

TCT MAGAZINE

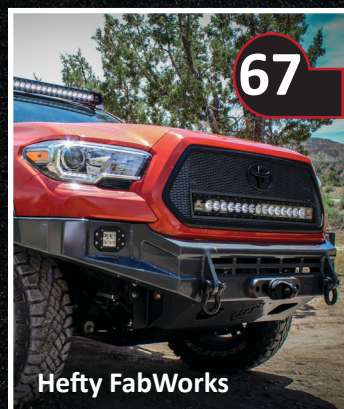


FALL 2016 • VOLUME 9 • ISSUE 4

On The Cover:

The 2017 TRD Pro Tacoma test drive in Hawaii. See page 54 for the full story!

Photo by Beau Johnston



EDITORIAL STAFF



Shane Williams | Publisher
2015 TCT Explorer Tundra
Colorado Springs, CO



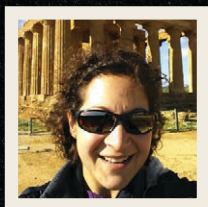
Beau Johnston | Editor In Chief
1998 4Runner | 1969 FJ-40
Casper, WY



Bob Holliday
2006 Tacoma TRD
2007 FJ Cruiser TRD SE
Denver, CO



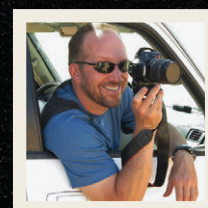
Jonathan Harris
2005 100 Series Land Cruiser
Grand Junction, CO



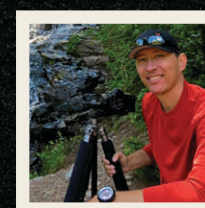
Krista Johnston
1998 4Runner | 1969 FJ-40
Casper, WY



Phillip Jones
2007 4Runner | 2006 Tacoma TRD
Frisco, TX



Daniel Markofsky
1993 80 Series Land Cruiser
Denver, CO



Dennis Lloyd
2010 FJ Cruiser
Eagle, ID



FROM THE PUBLISHER

WHO HAD A GREAT 2016??

As we enter the holiday season and wrap up our final issue of 2016, it's a really great time to reflect on what an amazing, and crazy, year this has been.

Here at Toyota Cruisers & Trucks Headquarters, we're still recovering from the adventures of the last few months, but are already planning so much great stuff for next year.

Our fearless Editor in Chief, Beau, is happy to be home for a few weeks but will soon be off on another adventure.

Phillip continues his pursuit for the perfect Overland Trailer, avian photograph, and will soon be sharing more about astrophotography than you ever thought you needed to know.

Bob is always working on the next big plan, most likely having to do with a certain red rock place in Utah.

Dennis is busy waiting for his new world HQ up in Idaho, and continues to impress us with daily photos.

Daniel just returned from Baja 1000 and will be sharing that story in a future issue.

For me and the Williams Family? Well...the TCT Explorer Tundra is feeling a little left out after the Hema Map Patrol trip (See page 16), so we're lining up quite a few fun adventures for next year.

Until then, Stay The Trail, Tread Lightly, and HAVE FUN!

Shane



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Published By
Zaxyn Media, LLC

Shane P. Williams, MASc, FAA sUAS | Publisher

Angela C. Williams, CSFA | Associate Publisher

Editor in Chief
Beau Johnston, P.E.

Senior Editors
Bob Holliday
Phillip Jones
Dennis Lloyd

Copy Editor
Krista Johnston, P.E.

Associate Editors
Jonathan Harris | Editor At Large
Don Grey | Event Photographer
Daniel Markofsky | Associate Editor
Heather Swearingen | Digital Editor

Business Development
Tyler Elser

Creative Director
Kimberly Proffitt

Contributors
David Dewhurst
Scott Hunt
Brandon Libby
Andy Lilienthal
Dean Moran

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5.11 

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FLANNEL

APEX PANT

The epitome of low-vis tactical apparel, built for hard use on the range, or in low-range. Go all out with its Flex-Tac® stretch fabric and Teflon® finish. [Shop 511Tactical.com](http://Shop511Tactical.com)

New & Noteworthy

Ready to Roll!

ComeUp USA Releases New Competition Level Winches!

"The fastest line-speed single motor winch on the market", dubbed the Seal MadX has just been released from ComeUp USA.

