the water before using it!

TEST LOCATION

The tests were conducted on a dry lakebed in Nevada's Black Rock Desert in late August. Average daytime temperatures were over 100° F, the humidity was consistently under 8% and the daytime "playa" surface was in excess of 130° F.

SUMMARY

The clear side toward the sun heats faster, but both (clear or black) eventually reach the same temperature. The angle of the bag to the sun made very little difference. However, in the testing process, I stumbled on to two super tricks that get the shower ready faster.

Most of the time, the ground is hotter than the air. I learned you could speed water heating by moving a bag from spot to fresh hot spot. Each fresh patch of real estate immediately boosted the water temperature faster than leaving it in one place.

When you fill a bag and place it on the ground, almost always, there is a giant air bubble trapped between the top surface of the bag and the water (see Figure 3). Remove this bubble and you've increased water-heating efficiency even more.

Just about any water container left in the sun will heat water. Years ago, for backpacking, I carried a collapsible plastic container to move my water source closer to camp. In this pre-solar shower era, it didn't take long to discover the sun-exposed bag heated the water. I've been hooked on "solar showers" ever since.

FEATURES

Shower bags are available in 2.5- and 5-gallon capacity. They have a lot in common (material, construction and carrying and hanging method), but some have additional features. The filler holes, with the exception of color, were also identical. All had a showerhead shutoff capability, but differed in how that was achieved. The valves were both at the bag and at the nozzle on different models. One had an accessory bag for soap, shampoo, razor, etc. Coleman has a time-temperature chart and another brand had a temperature gauge (see Figure 2). This left no doubt when the water was ready.



Figure 1 Manufacturers' heating instructions. Note the top three say "clear side up" and the bottom says "black side up."

VARIABLES

The focus of the experiment was on black vs. clear side up. The angle of the sun's radiation to the up side was another consideration, along with what the bag was resting on (see Figure 3) and how much water was in the bag. Finally, I looked at trapped air in the bag. How did all of this affect the water heating rate?

DISCUSSION

Knowing how heat works helps understand my recommendations. Picture that the sun's radiation is like marching soldiers. If they are on a hard surface, headed downhill (little or no thermal

resistance), they will march faster and longer than uphill through the mud (lots of insulation). If they hit a reflective surface, they will do and about face and uselessly bounce away. The sun's radiation must march through the top surface of the bag, trapped air (if any), then the water, and finally hit the bottom surface. Each surface reflects and absorbs some energy.

With the black side up, most of the energy is absorbed and reflected at this first encounter. This "top surface" heat attempts to move down through the cold water, but that ain't the way it works because hot water doesn't move down.

With clear side up, most of the energy gets through this layer and then has a shot at the air (if any), water and bottom black surface. What is reflected back from the bottom surface has another chance at heating the water, air and top surface on the way out. That's obviously better.

A trapped air bubble insulates and reflects most of the energy before it gets to the water or the balance of the bag.

INSTRUMENTATION AND MATERIALS

I used a variety of remote and wired temperature sensors, and an interferometer. A (wired) temperature sensor was put in a bag through the shower hose. The interferometer was used to measure the surface temperature of both the ground and a bag's various surfaces.

To ensure that day-to-day temperature variations did not influence the test comparisons, identical Coleman camp showers (827A705T), along with its camp pads (ground insulator, 890A254K) and emergency blankets (reflective surface,



Figure 2 Water temperature gauge and heating chart aids

825A460K) were used. Coleman 5-gallon collapsible bags (809B605T) were used for water transport and storage.

TESTS

The first test involved placing two sensor-equipped bags directly on the ground about a foot apart, facing the sun. Addi-

tional tests included changing the angle of the bag to the sun and what the bags were sitting on (insulating or conductive/reflective).

Just to check the obvious, another configuration looked at the rate of heating vs. the amount of water in the bag.

TEST RESULTS

Less water heats faster. You have the same "heating surface" heating less water, which results in hotter water, faster. Moving the bag from one hot (ground) spot to another speeds warming. Removing the air bubble from the bag helps, too. Clear side up captures more of the sun's energy than black side up. The bag's angle to the sun didn't help too much. A reflecting vs. insulating surface seemed to have virtually no effect. Most of what's going on takes place within the bag, not beneath it. But given frozen ground, I'd opt to insulate the bag from this heat "robber."

CONCLUSION

Put an airless bag on flat ground with the clear side up, move it every so often, and you'll get a hot shower faster.

Here's to cleaner campers and look for a report on Coleman's new hot "water on demand system" (www.coleman.com/colemancollectors/categoryID2200) in January.



Figure 3 Contact surface test. Note the undesired trapped air at the top of each bag.

DESTINATION, from page 1

part, they live not in villages but individually in small clearings in the mountains. At the various lookouts we stopped at you could see clinging to the sides of the canyons their small huts and the clearings they had created to grow corn and beans. All of their home sites are connected by trails. They can cover many miles in a day often by running, hence the term "The Runners". Some Tarahumara have been recruited for running marathons, with great success.

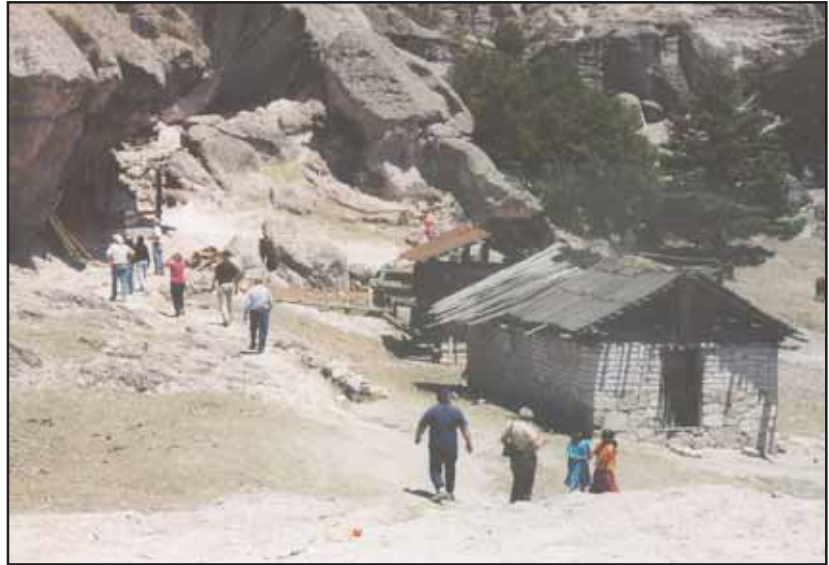
Dick and I began to collect all the stuff Harry said we would need. He sent us very complete instructions on what to bring, what to expect and what we would be doing each day. When Harry started this tour twelve years ago, some camping was involved, however, it was now an all hotel event, though one of the hotels did not have electricity to all rooms.

Our start day finally arrived. On April 17, 2003 we packed up and headed to Bisbee, the rendezvous point for the eight who had signed up for the trip. We arrived in Bisbee by mid afternoon and met our fellow travelers as we prepared to go to the border crossing at Naco in order to get our travel and vehicle permits for the crossing the next day. Joining us were Californians Don Bacon and Anita Griffin from Jacumba and Ben and Sandra Wright from Newport Beach, and Arizonians, the brother and sister team of Pam Day and Lloyd Glassbrook from Tucson, and my traveling companion, Dick, from Saddle Brooke.

On April, 18 we caravanned out of Bisbee toward the border. The crossing went without much delay and we headed south, our destination being *Nuevo Casas Grandes*, 163 miles into Mexico in the state of Chihuahua. The road is a two-lane paved highway with much narrower travel lanes than we see here in the States. Often the edge of the pavement just drops off six to twelve inches, so dropping your wheel off there could lead to a rollover. It was very windy with blowing dust in some areas. The Jeep's steering was a bit loose, so when we were hit by a gust of wind it "moved" the Jeep from side to side a little too much for my comfort. We also did not have air conditioning, so the dust came in. Fifty miles north of Nuevo Casas Grandes we passed near a Mennonite community where many roadside stands were selling *queso* or cheese, which they made. In every village or town we visited, there were numerous *topes* or speed bumps on the main road, some severe.

On this first day, Harry trained us on CB radio use. We began a practice of communicating with each other about oncoming traffic, overtaking traffic and the passing of slow moving vehicles. For example, when Harry had passed a slow moving vehicle, he would radio to the next vehicle that it was "clear to pass" and so on until all of our caravanning vehicles had passed. When we got to the narrow dirt roads, Harry would warn the vehicle behind him about an oncoming vehicle, and

community of more than 2,000 rooms and more than 2,000 residents. The three to seven story apartments here were high ceilinged and airy. There were heated sleeping platforms, raised platform cooking hearths, vertical and horizontal passageways, domestic running water, drained plazas, open market places, ceremonial mounds and ball courts. The adjoining museum is stunning in its design and presentation of the Paquime culture and artifacts. An interesting note here is that



Tarahumara family dwellings – house right and cave left.

the word would then be passed back as the oncoming passed to the rear of our convoy. Harry would often discuss interesting facts about the villages, towns and other points of interest along the way.

On the first leg of the trip, we were stopped at a couple of military checkpoints set up along the road. This was to be a pattern for the rest of the trip. It appears that the Mexican government is serious about intercepting drugs and contraband within their country.

By early afternoon we arrived in Nuevo Casas Grandes, a fairly well to do town heavily impacted by Mormons who came there many years ago so they could practice polygamy, which had been outlawed in Utah. Polygamy is still practiced there by Mormons. We drove through a neighborhood of Mormon homes whose grandeur was most impressive. The Mormons had turned to farming, in particular, apple orchards, which spread out from the town for miles.

After lunch we drove a short distance to the *Paquime* or Casas Grandes ruins and museum. These extraordinary 13th and 14th century ruins contain the remains of a

the village of Mata Ortiz is not far away and Juan Quesada, the potter who restarted the ancient art of pottery making in Mata Ortiz, uses designs and methods of the ancient Paquime people to create the remarkable pottery, which so many of my fellow Saddle Brooke residents have been collecting.

The next day we drove to *Tejaban*, a hotel overhanging the edge of the actual Barranca del Cobre. It took two hours on a very rough dirt road to get there. Why anyone would build a hotel in this location remains a mystery. Its owner, a retired Mexican Air Force officer, had built the place about ten years ago. He greeted us on our arrival. No one else was staying there and it appeared that no one had been there for some time. There was really not much to do there, but we did go on a short hike to an overlook of the canyon below. The general had also built a 5,000-foot long landing strip nearby, but it looked overgrown with native vegetation. We finally decided that the General must have

See **DESTINATION**/p14

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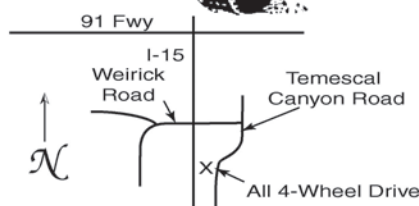
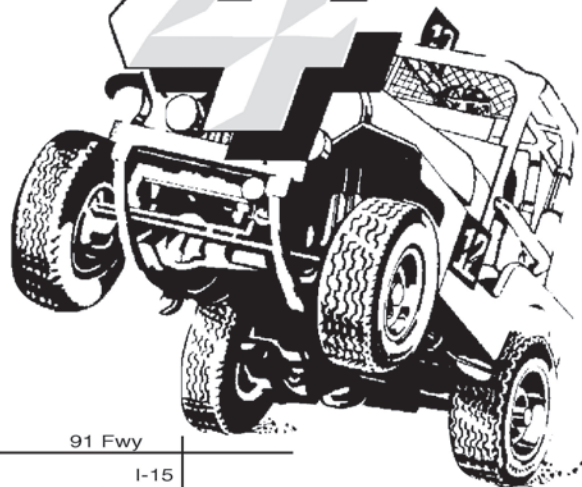
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DESTINATION, from page 12

had a dream of building a first class hotel at this spectacular viewpoint but that the reality of the situation was that it would not be a financial success due to poor access and the lack of any resort type facilities.

The next day we drove on paved roads to Creel, a logging town and a major starting point for the Copper Canyon railroad. There stayed at the Best Western, which was a lovely motel catering to Americans. We were now in the homeland of the Tarahumara. The Tarahumara appear to be part of either the Apache or Uto-Aztec linguistic group and have remarkable adaptive skills. They worship the sun and moon and have managed to preserve their heritage better than any group in North America. Some still live in caves and can run down a deer on foot for the kill. They use hundreds of indigenous plants for food and medicine. However, that should come as no surprise, for they've lived in the area since at least 1,000 A.D.

Tarahumara women and children could be seen at all locations where tourists were present. They were set up on the sidewalk or adjoining areas and were selling cloth, baskets, jewelry, dolls and other items,

which they made. Tarahumara women and children dress in the most colorful clothes imaginable, creating wonderful picture opportunities; however, they are very shy and often do not want their pictures taken. We rarely saw Tarahumara men, who it was said were at home getting ready for summer planting or drinking. These people are very poor and I was often saddened to see their impoverished life. At the same time, they seemed to not mind that they were poor. The Mexican government has established schools for Tarahumara children even in the most remote areas. Many are boarding schools, as the children are scattered long distances from the school location. One has to wonder what benefit the schooling brings, as most Tarahumara retain their isolated lifestyle and traditions when schooling is completed.

All roads in Mexico are lined with shrines in memory of dead relatives or friends. Some are very elaborate and are from mailbox to storage shed in size. Most are made of some form of masonry and are colorfully decorated. It is apparent that what extra money these people have goes into maintaining and decorating these shrines.

On the second day in Creel, we visited some local area attractions including un-

usual rock formations and a recreational lake.

We leave Creel and drive 45 miles to Divisadero, where Copper Canyon train travelers get their first formal rest stop. Here, the bottom of another [this] canyon is 6,000 feet below. There is also a series of small shops and a large group of Tarahumara women and children selling their crafts. We have a lovely room on the second floor of the hotel, which is perched right on the edge of the canyon rim affording spectacular views. That evening we take a hike guided by Jorge, a young Tarahumara man who does not speak English. Fortunately, there are two men in our hiking group who speak Spanish and we are able to have our many questions answered.

After leaving Divisadero, we continue on dirt roads to Cerocahui, where we stay three nights in a small inn a couple of miles from town, called *Paraiso del Oso* or Paradise of the Bear. It is named after a rock formation on the ridge above the inn, which bears a striking resemblance to a bear. Doug Rhodes and his wife, Ana Maria, own it. Doug came there twelve years earlier from Ohio and married Ana Maria, a Mexican woman, who helps him run the place.

Doug has taken under his wing a small very isolated village 25 miles away called *Baragomachi*. He asks all his visitors to bring medical, schooling and clothing items to be donated to the village. He also hosts and annual Christmas party where many of the village children receive the only gifts they will get for Christmas. Our room at the Oso has no electricity, but is comfortable and we find that kerosene lamps work just fine.

The first day Doug gives us a tour of Cerocahui, a very small rural town with dirt streets, a central square and an impressive church. Not much going on here but it seems that Doug is a political player as he greets almost everyone we see on the streets. As we have seen in most rural towns we visited, there are always armed police there, sometimes carrying automatic weapons. On the second day we head for village of Baragomachi. It takes us three hours to cover 24 miles. When we arrive, most of the villagers greet us as we take our donations to a small clinic. Along for this ride, and apparently to gain the most political advantage as possible from the trip, are the *Presidente* of Urique County his wife and daughter, his bodyguard and a local policeman armed with an AK 47. At the clinic Doug first describes the

nature of the items we have brought, which are mostly medical supplies. The *Presidente* then gives a speech thanking us for our generosity. The head of the clinic also thanks us. Many of the villagers are gathered around the small reception area of the clinic and it is obvious they also are very pleased we made the trip out there.

On day eight we drive to the town of *Urique* at the bottom of Urique Canyon. Again it takes us three hours to drive 24 miles. From the edge of the canyon, the road drops 5,000 feet to the bottom in just a few miles. Unbelievably, the climate is tropical in Urique. Tropical plants are everywhere and its 98 degrees. We have lunch in an outdoor dining area at the rear of the very nice restaurant. It is a beautiful tropical setting and the food is great. The main street of Urique is paved in cobblestones and burros and horses roam the area freely. After lunch and a brief site seeing visit we head back up the mountainside to *Paraiso del Oso*.

In Mexico, if you ever break down on the road Mexicans will usually stop to help. On our way back to Oso we came upon a pick-up stopped alongside the road. It turned out the driver was having transmission problems and we ended up giving

him a ride to Cerocahui. On another occasion, we spotted a pick-up stuck in a creek bottom below the road. We found a way down there and, using the winch on Dick's Jeep, pulled him out.

After three days in the Oso, we set off for *Temoris*, about forty miles of dirt road away. Temoris is a prosperous small town with concrete streets, streetlights and a beautifully kept plaza. Here I saw my chance to photograph the local cemetery. I had seen many cemeteries along the way but we were always moving through and couldn't stop. Mexican cemeteries are delightful bursts of color. Monuments are painted bright colors and plastic flowers adorn every gravesite. I walked to the cemetery from our hotel in the central area. It was such a contrast to our cemeteries, which are often somber and gray. At about midnight, a mariachi band started to play in the plaza, which was less than a block from our hotel. Don got up, dressed and went down there to see what was going on. He found no one there but the band, but stayed a while to enjoy the music.

The next morning, we began a long haul to *Alamos*, the largest and oldest city

See **DESTINATION**/p17

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RANCHO, from page 1

a compressor and mount and power the cab control panel. With proper attention to service loops and plastic line protection from heat and debris damage, your fears about line failure can all but disappear.



Figure 1 Air tube in protective sheath and facing rearward

RC9700 DETAILS

The Rancho Suspension RC9700 system is based on the RS9000X adjustable shock. 9000Xs offer an 800% change in shock rate – damping action. A simple twist of a knob at one end of each shock changes the hydraulic valving action. You have only to try the demo shocks at off-road stores to feel the change. Up until the RC9700 came out, the disadvantage was the inconvenience of stopping the car and adjusting each shock.

The RC9700 system simply replaces the manual adjustment with an air pressure run plunger. The system comes with its own compressor, manifold, lines, gauge, and independent front and rear raising and lowering controls. The last two items are dash mounted remote controls.

The RC9700 is fast – about 15 seconds from minimum to full action and two seconds down. What this means to me is that I get real-time, instant results and evaluation. I don't have to depend on my "seat of the pants" memory for how it "had" felt. The highway was my first test.

The cruise control handled the speed, white lines handled road position and instant feedback kicked my memory out of the loop regarding ride quality. In addition, the rapid adjustment feature allowed me to blindly (without looking at the gauge) go to what felt best, record the setting, deflate, then go back to what felt best again and again. I found I would

blindly seek the same setting time and again for similar road conditions. Highway test results – critical damping achieved (see *ECO4WD* September-October 2003, page 3, figure 4).

Critical damping is a thing of beauty. It's that feeling like you know something is going on between you and the road, but you somehow are insulated from the action. The bumps come and go with the passing of the road. You don't carry the bump along with you for a bounce or two (under damped) or "hang up" for some time (over damped). Now, was there such a thing on the dirt?

A Baja Adventure was the test track, starting with the horrible rocky, graded, washboard dirt from Vizcaino Junction out to the Malarrimo Beach turn off. This section of tire tromping, bone jarring, shock destroying "easy" road falls in the same category as the old road from San Felipe to

Puertecitos or the current road from Puertecitos to Gonzaga. You just want to get it over with as soon as possible.

At highway critical damping I found the washboard annoying – the shocks were too stiff. I thought why not soften the action and behold, it worked. At the zero setting the road smoothed out, but all is not perfect in the world of off-roading. Along came some whoop-dee-dos and I was bounding the ocean brown. Decisions, decisions – I'll skip the soft-soap stuff and settle down the bounding. It worked! I could instantly eliminate the bounding and live with the stiffer washboard. I couldn't have my cake and eat it too, but I could sure lick the icing.

The 26 miles out to Malarrimo is not that challenging, but it is definitely rocky. The road was not completely washed out, but the rains had definitely chewed it up. What could I do with the RC9700 in the rocks?

In my cushy, low-to-the-ground, long wheel base yuppie-mobile, the rocks take their toll underneath. Why not stiffen the shocks, tolerate a somewhat harder ride, but reduce body-

down travel? This too worked! It's so easy to adjust shock rate, I found myself changing shock setting almost as frequently as I changed gears. Low-low meant stiffen 'em up. Back to 4-high was soft-shock time. Considering it literally only takes seconds from soft to stiff and back down again, I don't consider it a chore, I consider it a pleasure, and my butt and cargo agree. Besides, every new toy deserves time.

I believe I have become more aware of the road and ride. I find myself checking the setting with any unusual bump or bound. I stiffen them up for the big freeway transition sweepers and highway hoops. I soften them for the smooth going.

PREPARATION

The shocks come from Rancho with the manual adjust knob installed. Before the shocks ever hit the 4X, remove the manual fitting and install the air tube fitting by removing the two socket head screws.

AIR CONNECTION POSITION

After the fitting is on the shock, it may be positioned on the 4X facing forward or backward. Since the leading edge of everything under the 4X takes more of a beating than the backside, I typically chose



Figure 2 Service loop allows suspension movement without stressing tube

facing backwards (see Figure 1). The only exception I make to this sound rule is when there will be accessibility problems, then I opt for serviceability (forward).