This competition-grade winch features a 7.0 HP sealed motor + a 67:1 gear ratio transmission to deliver no-load line speed of 82 FPM.



The Cone Brake Structure (CBS) provides full load holding brake force and prevents the vehicle from slipping or rolling backwards when the winch motor is stopped.

The winch also includes the new "COMEUP RACE TEAM" hawse fairlead, made from 1' aluminum bar. This thicker fairlead creates a larger throat radius surface for the synthetic rope to slide against, which means less stress and longer life for your synthetic rope.



The MadX Control Box is pre-wired with leads for installation of in-cab winch controls.



Additional Features include:

- Fully sealed transmission and motor system
- Submersible sealed contactor and water proof remote control
- External automatic full load Cone Brake Structure (CBS), perfect for synthetic rope

There are three different drum sizes available:

Long drum 10", Medium drum 8" and Short drum 6".

The Seal MadX is also available with the optional Race Team Package.

This package adds a 3/8" Dyneema 75 winch line & 1/2" Dyneema SK78 soft shackle from JM Rigging and a Factor 55 Splicer Thimble.

The Seal MadX 8.0 starts at \$1,035.95

<http://www.ComeUpUSA.com>

NEW 5th Gen 4Runner Platform Rack from Warrior Products!

Warrior Products has a new low-profile platform rack for the 5th Gen 4Runner that is perfect for your RTT, outdoor adventure gear, or anything else you need to haul up top.

Here are the specs:

- Easy, bolt-on installation using the existing roof track mounting bolts.

- Manufactured with 1-1/4" round tube and 1" square cross bars. Mounting points are constructed from 11-gauge steel.

Designed to directly accept most universal Yakima / Thule aftermarket sports accessory mounts; including: bike, boat, ski, and cargo mounts.

- Compatible with OEM Sharkfin Antenna
- Primered, then powder-coated for extended rust-prevention.
- 100% Designed, Manufactured, and Welded in the USA!!
- MSRP: \$899.99 | <http://WarriorProducts.com>



TOYOTA



TRAILS

MAGAZINE

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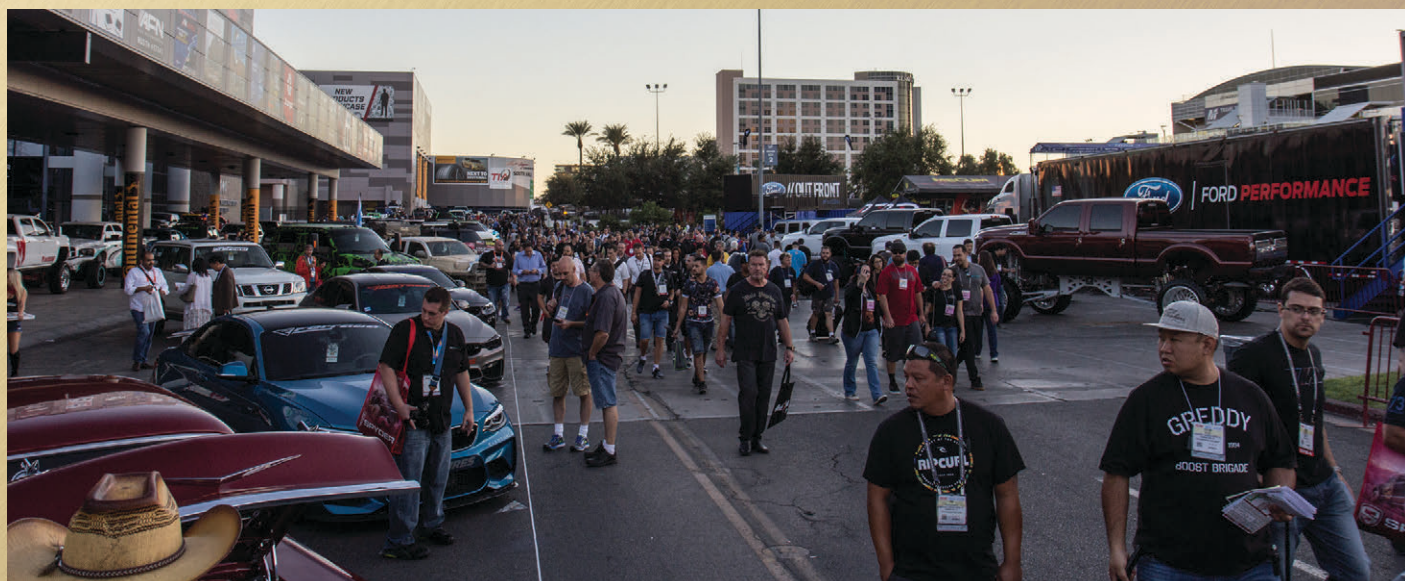
Celebrating 50 Years at SEMA