TUBE CAUTIONS

So the story goes, “Yep, I had so many problems with the 9000 (or ARB air locker) lines, I gave up on them.” I hear so many tales of this sort that it makes me wonder about the capability of some installers. With proper attention to service loops and potential heat, abrasion and rock damage, there will be no problems.



Figure 4 Air tube abrasion protection



Figure 3 Manifold and compressor mounting options

I've been using 9000s on several vehicles since 1991 and have never had a tubing failure.

SERVICE LOOPS

I learned the term “service loop” while studying electronics. In the case of the 9000X shocks, it is an extra length of plastic tubing that allows the suspension to travel up and down without stressing the tube (see Figure 2).

Don't guess at the length. Have the shock in place and jack up the frame until the suspension has fully dropped. Now plan where the hose will mount to the frame and then allow enough tubing to fully service the down position, with a little extra. Now jack the frame up and see how the service loop travels. You'll have to guess at the “full” up position, but this usually isn't too hard. The tube should move up and down without interference or touching anything.

You must also think about abrasion and rock damage. To beat these, I use a protective sheath of small rubber hose where I anticipate problems. Also in routing, when I attach the tube to frame components (see Figure 3), I protectively enclose the tube then secure it with a plastic tie wrap. And just for added protection, I enclose the tube in hose from the shock just as it leaves the fitting (see Figure 4).

HEAT PROTECTION

Regarding heat †do the same †protect the tube. Route the tube as far from the heat source as possible and protect it with some sort of sheath. Also remember that your service loop, in action, can move the tube closer to the heat, particularly at the rear around the tail pipe.

COMPRESSOR LOCATION

Cluttered engine compartments limit the compressor's location, but think about this. There is usually ample space in between the metal fender and the inner (plastic) wall. Figure 5 shows the compressor location for Jenna's Toyota pickup.

CONCLUSION

RS9000X shocks and RC9700 remote adjust system allow me to tune for the conditions and not just tolerate them!



DESTINATION, from page 15

we would visit on this trip. We passed through *Chinipas* and while fording the Chinipas River, Don, the last one to cross, was approached by two Mexican men in what else but a pick-up. At first he believed they might be banditos, but after a few minutes he realized they only wanted to see if we could provide a ride for a nun who needed to get to Alamos. Don checked with Harry and we arranged for her to ride with Ben and Sandy.

Alamos has a rather large American presence, in an area called Gringo Gulch. Here Americans have purchased and beautifully restored old walled in residences. For a fee, Candy Joe a local man, gave us a tour of Alamos. We had a walking tour of the downtown area and then drove to an abandoned silver mine, which, for many years, had provided economic stimulus to the area. We were staying at a beautifully restored hacienda with a swimming pool and beautiful grounds. We had seen the last of dirt roads and were thankful for the relative luxury of the place.

Finally, on day thirteen, we headed for Tucson, 520 miles away. For the most part, we traveled on a four lane divided toll road to Nogales, making it back to Saddle Brooke by 6:00 p.m. that day.



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Book Review: *Death Valley SUV Trails*

By Harry Lewellyn

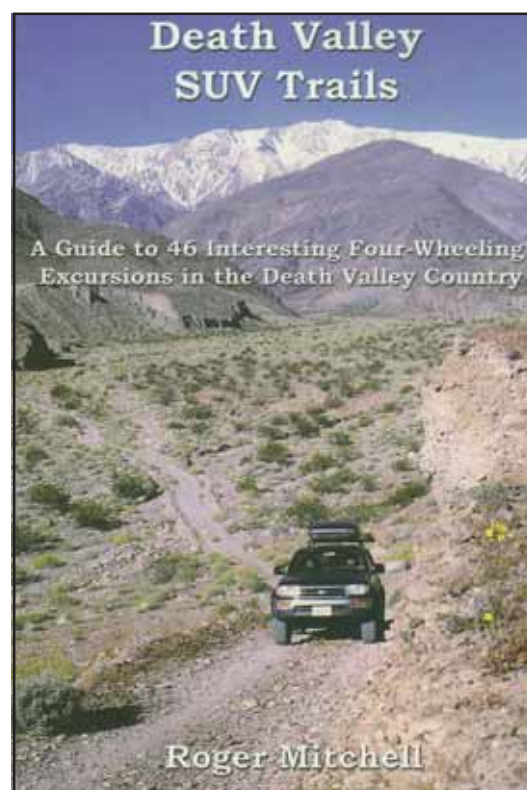
I love to stumble onto backcountry locals. They typically offer otherwise unavailable local secrets and other pearls of wisdom. Roger Mitchell is your Death Valley "local," in written form.

He is no stranger to this area. As a child and teenager living in nearby Trona, his interest in desert plants, animals and geology was whetted by the environment around him. Roger's outdoor photography and writings have appeared in numerous periodicals. Some years back, he authored seven books for La Siesta Press. This is the first of those old guides to be completely updated and republished. Look for reviews on the other three in his SUV Trail series in the next issue of our newsletter.

Each of the 46 trails described in this book starts with a summary table. It states the *Primary Attraction*, *Time Required*, *Miles Involved* and *Degree of Difficulty*. Roger uses his own trail difficulty rating system defined at the beginning of the book. He follows this with a small topo map, then pictures and various narratives on the history, flora and geology for each trail.

Nine appendices help your imagination run wild starting with a *Glossary of Geologic and Mining Terms*, *Geologic Time*, *Death Valley and nearby lakes during the Ice Age*, and ending with a *Four-Wheeler's Equipment Checklist*. The one I liked best was *Strange Happenings in Goler Wash*, where he recounts his personal experience on the capture of Charles Manson.

His trails are like little "time bites" into history. One after the other hooked me to read on. I hope you find it the same. Track & Trail Publishing, *Death Valley SUV Trails* by Roger Mitchell, ISBN 0-9707115-0-6, 314 pages, \$19.95 or visit his Web site, www.trackandtrailpublications.com



Coming Events

EVENT DATE

REMARKS (See /p# for more info)

2004 • • • 2004 • • • 2004 • • • 2004 • • • 2004

<i>Toys for Tots Toy Drive & Cruise</i>	<i>December 8, 2003</i>	<i>See www.westcoast4x4.com or (714) 577-9535—John</i>
Death Valley I (H)	January 23 to 26	4WD mini-vacation from Furnace Creek Ranch /p23
Pinyon Mountain (C)	February 14 to 15	Anza-Borrego, CA camping roughie—skills trip /p23
Truckhaven (C)	February 28 to 29	Anza-Borrego, CA camping roughie—skills trip /p24
Baja Whales & Rock Art (H)	March 5 to 11	Great into to Baja, Mexico—open to all vehicles! /p25
Lunch in Lucerne	March 20	Easy exploring trip in CA's high desert near Victorville/p24
Borrego Boondoggle II (C)	March 26 to 28	Three good days of CA badlands adventure /p25
Lucerne Sand Session (C)	April 3 to 4	Sand driving skills session in CA high desert/p26
Mojave Expedition	April 10 (Sat.)	Explore mountains and valleys of the Western Mojave /p26
Bonus Trip with Roger Vargo	April 11 (Sun.)	TBA: Ridgecrest/Mojave/Jawbone area /p26
Copper Canyon, Mexico (H)	April 16 to 27	A driving vacation through Mexico's backcountry /p27
<i>Moose Anderson Days</i>	<i>April 24 to 25</i>	<i>Annual clean-up and fun at BLM Jawbone Station, CA /p18</i>
<i>Discovering 4WD *</i>	<i>May 8 (approx.)</i>	<i>Through Rancho Santiago College; 4WD basics (6 hr lect.)</i>
San Felipe Sand Blast (H)	May 14 to 17	Beach run plus local excursions /p27
<i>Arrowhead Brunch Adventure *</i>	<i>May 23 (approx.)</i>	<i>Through Rancho Santiago College (desc. on p28); no lect.</i>
Piute Passage (C)	June 5 to 6	Historic California tour /p28
Arrowhead Adventure	June 6	Easy back way into CA's San Bernardino mountains /p28
Hot Spring Mountain (C)	June 19 to 20	Two skills-improving days at Los Coyotes /p29
Land of Volcanoes (C or H)	June 19 to 21	Geologic California tour /p29
Fat Hill Fandango (H)	July 17 to 19	Historic California/Ghost town tour /p30
Monache Meandering (C)	August 14 to 16	Historic California tour /p31
Rubicon Rendezvous (C)	August 19 to 22	Camping roughie in Tahoe, CA /p30
Arrowhead Adventure	September 5	Easy back way into CA's San Bernardino mountains /p28
By God, to Bodie! (C or H)	September 11 to 13	Historic California ghost town tour /p31
Golden Leaves & Trails (C or H)	September 18 to 20	Historic California tour /p32
Introducing the Hammers (C)	October 8 to 9	Extreme black diamond in Johnson Valley, CA /p33
Death Valley II (C)	October 15 to 18	4WD camping mini-vacation /p32
Lunch in Lucerne	October 30	Easy exploring trip in CA's high desert near Victorville/p24
Copper Canyon, Mexico (H)	November 12 to 23	A driving vacation through Mexico's backcountry /p27

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(C) = Camping trip (H) = Hotel-based trip  = Schedule subject to change * = R. S. College (714) 480-7390

SEE PAGES 23-33 for EXPLORING TRIP DETAILS and PAGE 22 for RESERVATION INSTRUCTIONS



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11	12	13	14	15	16	17	15 Pinyon Mtn. p23	16	17*	18	19	20*	21
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25 Death Valley I	26 Death Valley I p23	27	28	29	30	31	29 Truckhaven p24						
						1			1	2	3	4	5 Plute p28
2	3	4	5	6	7	8	6 Plute p28 Arrowhead p28	7	8	9	10	11	12
9	10	11*	12	13	14 San Felipe, Baja p27	15 San Felipe, Baja	13	14	15*	16	17	18	19 Hot Spring Mtn. p29 Volcanos p29
16 San Felipe, Baja	17 San Felipe, Baja p27	18	19	20	21	22	20* Hot Spring Mtn. p29 Volcanos	21 Volcanos p29	22	23	24	25	26
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5 Arrowhead p28	6	7	8	9	10	11 Bodie p31	3	4	5	6	7	8 Introducing Hammersel p33	9 Introducing Hammersel p33
12 Bodie	13 Bodie p31	14	15	16	17	18 Golden Trails p32	10	11	12	13	14	15 Death Valley II p32	16 Death Valley II
19 Golden Trails	20 Golden Trails p32	21	22	23	24	25	17 Death Valley II	18 Death Valley II p32	19	20	21	22	23
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							31						

TRIP DIFFICULTY

The most difficult question we have to answer is, "How hard is the trail?" It's relative — to your experience relative to ours — what you drive — and what Mother Nature has done in the last day or so. Following are three general classifications that help bridge this communication gap. Under all circumstances, remember the most powerful thing we teach, preach and practice: Learn to turn around and give up! The driver is always responsible for moving on or turning back. We also recommend you refer to your copy of *Backroad Trips and Tips* for additional trail classification information and the Trip Policy above for more details. See page 36 for more on *Shifting into 4WD*—342 pages of sage Coyote advice on "how to use your 4WD off highway."



EASY TRIPS: These are introductory-level trips. They are typically passable with a two-wheel drive with good ground clearance, but the Coyote requires 4WD on most all trips. Using four-wheel drive makes the trip safer and there will be less environmentally abusive tire spinning. Regardless of trail difficulty, companion vehicles are always recommended on all trips into the backcountry.



MORE DIFFICULT TRIPS: These trips are designed to help improve your 4WD driving skills, but still revolve around using stock 4WD as a means to an end. Four-wheel low range, lower tire pressure and some 4WD driving experience help.



MOST DIFFICULT TRIPS: Most-difficult trips focus on driving and are basically thrill-and-skill rides versus "tours." Virgin beginners are discouraged. Four-wheel drive with a closed differential (posi or locker) in the rear is helpful. Lockers in the front and rear are ideal. Low tire pressure and 4WD driving experience are required.

ECO4WD TRIP POLICY & RESERVATIONS

NONDISCRIMINATION AND RESPECT FOR MOTHER NATURE: ECO4WD is an equal opportunity service provider and permittee for all properties traveled. We only use designated trails and areas, and have the utmost respect for Mother Nature.

POLICY0310

RESERVATION PROCEDURE: You may reserve with a deposit (*confirmed*), or without (*unconfirmed*). Include your name, address, home and work telephone numbers, e-mail and the name of the trip(s) of interest. A postcard is immediately mailed to **confirmed** reservations. About 4 to 6 weeks prior to the trip, **confirmed** reservations receive a trip information packet requesting balance due. **Unconfirmed** reservations will be notified if space is available. **Mail reservations and check made payable to: ECO4WD, P.O. Box 12137, Costa Mesa, CA 92627; FAX (949) 645-7738; e-mail: info@eco4wd.com.** Also use a hard copy or online order page (see page 39 this issue) to register.

ITINERARY: Due to the expeditionary nature of all EXPLORING TRIPS, the exact accommodations, meals and itinerary may change. Every effort is made to conduct the trips exactly as presented, but that is not guaranteed. When changes are made that affect trip cost, additional fees may be requested or partial refunds issued for the change in service.

DISCUSSION: College class or prior trip participation is not required for EXPLORING TRIPS. Legally insured, street-legal, four-wheel drive vehicles with a low-range transfer case and reasonable ground clearance are required, except as noted in the trip descriptions. Stock sport utility vehicles are acceptable and, generally, modifications are not required. All-wheel drive, sedan/van type vehicles and towed trailers, regardless of design, are not accepted unless noted. You should be capable of operating on your own. **Required on all trips:** Water, CB radio, spare tire and equipment to change it, working seatbelts and windshield wipers/washers, yank strap, metal top or roll bar, trash bag, toilet paper and shovel, and completed Vehicle Self-Inspection and Exploring Trip Policy forms, plus a separate Registration/Liability form for every participant, regardless of age. **Most-difficult** (black diamond) trips require front and rear tow hooks, and high-performance tires. **Camping trips** require self-contained camping equipment plus food and drinks. See the **REQUIREMENTS** of each trip description for additional stipulations. All furnished accommodations/meals (when included) and guide services are based on double occupancy. Single travelers pay the same rate. Check regarding fees for additional passengers or children if not specified. ECO4WD reserves the right to screen and reject any reservation or participant. For college trips, read their policies, too and contact them directly for registration information.

DISCOUNTS, DEPOSITS, REFUNDS and FEES: Book three trips or three 4Xs on the same trip, directly with us, more than ten weeks in advance and receive a **5 percent discount**. Save money and travel with friends by booking as a group. **Deposits** and trip fees (specified in the trip descriptions) are **NONREFUNDABLE** regardless of reason, partial or non-participation. Deposits and trip fees are transferable to other trips, up to six weeks before the first-booked trip, within the same calendar year, but not to future years. Cancellations are only accepted by mail. A partial deposit or trip fee refund may be made, less a \$20 **cancellation fee**, for trips canceled or transferred by you, in writing, and filled by another. A **full refund** is made for trips canceled by ECO4WD. A 20% **late reservation fee** is added for trips booked less than six weeks before the trip. An additional passenger fee of \$17/person/day, regardless of age is always charged for insurance. Other fees are quoted in the trip descriptions. Trip fees are subject to change.

DEATH VALLEY I PINYON MOUNTAIN

HOTEL: Our rocky approach takes us up the Lippencott Mine Road and reveals the Race-track, Teakettle Junction and eventually pavement at the spectacular Ubehebe Crater. That evening, we'll settle in for three nights at Furnace Creek Ranch. Bright and early the next morning, it's off to the Rhyolite ghost town, then Titus Canyon. This dirt trail

TRIP LEADER: Harry Lewellyn



offers a spectacular perspective of the valley and a majestic vista of California's Sierra Nevada. The afternoon is free, but be sure to mosey on back that evening for a chicken 'n ribs dinner on the Coyote. Throughout the third day we'll leave no stone unturned as we explore the unique features of Striped Butte Valley. Then, it's out via Mengel Pass and a quickie stop at Ballarat as we head for the Ranch. The last morning, it's back on the road for home via Dante's View, Shoshone, Baker and I-15 south.

WHEN: January 23-26, 2004

FEE: \$675 per 4WD (one or two people) includes three nights lodging and a chicken 'n ribs dinner for two; \$810 after Dec. 12, '03. Add a second couple in your 4X for \$534. **Deposit:** \$250

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY; *snow chains required.*

TRIP LEADER: Harry Lewellyn



WHAT: Although full-size vehicles do not fit, the balance of us will barely squeak through the infamous *Squeeze* with the help of spotters. Farther down the rocky trail we tackle *Rear Window Breaker Rock*, the diagonal teeter-totter grade and *Heart Attack Hill*. These get the attention of even the most seasoned 4-wheeler. An optional gold mine tour is also planned for Day 1 and we'll enjoy a potluck dinner at our isolated desert camp that evening.

Sunday brings an informative walk through an Indian site, some interesting geological formations, playtime on sand dunes and Harry's always-popular "Unmapped Cut-Across Trail." We'll finish up at the most impressive overview in the Anza-Borrego Desert State Park — Font's Point.

WHEN: February 14-15, 2004

FEE/Deposit: \$150 per 4WD (one or two people); \$180 after Jan. 3, 2004. \$34 per additional passenger.

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY. *No full-size vehicles, but stock vehicles are welcome.*



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TRUCKHAVEN



TRIP LEADER:
Harry Lewellyn

WHAT: The challenging Truckhaven hills, in the Anza-Borrego Desert State Park, are a maze of trails that run from the sublime to the ridiculous. We'll leave the ridiculous for the real adrenaline junkies and concentrate on im-

proving skills and demonstrating proper equipment usage. Stock vehicles are welcome, but we discourage virgin beginners.

This trip offers a tamer version of Truckhavens past but still remains a black diamond. We'll climb up and down huge mud hills, navigate through twisty, narrow, offcamber trails, and cruise the washes. Saturday, we'll start with some exploring in the Anza-Borrego Desert State Park, then set up camp near Four Palms Spring about noon (potluck that evening). That afternoon, we'll find out what all the fuss over Truckhaven is about. Sunday, we'll hit the trails for a few hours before packing up.

Local attractions may include the 17 Palm Oasis, Calcite Mine, Locomotive Rock, and Palm Wash.


WHEN: February 28-29, 2004

FEE/Deposit: \$150 per 4WD (one or two people); \$180 after Jan. 17, 2004. \$34 per additional passenger.

REQUIREMENTS: Insured, street-legal 4WD with low range transfer case; see TRIP POLICY. *Lift, lockers or big tires not required; co-drivers are encouraged.*

LUNCH IN LUCERNE



TRIP LEADER:
Harry Lewellyn 

WHAT: We'll use mild dirt roads through the seasonal bloom and unique attractions of the high desert surrounding Lucerne Valley. We kick off with a trip back into history — World War II practice bomb cr-

aters in Means Dry Lake. Next, we'll stop for a peek at "Jackhammer," one of the toughest hardcore trails in California.* If we're lucky, we'll find a group there demonstrating the finesse required to negotiate such a trail. Then, we'll trek over to a fault uplifting from the Landers earthquake several years ago. The 6-foot by 50-foot slip is still visible! Lunch (provided at an additional cost) will be at an Indian rock art (petroglyph) site. Time allowing, we'll visit some geoglyphs (rock designs), additional evidence of Indian presence. The last attraction is a cluster of ancient Mojave yucca "clone circles," the largest of which is at least 12 feet in diameter!

WHEN: March 20^A and October 30^B, 2004

FEE/Deposit: \$70 per 4WD (one or two people); \$84 after Feb. 7^A and Sept. 18^B, 2004. \$17 per additional passenger.

REQUIREMENTS: Insured, street-legal 4WD; see TRIP POLICY.

LOW RANGE NOT REQUIRED.

** See page 26 for our 2-day sand driving seminar in this area and page 33 for our new extreme black diamond skills seminar at the Johnson Valley "Hammers."*

BAJA WHALES & ROCK ART BORREGO BOONDOGGLE II

TRIP LEADER: *Harry Lewellyn*



TRIP LEADER: *Harry Lewellyn*



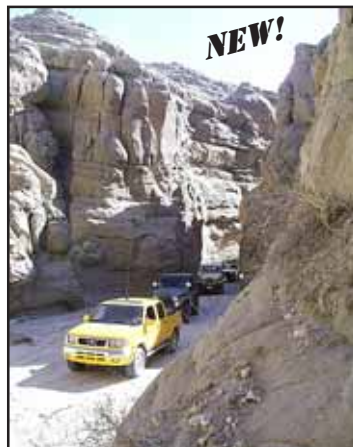
WHAT: Let Baja introduce herself with an easy (*all cars OK*), all-hotel trip midway down the mysterious peninsula for one of Mother Nature's most spectacular treats—the Pacific gray whale. Scammon's Lagoon is the winter breeding and calving grounds for these 50-foot wonders, which means newborns, too! Friday, we'll put *Tijuana* and *Ensenada* far behind, as we adjust to the Mexican pace and desert scenery. Time allowing, we may visit the cave paintings near our first

night at the *La Pinta Hotel* at *Cataviña*. It's only a short jaunt from there to *Guerrero Negro*. Allowing that the winds can rearrange our schedule, we'll board our 20-foot whale-watching pangas the next morning for the experience of a lifetime. That night is our group dinner at the *Malarrimo Cafe* on the Coyote. Next, we'll day-trip to a remote, grand mural-style cave painting site. The following day, we'll take a local excursion, most likely to *Mision San Borja*, then head north to *Cataviña* for the night. At last, it's back to *Ensenada*, in time to shop or explore and share whale tales at the *Hussong's* and other touristy spots. Participants may stay behind for more touring on Thursday.