By Bob Holliday

It was nearly 50 years ago in January of 1967 when the first official SEMA show debuted under the grandstands of Dodger Stadium in Los Angeles. At the time, the show featured 98 booths and approximately 3,000 attendees. It was not until 1977 when SEMA moved to Las Vegas where it has been growing rapidly ever since. Today, the four-day event attracts more than 140,000 attendees and over 2,400 exhibitors from all over the world.



Although access to the inside halls is still limited, SEMA has expanded their outside festivities greatly over the last few years making SEMA a must-see for all automotive enthusiasts. What many may not know is there are areas inside the convention center with vehicles and products on display that are available to the public. One area that attendees and public have grown to appreciate is the New Products Showcase which gives a glimpse into the latest and greatest products being unveiled by exhibitors at SEMA that year. Beginning in 2014, SEMA Ignited brought many of the SEMA vehicle builders over to the gold lot to show off their previously hidden SEMA builds to the consumers. Topped off with drift performances and refreshments, SEMA Ignited has quickly become the official SEMA after-party.



BF Goodrich and Ford have stepped up in the recent years to provide endless entertainment options outside for attendees. BFG is always a favorite with the lineup off Baja 1000 trophy trucks on display. Ryan Millen and the Toyota race truck that took top spot in qualifying for the upcoming 2016 Baja 1000 was a great sight to see. They even had a pit crew challenge which gave participants a chance to come home with two sets of BFG tires for the fastest time. If you like drift cars, Ford will take willing participants on an adrenaline pumping ride on the track, laying down tire smoke everywhere the Mustang or Shelby goes. They even include a jump in the middle for those wanting a lap in a built Raptor which will take participants up and over for a little hang time.



THERE AND BACK

ARB 4x4 Accessories offers a full line of vehicle specific products for most 4x4 models around the world, including bull bars, Air Lockers, and Old Man Emu suspension systems.

Go ahead—Get out there.

“We Won’t Let You Down”



4X4 ACCESSORIES



8/1 Vol 09.4

ARB 4X4 ACCESSORIES 720 SW 34th Street, Renton, WA 98057 Tel: 866.293.9083 Email: sales@arbusa.com

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SEMA is not only a place for auto enthusiasts to drool over incredible builds and meet some of the top names in the industry, it's also a place for engineers, fabricators and manufacturers to showcase their hard work and dedication. While many of us are out on the trails putting our gear to the ultimate tests, these hardworking individuals are constantly thinking of ways to improve the products we love. Whether it's Superwinch revealing their new winch with eight patent pending new technologies or the Onyx group developing a direct bolt on electric powerplant, motor and transmission for the JK platform. There's always the much-anticipated armor and suspension updates like ARB, Warn and TJM revealing front and rear bumper options for the 2016–2017 Tacoma as well as Bilstein and King revealing redesigned front and rear suspension components for the same platform. And, who can forget the lighting developments with Baja Design's high output light bars and Rigid Industries LED system that will adapt to your speed going from flood to spot beam the faster you go.

As I cannot do justice to the amount of new development that we saw at the 50th anniversary of SEMA this year, you will have to enjoy some of the highlights from our experience from this year's show and stay tuned for many great features in TCT Magazine showcasing some of the great product releases for our Toyota platforms. 🇺🇸





SEMA2016 Highlights

By Bob Holliday



ARB included their new skid plates they will be offering for the Tacoma at their booth this year. A gradual slope back allows a smooth transition to cover the exhaust crossover below the transfer case.



The third gen ARB Tacoma had mounted their new rear bumper that will be offered next year. Although this bumper is on the third gen, the second gen Tacoma is not far behind.



Outside at the Gold Lot had a unique feature of some tricked out big rigs that looked more like artwork and not work trucks.





Bilstein had some tricks up their sleeves, well behind their wheels, on their Tacoma build this year. New bypass rear suspension accompanied new coilovers featuring ZoneControl dampening.