WHEN: March 5-11, 2004

FEE: \$835 per vehicle (one or two people)—includes hotels, whaleboat, cave paintings and group dinner; \$1002 after Jan. 23. **Deposit:** \$300

REQUIREMENTS: *Any insured, street-legal vehicle is accepted on this trip, 2WD or 4WD; see TRIP POLICY.*



WHAT: Join us on this new camping tour for three good days of badland adventure in the largest state park in the continental U.S. First, we'll work our way down through the high chaparral via the *Jasper Trail* and *Grapevine Canyon* to the *Borrego Valley*. Just before setting up base camp, we'll take in the most spectacular view of the *Borrego Badlands* from *Font's Point* and find the *Pumpkin Patch*, time allowing. That evening, we'll have our traditional potluck dinner. On Saturday, *Sand-*

stone Canyon, the *Wind Caves* and other attractions in the *Fish Creek* area will fill the day before heading back to camp for another night under the stars. On Sunday, we'll fill the day with the *Slot*, bubbling mud pots and an artesian well as we head for *Highway 86* near the *Salton Sea* and say our goodbyes to new friends and dusty trails.

WHEN: March 26-28, 2004 (Friday through Sunday)

FEE: \$210 per 4WD (one or two people); \$252 after Feb. 13, 2004.

Deposit: \$100

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY.

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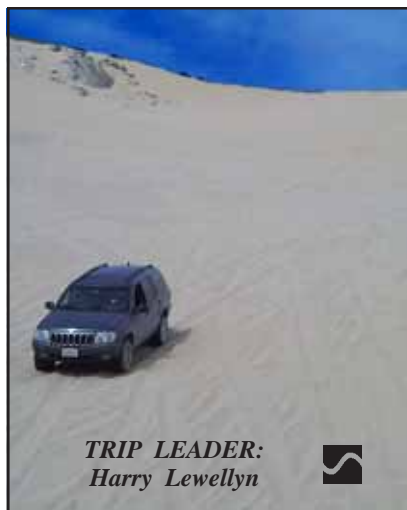


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LUCERNE SAND SESSION MOJAVE EXPEDITION

WHAT: This weekend getaway couples sand driving skill improvement with local geological, botanical and archeological attractions. In the high desert near Lucerne Valley, we'll practice the ups and downs of conquering the soft sandy stuff and reveal the ultimate secret to staying afloat! We'll also discuss a variety of airing up and down methods and products. And to just ensure you'll always be capable of pulling out your stuck buddy, we'll throw in a recovery secret or two.



Saturday evening, we'll make camp near the dunes and enjoy a potluck dinner. On Sunday, we'll play on another larger dune and hone our skills. Time allowing, we finish the weekend with a tour of nearby Indian rock art and Yucca clone circles. See "Lunch in Lucerne" on page 24 for an easy daytrip in this area.

WHEN: April 3-4, 2004

FEE/Deposit: \$150 per 4WD (one or two people); \$180 after Feb. 21, 2004. \$34 per additional passenger.

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY; *tire air compressor*.

TRIP LEADER: Roger Vargo

WHAT: Explore mountains and canyons in the Western Mojave. Visit "Burro" Schmidt's 32-year obsession as seen on Huell Howser's "California's Gold." On this one day tour, suitable for the entire family, you'll discover a scenic and historic area just beyond your back door. No prior 4WD experience is necessary.

WHEN: April 10 (approximate date), 2004

FEE/Deposit: \$75 per 4WD (one or two people). \$17 per additional passenger.

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY.

BONUS TRIP **with Roger Vargo**

WHAT: Make this a getaway weekend and spend Saturday night in a local B&B or in one of Ridgecrest's upscale motels and join us for this FREE bonus trip. Participation in Saturday's Mojave Expedition (above) is not required. This is our way of introducing our brand of backcountry travel to new guests and a way to say "thanks" to our regular travelers.

WHEN: April 11 (approximate date), 2004

FEE/Deposit: No charge

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY; *limited to 10 vehicles*.

Advanced registration is required.

TRIP LEADER:
Harry Lewellyn

COPPER CANYON SAN FELIPE, BAJA

WHAT: Join this (all-hotel) driving vacation into *Barranca del Cobre* (Copper Canyon), Mexico's Grand Canyon. **Day 1** takes us to *Nuevo Casas Grandes* and the famous *Paquimé*

(Indian) ruins. **Day 2**, our dirt road adventure begins as we drive to our remote hotel at *Tejaban*, perched on the rim of the "real" Copper Canyon. From there, we head for a night at the bottom of tropical *Batopilas*, another canyon, rich in mining history. **Days 4-5** are spent in in Creel, an active lumber town, that offers trinket shopping and local tours of Indian

cave dwellings, "Mushroom Rocks," and more. **Day 6** is an easy paved cruise to *Divisadero*, where we're treated to another spectacular "over look" at the canyon rim. Stay close to experience the hubbub of vendors and excitement when the first class train arrives. **Day 7**, we hit the dirt again on en route to rustic *Cerocahui* for 2 nights. **Day 8**, we'll likely take a day-trip into tropical *Cañon Urique*, and drop off clothes/supplies along the way. **Day 9**, the trail roughens on our way to *Temoris* a small, prosperous agricultural town with another "divisadero." **Day 10**, we ford the *Chinipas* River and undertake the last and longest leg of 4WD leading to *Alamos*, a colonial town of 10K residents. There, we'll relax, shop and sightsee before the inevitable trek to Tucson.

WHEN: April 16-27^A and November 12-23^B, 2004

FEE: \$2,300 per vehicle (one or two people); \$2,760 after March 5^A and October 1^B, 2004 **Deposit:** \$300

REQUIREMENTS: Insured, street legal 4WD with low range transfer case; see TRIP POLICY; SSB CB radio.



WHAT: This trip is a great opportunity to get acquainted with Baja and the ol' Coyote, and make new friends. While enjoying one of the nicest hotels in San Felipe, we experience the spectacular Sea of Cortez tides and learn to master the sand!

Day 1: We'll make a leisurely midday border crossing and arrive with plenty of time to settle into our home for three nights. The highlight will be **Day 2** as we meander on south to Puertecitos, then turn our attention and direction back north for the sandy trek to dinner (included) at Laguna Percebu. **Day 3** is open. We'll lead the majority on a local excursion, or you can stay behind and do your own thing. **Day 4** brings on a twist, as we head for the Sierra de Juarez and Laguna Hansen, a tropical storm-fed lake, for our lunch break at 5,000 feet among the pines. This usually affords us a mild Tecate border crossing.

WHEN: May 14-17, 2004

FEE: \$655 per vehicle (one or two people); \$786 after Apr. 2, '04. Includes hotel and Percebu dinner for two. **Deposit:** \$250

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY; tire air compressor.

TRIP LEADER: Harry Lewellyn



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PIUTE PASSAGE

TRIP LEADER: Roger Vargo



WHAT: Start the summer off with a cool trip through the mountains. The Piute Mountains of Kern County are part of California's Sierra Nevada. This is an mild and scenic weekend camping excursion.

Suitable for stock vehicles, this trip combines sight-

seeing and exploration of historic areas. Starting near Mojave, we'll explore some of the area back roads and mining history before climbing into the Piute Mountains (6,700 feet). Like travelers from the 1800s, we'll set up our primitive camp under the trees of the Sequoia National Forest.

Once we reach civilization Sunday, we'll have the option to take a one-hour "Likety Split" white water raft trip on the Kern River. This will be at an additional cost of about \$20 per person. Tour meets near Mojave and ends in Kernville-Lake Isabella area.

WHEN: June 19-21, 2004

FEE/Deposit: \$140 per 4WD (one or two people); \$166 after April 25, 2004. \$35 per additional passenger.

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY.

ARROWHEAD ADVENTURE



TRIP LEADER: Harry Lewellyn



WHAT: Are you aware there are alternatives to the paved way up to Lake Arrowhead? Do you know why it's called Arrowhead? This leisurely Sunday brunch tour reveals breathtaking panoramas of Silverwood Lake and the high desert. We'll weave our way through the maze of

hills and gullies that lead up to Lake Arrowhead and optionally challenge a short, rough section near Pilot Rock. By noon, we'll arrive at Lake Arrowhead Village, where brunch is scheduled at Woody's Boathouse Restaurant. It's got a fine breakfast/salad bar or you can order off the menu. We'll allow an hour after lunch to take a boat ride on the lake (additional) or hit the shops. All in all, it's a pleasant way to spend a Sunday exploring the back roads of our local mountains.

WHEN: June 6^A and September 5^B, 2004

FEE/Deposit: \$60 per 4WD (one or two people); \$72 after April 18^A and July 25^B, 2004. \$17 per additional passenger. *Brunch is additional.*

REQUIREMENTS: Insured, street-legal 4WD; see TRIP POLICY.
LOW RANGE NOT REQUIRED.

HOT SPRING MOUNTAIN LAND OF VOLCANOES



TRIP LEADER:
Harry Lewellyn

WHAT: Presenting a cross section of terrain from beginner to impossible, this tour is designed to help all 4WD owners safely improve their backroad driving skills. Saturday, we'll make a pit stop at the campground (around 3,000 feet) on our way to the lookout on the highest point in San Diego County. We'll return to camp for lunch and then head for Dirty Shorts (AKA Marshmallow) Hill for a scenic drive.

We'll discuss the next day's activities over a potluck dinner and campfire. Sunday morning, we'll pause at Turning Rock for an overview of black diamond "never-never land" before a skills-improving session on Up-Down Hill. Next, we'll take a cruise down Ladybug Lane for a peek at the tough Bronco Hill. Motorhomes, trailers and families welcome—no hookups available.

WHEN: June 19-20, 2004

FEE/Deposit: \$150 per 4WD (one or two people); \$180 after May 8, 2004. \$34 per additional passenger. A \$15 per vehicle camping fee is due at the gate; trailers are slightly more.

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY.

TRIP LEADER: *Roger Vargo*



WHAT: Seen the films, "Volcano" or "Dante's Peak"? The real forces of Mother Nature are close at hand in the northern Owens Valley. Long Valley is a collapsed volcanic crater that once erupted with a force 600 times greater than Mount St. Helens!

We'll spend three days exploring this cool high country. Travel from the Chalfant petroglyphs to the geologically active Long Valley Caldera. See geologic forces at work in Hot Creek where hot springs continue to purge heated water. Tour prehistoric Mono Lake by canoe (additional).

Later, it's off to the pumice mines and Devil's Punchbowl before returning to our overnight digs. Tour starts in Mammoth Lakes. Spend two nights in Mammoth or Bishop.

WHEN: June 19-21, 2004

FEE: \$300 per 4WD (one or two people); \$360 after May 8, 2004. \$65 per additional passenger. **Deposit:** \$100

Accommodations/meals not included; stay in a motel or camp.

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY.

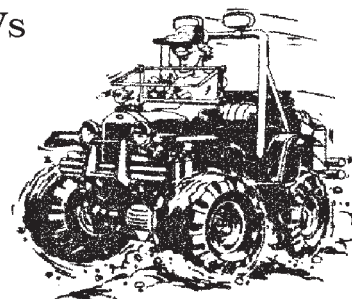
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FAT HILL FANDANGO

TRIP LEADER: Roger Vargo



WHAT: Mexican miners named the area *Cerro Gordo* (Fat Hill) for its abundant supply of high-grade silver ore. Silver from Cerro Gordo's mines and related shipping industry awakened a sleepy Los Angeles in the late 1860s to early '70s. L.A.'s thirst later compelled William Mulholland to return to the Owens Valley in search of liquid gold. We'll follow the aqueduct and the old Midland Trail (Highway 395) to Lone Pine, where we'll spend two nights.

Explore southern Owens Valley near Lone Pine and the WWII relocation camp at

Manzanar. Learn about the close, though sometimes strained, relationship between the Owens Valley and Los Angeles. Climb the challenging Swansea Grade and explore an old salt tram operation on the way to the ghost town of Cerro Gordo, the 1860s town that built Los Angeles. Tour meets near Mojave and ends in Lone Pine.

WHEN: July 17-19, 2004

FEE: \$315 per 4WD (one or two people); \$380 after June 5, 2004. \$75 per additional passenger. *Accommodations/meals not included.* **Deposit: \$100**

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY.

RUBICON RENDEZVOUS

TRIP LEADER: Don Carter



This trip fills up early!



WHAT: The world-famous Rubicon Trail has become the standard by which all other 4WD trails are judged. Three words describe this trail: **miles of ROCKS!** It winds from Georgetown (east of Sacramento) to Lake Tahoe.

We rendezvous Thursday night in Georgetown (motel included). Friday, we take a long hard look at the formidable *Little Shuice*, then either run it or bypass the little devil. We'll camp at Rubicon Springs. Saturday is reserved for R&R. Sunday morning starts with the struggle up *Cadillac Hill*. We'll be glad to see pavement again near South Lake Tahoe.

WHEN: August 19-22, 2004 (Thursday to Sunday)

FEE: \$370 per 4WD (one or two people). \$444 after July 8, 2004. \$51 per additional passenger. **Deposit: \$150**

***REQUIREMENTS:** Insured, street-legal 4X with low-range transfer case; see TRIP POLICY. *Some rock crawling experience is required. Vehicles bigger than a Wrangler need a rear locker; no full-size/long wheelbase. 31" tires with lift and locker are highly recommended.*

MONACHE MEANDERING BY GOD, TO BODIE!

TRIP LEADERS: Roger Vargo



TRIP LEADER: Roger Vargo



WHAT: This tour is named for Monache Meadows, the largest meadows in the Eastern Sierra Nevada Mountains. The meadows, in turn, are named for the Monache Indians, who lived in Inyo and Mono Counties more than a century ago.

Our journey also includes the Sherman Pass 4X4 Trail. From our forest base camp, we'll spend the better part of three days and two nights exploring the high country above the 7,000 foot elevation mark. Prior 4WD experience is recommended but not required. Narrow clearances through the trees restrict this trip to non full size vehicles. Only compact pickups, SUVs and jeep-type vehicles are permitted (stock vehicles encouraged).*

The scenery is spectacular but the camping is primitive for two nights at the same location. Meets near Mojave; ends in Kernville.

WHEN: August 14-16, 2004

FEE: \$200 per vehicle (one or two people); \$242 after July 3, 2004. \$65 per additional passenger. **Deposit: \$100**

***REQUIREMENTS:** Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY. *No full size/long wheelbase.*



WHAT: Discover some of the fascinating geologic and mining history of Eastern California on this mild tour.

Saturday we'll explore the old stage road to Benton and part of the old Bodie Railroad right-of-way from Mono Mills, where Bodie's lumber was cut in the 1880s.

Sunday, it's on to Masonic, then the rest of the afternoon in Bodie, once one of the most lawless of Western mining towns. Once in Bodie, we'll explore the town and tour the Standard ore processing mill. Bring your camera! Lots of 19th century history and lore! Tour starts and ends in

Mammoth Lakes (Mono County, CA) each day. Stay two nights in Mammoth or Bishop.

WHEN: September 11-13, 2004

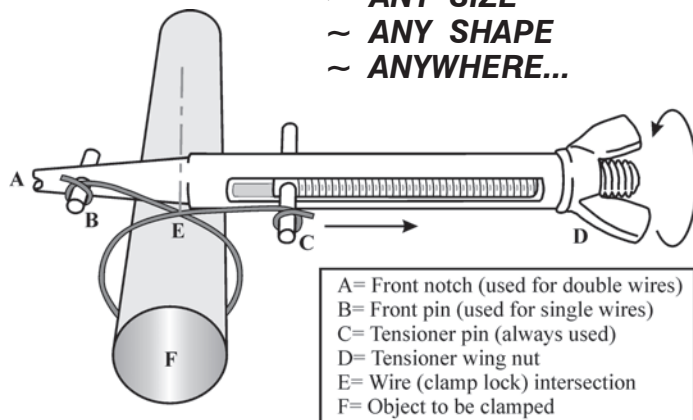
FEE: \$300 per vehicle (one or two people); \$360 after Jul. 31, 2004. \$65 per additional passenger. **Deposit: \$100** *Fee includes Bodie admissions. Accommodations/meals not included.*

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY.

CLAMP TITE™

CLAMP ANYTHING

~ ANY SIZE
~ ANY SHAPE
~ ANYWHERE...



A= Front notch (used for double wires)
B= Front pin (used for single wires)
C= Tensioner pin (always used)
D= Tensioner wing nut
E= Wire (clamp lock) intersection
F= Object to be clamped

HUNDREDS OF USES around the home, workshop, garage and **IN THE FIELD.**

This tool is a must for any backcountry traveler's "getchaback" box!

Great for emergency repairs or a permanent fix: broken handles, fishing poles, pipes, furniture, toys and sports equipment, fences and gates, farm machinery, mufflers and tailpipes plus other automotive uses, including splicing large gauge starter wire! Your imagination is the only limit regarding this helpful tool.

tool box • getchaback box • any vehicle home • workshop/garage • farm/ranch boat – fix a cracked mast • airplane – bush pilots projects/repairs – The perfect handyman's helper!

Stop leaky hoses on the spot! Perfect for underground applications (swimming pools, irrigation, sprinklers). Stainless steel wire (included) won't rust.

Make instant clamps from ordinary wire, or even a clothes hanger!

Order on page 39!

See www.eco4wd.com/product/product_details/ClampTite.pdf

NoLoss

CAPTIVE TIRE VALVE CAPS

Guaranteed never to lose or leak!

Never lose another valve cap! These nifty caps will revolutionize your airing up or down experience.

No more searching for dropped caps!

No more storing those filthy caps in your mouth!

Secure the polyethylene restraining straps over valve stem threads for permanent storage and screw down the brass caps to tighten. Simply unscrew the nickel plated brass caps to inflate/deflate and the straps will hold them safely just a fingertip away.

**Use on any
valve stem!**

- cars/4WDs/ATVs
- RVs/big trucks
- bikes/motorcycles

Order on page 39!



**Built for NATO
military vehicles!**



Caps will not stick to brass valve stem threads. Inside features an o-ring for a positive, air tight seal. Outside, the knurled surface offers slip free gripping. And if you forget to screw a cap back on, it's restraining strap will withstand 80 MPH speeds!

**For frequent tire pressure changes,
increase airing up/down times by
removing the valve core! Will not leak
with the core removed!**

See www.eco4wd.com/product/product_details/CaptiveValveCaps.pdf

GOLDEN LEAVES AND GOLDEN TRAILS

TRIP LEADER: Roger Vargo



Early fall is a great time to explore the backcountry of Mono County, CA and Mineral County, NV. Deciduous tree leaves are starting to turn golden along trails once used by nineteenth century gold seekers. This tour takes off where the Bodie tour ends. Tour starts each morning from our base in Mammoth Lakes.

We'll venture back to the 1860s and visit the site of the original seat of Mono County, Aurora, once a major mining center that reached dominance before Bodie, time, sagebrush and brick hunters erased much of the town. We'll search for Aurora and its cemetery while traveling on old wagon and freight routes. On the second day, we'll explore sites in the general direction of Mono Lake and Bridgeport. One destination will be the Dynamo Pond where hydroelectric power was first generated for Bodie's Standard Mine and Mill. Next, we'll climb high into the mountains to the old mining area of Dunderberg, then head southward to a more modern mining operation.

WHEN: September 18-20, 2004

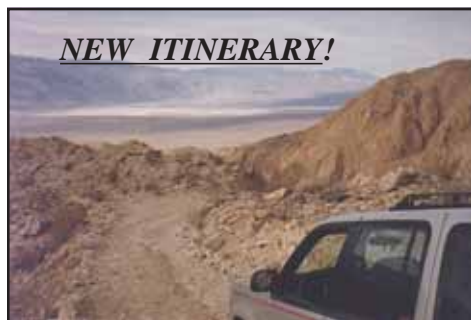
FEE: \$300 per vehicle (one or two people); \$360 after Aug. 7, 2004. \$65 per additional passenger. **Deposit:** \$100

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY. *Accommodations/meals not included.*

DEATH VALLEY II

TRIP LEADER: Harry Lewellyn

NEW ITINERARY!



CAMPING: We won't be slaves to a hotel-based itinerary, so we'll see more of the backcountry and attractions. Since we are completely revising this popular tour, the final route is still in the air. The general plan is to start in Baker, CA and spend the first day

exploring Shoshone's Historic District "cave" rooms on our way to Echo Canyon. There, we will make camp and have our traditional potluck dinner at the Inyo Mine. **Day 2,** we'll exit Echo Canyon via a little side canyon out to Beatty, NV for fuel before making our way up to the Keane Wonder Mine and the Chloride City ruins for night 2. **Day 3,** we'll use Death Valley Road at the far north end of the park, past the Eureka Dunes, then use Steel Pass into Saline Valley for a refreshing rinse in the hot springs and our last night under the stars. **Day 4,** we'll follow Grapevine Canyon up to Lee Flat and pick one of several exciting routes down and out to Highway 395.

WHEN: October 15-18, 2004 (Friday to Monday)

FEE: \$280 per vehicle (one or two people). \$336 after Sept. 3, 2004. \$68 per additional passenger. **Deposit:** \$100

REQUIREMENTS: Insured, street-legal 4WD with low-range transfer case; see TRIP POLICY.

NEW! INTRODUCING THE HAMMERS



TRIP LEADER: Blaine Johnson with Harry Lewellyn

SEE www.eco4wd.com/tours/hammer.htm FOR COMPLETE REQUIREMENTS AND DETAILS and preview the trails at www.justaddrocks.com (Johnson Valley).

WHAT: Get ready for a camping weekend devoted to taking 4WD to the final level. There are few trails in the USA, if not the world, with as much notoriety as the Johnson Valley, CA "Hammer" trails. They are the ultimate test of man and machine.



This *extremely* technical, black diamond skills seminar offers a supervised opportunity to experience the *Hammers* with knowledgeable, understanding guides. Our intent is to improve your skills and generate increased interest in the art of using 4WD off-highway. We cannot overstate the difficulty of these level 5 trails and will screen all 4Xs and drivers.

At noon on **FRIDAY**, we'll start with a brief seminar at Means Dry Lake (camp area). The leaders then inspect all vehicles at the base of *Jack Hammer* and guide a "graduation" run up the first quarter mile to the escape route.

SATURDAY morning, it's off to *Sledge Hammer* for the challenge of a lifetime! *Aftershock* is an option. Potluck that evening. Possible short run Sunday morning before packing up. Motorhomes/trailers OK; no hookups. Portable T.V. available for video recap at "lesson time" with enough interest.

WHEN: October 8-9, 2004 (Fri.-Sat.); start at noon on Friday.

FEE: \$250 per 4X and driver. \$300 after Aug. 27, 2004. \$75 per additional passenger/attendee. **Deposit: \$100**

REQUIREMENTS: Insured, street-legal 4X with low range transfer case; see TRIP POLICY. *Short wheelbase only: CJs, TJs, YJs, WJs, Samurais, FJ-40s, Defender 90s, Cherokees, 4Runners, short wheelbase pickups, etc. NO FULL SIZED RIGS. Sticks need extra low gearing beyond stock axles and transfer case. Automatics OK with just low geared axles. 35" or larger tires in good condition are required; 33s OK on Samurais. Hard lockers only; no limited slips in either end. Your 4X is expected to have: minimal tire rub on bodywork, adequate steering components, well maintained cooling system, good running motor, good clutch, no known automatic transmission problems, and no excessive leaks or faulty components. Winch not required, but test yours at home. Removing hard tops and doors is highly recommended.*

>SEE WEB SITE (OR CALL) FOR COMPLETE DETAILS!<

The Goodyear MT/R is an excellent tire for these trails.

Blaine Johnson Introduces the Hammers



Like most of you, I bought a jeep with the intention of going wheeling and testing both its capabilities and mine. Very quickly, I found myself and my rig in need of more levels of difficulty than CA's San Bernardino Mountains, Los Coyotes Indian Reservation

or venerable Rubicon. Out of necessity and desire, I was thoroughly bitten by the modification bug, too. If this sounds like something you can relate to, then it's time to take it to the next level. We are talking the extreme, technical, axle snapping, tie rod bending, body damaging, ultimate test of man and machine: the Johnson Valley "*Hammers*" and their endless rocks!

We will first run the beginning of *Jackhammer* up to the escape route to give you a taste of what *Sledgehammer* will be like. This is your opportunity to determine if you like what's coming Saturday or you are in over your head. Do not be afraid to bow out. These extreme trails are a test of both you and your rig, and there is no shame in coming back another day when your comfort level is higher. We will then get you over *Sledgehammer* with the least amount of damage possible.

See www.justaddrocks.com for more of what I do or contact me at mrblaine@cox.net

GUNFIGHTER, from page 6

instantly. Afterward, Brockman laid down his gun and surrendered to City Marshal, John Palmer.

The day following Carder's shooting, a coroner's inquest was held. It was determined that Brockman was a sober, industrious law abiding miner, who had been threatened by a man who was an expert gunfighter. Had Brockman not gone after Carder first, he would have been the dead man instead. The jury, and most of Aurora's citizens, felt that Moses Brockman was justified in shooting William Carder. Roswell Colcord thought, "the killing of Bill Carder was a necessity."

Carder's wife, Annie, thought differently and decided the killing of her husband was an assassination and the Lord would avenge her husband's death. She ordered the marble tombstone that is nearly buried in the ground on top her husband's grave in an almost forgotten part of the old Aurora cemetery. Whether the Lord avenged Annie Carder's husband's death, is still unknown as of fall 2003, nearly 139 years after the actual event.

Join us as we journey back to the rowdy days of the Old West on our tours **By God, to Bodie** (Sept. 11-13, 2004) and **Golden Leaves and Golden Trails** (Sept. 18-20, 2004). Also see page 4 for more about us and our other tours.

For additional history and Vargo trip updates, visit www.explorehistoricalif.com



Unlimited
air sources!

COYOTE AIR ROBBER

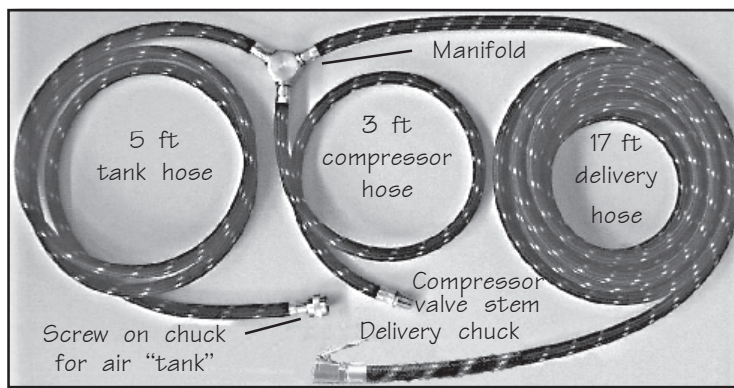
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page 39!

With the Air Robber, you have air with or without a compressor!

UNLIMITED AIR: You have as many air sources as you do nearby tires. With four friends, you have 20 nearby, simple-to-use air tanks! Or carry your spare up to the tire manufacturer's safe, **maximum load-rated pressure** and you typically can add air to four low tires. Best yet, this gives you the **air burst** to remount a tire on the wheel in the field! Got a flat spare? Like a coyote sacrifices a leg to escape a trap, rob a little air from the other three to save one!

SIMPLE TO USE: Connect the Air Robber's **screw-on valve stem chuck** to any inflated tire and use the **delivery chuck** at the end of the 17' delivery hose to bring up the low guy. The real innovation, however, comes mid-hose!

See www.eco4wd.com/product/product_details/AirRobber.pdf



INNOVATIVE DESIGN: Just three feet from one manifold port is a **valve stem**. Connect this to your compressor when it's time to air 'em all back up or whenever you choose. The compressor continually replenishes the source tire as you move from tire to tire. This provides higher pressure to the delivery system.

QUALITY MATERIALS & CONSTRUCTION:

In conjunction with G. H. Meiser's 78 years of ACCU-GAGE® and hose experience, the ol' Coyote brings you the best! The Air Robber is 22-feet long, uses brass fittings, has a screw-on valve-connector on one end and a conventional air chuck on the other. At the manifold is a three-foot hose with a conventional tire valve stem to connect a compressor.

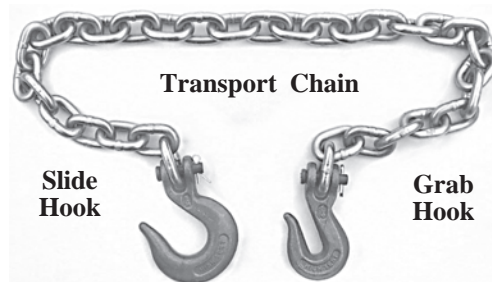
When your buddy is stuck and you are free, but you can't connect, use the..

COYOTE CHAIN



The **slide/choke hook** can attach directly to the 4X frame (above). Also use this hook as a choker to cinch up on anything, including the downed tree limb blocking your trail.

- 3' of welded, heavy-duty 5/16" transport chain
- Grab hook and slide hook
- Easy hook removal for versatility
- Endless recovery/repair uses



The **grab hook** loops back and attaches to any link. Here's the key: Use as above to attach a towline when your vehicle does not have a frame mounted tow hook.

Traveling the backcountry without one makes about as much sense as jumping out of an airplane ... without a parachute!

Order on page 39!

See www.eco4wd.com/product/product_details/CoyoteChain.pdf

TRUCKAIR

12V HEAVY DUTY INFLATOR

Truck Air can't be matched for the price!

This is the most cost-effective compressor around! You can pay 300 or 400% more and only reduce air up time by as little as 30%. Two of these units approach \$600 compressor inflation times!

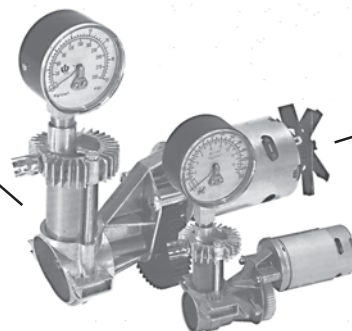
- Built-in 2-1/4" diameter, 300-psi pressure gauge
- 25" delivery hose with nozzle adapters for inflatables
- Fan-cooled, heavy-duty motor inflates even the biggest tires in minutes
- Long 13-1/2-ft power cord plugs into the cigarette lighter for 12V power
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TRUCKAIR
COMPRESSOR

MOTOR
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STANDARD
COMPRESSOR



Motor torque at
max. power
Max. air flow
Max. operating temp.
Motor diameter
Cylinder air
displacement
Non-stop
performance

TRUCK
AIR

Standard
Compressor

3.48 in. lbs.

1.48 in. lbs.

47 CFH

28 CFH

165°

350°

2.04"

1.4"

.49 cubic in.
per stroke

.20 cubic in.
per stroke

8 hours

30 minutes

See www.eco4wd.com/product/product_details/TruckAir.pdf

Order on page 39!

Master-Pull SUPER YANKER

The Coyote's #1 yanker recommendation!

High strength
and elongation!

Meets military
spec. #R-24052D

Rated and tested
by ASTM method
#D4268-83

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At 28,500# strong, this Super Yanker is more knot friendly and stretches 12.3% more than conventional flat, yellow yank straps. It has professionally hand spliced eyes that all but eliminate sewn-in eye failure. Heavy duty nylon chafe guards protect each eye against wear.

30'-long • 7/8"-diameter • double braid nylon rope

Comes with or without a vinyl storage bag.

See www.eco4wd.com/product/product_details/SuperYanker.pdf

SAFETY SEAL



ULTIMATE
TUBELESS TIRE REPAIR!

The Safety Seal tire plugger kit is easy to use and makes a permanent repair.



**PLUG TIRES IN MINUTES WITH LITTLE EFFORT
~ ON OR OFF THE CAR!**

Road heat completely vulcanizes the 21-ply plug through a U.S. patented repair process without the use of rubber cement. The repair is permanent because it becomes "one" with the inner-tire buytl rubber. It will not flow under heat or pressure.

DON'T TRAVEL THE BACKCOUNTRY WITHOUT ONE!

Wicking and rubber cement dry-out cause failure of other plugs and the cement often dries between use. Don't waste your money on *plug kits* that use rubber cement. Make the repair once with **Safety Seal**, and it will conform to the shape of the puncture and outlast the tire.

Kit comes with a durable 8" x 12" x 3" plastic case, pictorial instructions and 60 plugs. *Order on page 39!*

See www.eco4wd.com/product/product_details/SafetySeal.pdf

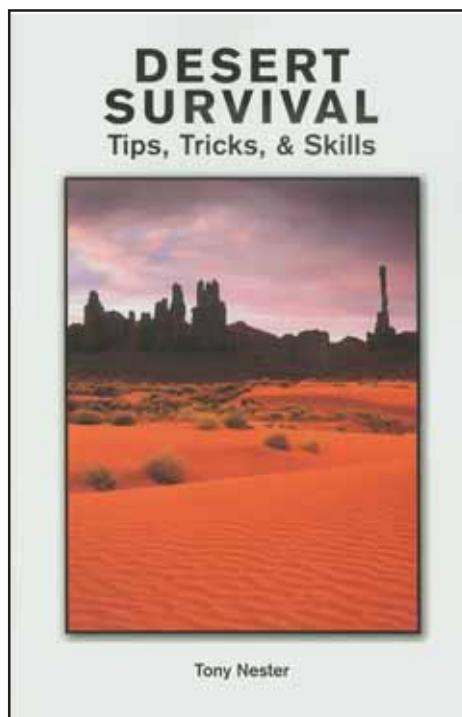
DESERT SURVIVAL Tips, Tricks & Skills

ABOUT THE AUTHOR: Tony Nester is a popular lecturer on wilderness survival and teaches courses throughout the Southwest. He has provided training for the National Park Service, U.S. Military and Grand Canyon Field Institute, and served as a consultant for the Discovery Channel. Tony is also adjunct faculty at Northern Arizona University and the author of the book *Practical Survival*.

By Harry Lewellyn

I'm impressed with Tony Nester's knowledge and the way he presents material vital to all who travel the desert – highway or backcountry. His practical experience shows!

I have seen far too many survival books take a "lack of experience, chest thumper" approach that I don't like. One book claimed the way to handle being stranded in the snow is to convert your 4X into a snow cave for the night by covering it with snow. Then, in the morning, uncover it to warm the 4X's inside followed by another snow-covering episode for the next night. If I had that much energy, I'd tie a rope to the 4X and drag it to civilization! That's not



too personal-energy efficient. Many times throughout his book, Tony demonstrates his understanding of energy output versus benefits when surviving. He also offers the Native American philosophy of becoming "one" with the environment and "living" versus just "surviving" in the desert.

Tony's caring writing style gets his points across without discrediting your prior knowledge. For example, he talks briefly about a desert still (a way of pulling water out of the dirt) and concludes the energy to make the desert still may not be worth it. My experience is the same: It's not worth it.

This book is about practical, realistic, proven desert survival practices. Where he's not an expert (snake bites, for example), he interviewed the professionals in a particular field, then shares their knowledge in a simple, layman-like way.

Considering our practical experience, it's probably not too amazing that he and I agree on so many points. We both stress the need for water and minimize the importance of food. Further, we also agree that: barrel cactus "water" is best left for the movies, preparation, planning and a small survival kit make surviving just a little more tolerable,

See **DESERT**/p38

Guide to 50 Interesting and Mysterious Sites in the Mojave

VOLUMES 1 & 2 Order on page 39!

Bill "Shortfuse" Mann brings over 50 years of desert experience and a B.A. in history together in his guidebook series.

Volumes 1 and 2 each detail 50 (different) of the most unusual sites in California's Mojave Desert. Color photos identify what to look for, while GPS and Southern California DeLorme Atlas coordinates help get you there. Also recommended for each site is what type vehicle to use for a safe journey — 2WD, high clearance 2WD or 4WD. Each book is 8-1/2 X 11" soft cover.

VOLUME 1: areas around Afton Canyon, Barstow, Black Canyon, Crucero, Opal Mountain and Yermo (88 pages; over 150 photos)

See www.eco4wd.com/products/book_Mojave1.htm

VOLUME 2: areas around Newberry Springs, Baker, Turquoise Mountain, Shoshone-Tonopah, Valley Wells and Mountain Pass (95 pages; over 150 photos)

See www.eco4wd.com/products/book_Mojave2.htm

GUIDE TO THE CALICOS: GHOST MINING CAMPS AND SCENIC AREAS

VOLUME 3 ... AND VOLUME 4 >

Guide to the Calicos details in depth the location and history of over 30 mining camps, towns, structures, and unusual geological formations in the Calico Mountains northeast of Barstow, CA. All sites are referenced to the Southern California DeLorme Atlas and include GPS coordinates.

This 120-page guide features over 70 historic photographs from the late 1800s and early 1900s plus current color photographs of the sites and gemstones found in the Calicos.

VOLUME 3: Bartlett, Bismark, Borate, Burcham, Calico Early Man Site, Calico Ghost Town, Columbia, Chimney Rocks, Daggett, Flash Two, Grotto Canyon, Hidden Valley, Kramer Arch, Wall St. Canyon, Marion, Owl Canyon, Palm Ridge, Rainbow Basin, Silver Bow, Striped Butte, Sue Falls, Sunrise Canyon, Sweetwater Springs, The Ponds, Tin Can Alley, Waterloo Mill, Waterman and Yermo-Otis

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The Ultimate Guides to the Backcountry for Anyone with a Sport Utility Vehicle

Backcountry Adventures: Southern California features 2,790 miles of routes that travel through the beautiful mountain regions of Big Sur, across the arid Mojave Desert, and straight into the heart of the aptly named Death Valley.

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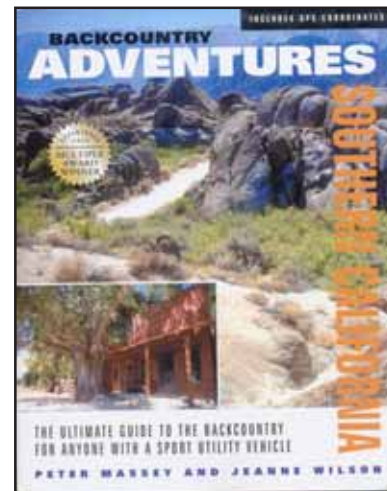
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- Profiles of colorful characters who have played a part in California's history
- Information and color photos to identify animals, flowers

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-and- www.eco4wd.com/products/book_BackAdvNorth.htm



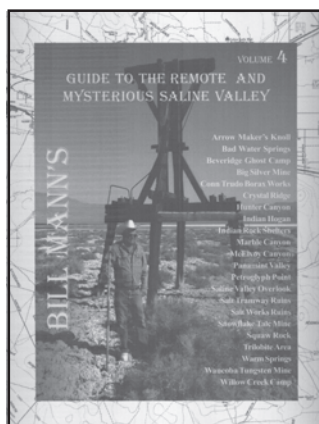
GUIDE TO THE REMOTE AND MYSTERIOUS SALINE VALLEY

There are numerous sites to visit from near barren desert to rich oasis settings in and around Saline Valley.

This book provides 116 8-1/2 x 11" pages with over 200 great color photographs of unique sites in the Saline Valley region of the Mojave Desert.

LISTED FOR EACH SITE

- Detailed directions
- References to DeLorme Atlas & Gazetteer
- GPS coordinates
- Vehicle requirements



Volume 4

Order on
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Volume 4: Arrow Maker's Knoll, Bad Water Springs, Beveridge Ghost Camp, Big Silver Mine, Conn Trudo Borax Works, Crystal Ridge, Hunter Canyon, Indian Hogan, Indian Rock Shelters, Marble Canyon, McElvoy Canyon, Panamint Valley, Petroglyph Point, Saline Valley Overlook, Salt Tramway and Works Ruins, Snow Flake Talc Mine, Squaw Rock, Trilobite Area, Warm Springs, Waucoba Tungsten Mine, Willow Creek Camp

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**Southern CA Atlas covers south of 37° latitude
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— Jimmy Nylund, *FOUR WHEELER Magazine*



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DESERT, from page 36

telling others where you are going and when you expect to return is important, not depending on your cell phone as your salvation, being prepared to immediately signal for help, heat stroke can be fatal and on and on.

In his 70 page, glove box size (6½” X 8½”) book (34 illustrations), he defines what a desert is, discusses human desert physiology and desert hazards, and continues with nine chapters on survival.

He discusses the anatomy of a survival situation, basic survival skills, outfitting your vehicle, obtaining water, shelters, fire making, knife use and safety, signaling, and sums up desert survival in the last chapter.

His first book in the series is *Practical Survival Tips, Tricks, & Survival*, which I did not review. He is also the principal of Ancient Pathways, LLC (www.desertsurvivalskills.com) that offers survival books, gear and courses.

We will offer *Desert Survival Tips, Tricks, & Skills* (Diamond Creek Press, ISBN 0-9713811-1-9, \$10.95), by Tony Nester for the next 60 days (see page 39 to order).



BOOK REVIEWS IN NEXT ISSUE:

High Sierra SUV Trails II and III, and Inyo-Mono SUV Trails (Mitchell) —PLUS— GUIDE TO LUCERNE VALLEY (Mann, Vol. 5)

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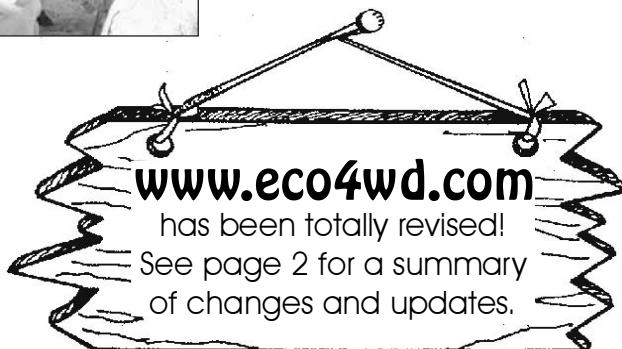
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