Another great SEMA journey was undertaken by this Tundra from Camel City (Winston-Salem, NC). These guys took advantage of the many great sites between NC and NV for a great break-in trip for the Tundra.



Showing SEMA, they know how to travel to the show, Bilstein proudly displayed their Tacoma with a fresh coat of dirt and mud.





Cooper Tires took their STT to a new level this year unveiling their popular STT Pro in a 40-inch option for those who are looking for reliable tires for the bigger rigs.



One of the highlights was seeing so many dirty rigs at SEMA this year. This solid looking FJ60 showed its owner loved to get out and use their rig.



A truck deserving a double take was this Datsun 1200 that showed off the empty engine bay which got you scratching your head. In the bed revealed the electric power plant powering this classic pickup.



The Trail Hunter FJ60 was a clean looking rig inside and out. Although the Toyota powerplant has been swapped, it looks like one great trail rig.



Icon's new Delta Joint will be coming out with universal applications which will allow a sealed, greaseable option for your uniball control arms.



The North Carolina based Garage Shop took their modified FJ40 on a month long journey to SEMA which can be seen through their social media outlets. Another amazing journey to hear first hand about and makes you want to get out and explore more!



Always a favorite are the Toyota Hilux scattered across the show. The King Shocks Hilux was certainly a beautiful build.



Race Truck meet Show Truck.



Outside the convention center, one can find some beautiful vehicles. These restored FJs from the FJ Company were two prime examples of outside beauties.



Maxxis had on display inside and outside their new MT tire, the Razr, offering a more road friendly tire while maintaining their aggressive and tough tire they're known for.



A WTF is that moment outside as we came across this interesting off-road Prius build. Would you drive it?



Leitner Designs's bed rack was on display at the AirRaid booth this year showing the versatility their rack offers.



Rhino Rack always has great features to their products making the stand out and show their multi-functionality features.



A beautiful classic Toyota Stout on display at the Toyota booth at SEMA 2016.



Rigid had on display their new LED system which can adjust the accent color as well as the light pattern through an easy to use switch. The system can also connect to the speed sensor of the vehicle which will adjust the light pattern depending on how fast the vehicle is going. Slower the speed, the wider the pattern. Faster the speed, the more spot the pattern gets.



Team 5 is a Special Operations Medical Foundation that reaches the overlooked, remote and forgotten places on the globe. This "Quick Response Force" Tundra is built to handle anything the team throws at it.



With eight patent pending technologies, Superwinch and their EXP winch, Superwinch continues to push winches to the next level.



One of the many head turners in the Toyota booth this year was a classic FJ25 restored perfectly.



2000HP Land Cruiser? Sure why not!



Toyota's 3rd gen Tacoma TRD Pro race truck was as clean as it gets. Would love to see it in action!



Warn heard the requests and has finally revealed their new Ascent Bumpers for the Toyota Tacoma featuring built in LED lighting and the durability expected from Warn.



THAT'S A WRAP!



An evolving must have product from Warrior is their new roof rack design with a growing list of rack accessories. Looking forward to seeing where they go with this.



Warn displayed a portable drill winch that would be a great addition to many toolsets out there. Imagine the possibilities! 🚚

6 Days on Hema Map Patrol

Part 1

By Shane Williams

**Late Summer of 2016 at 0600 MDT the Williams Family
and Hema Map Patrol Expedition, Day 0**

Add a project
that's been two
plus years in the
making to my
amazing (and very
understanding)
family and
we have the
beginning of
one amazing
adventure.



With over 22 years of military experience, I tend to ... over think things. Add a project that's been two plus years in the making to my amazing (and very understanding) family and we have the beginning of one amazing adventure.



The app promises to be the solution many of us have been waiting for: a single place for off-road/overland enthusiasts to plan, track, log, and share our vehicle based adventures.

Last May at Overland Expo WEST, Hema Maps launched their Hema Explorer North America mapping app for iOS and Android. Along with the Hema Cloud, the app promises to be the solution many of us have been waiting for: a single place for off-road/overland enthusiasts to plan, track, log, and share our vehicle based adventures. Part of the Hema Maps launch campaign included

Living Overland

Gourmet Cooking · Travel · 4WD

www.LivingOverland.com



The gourmet recipes and equipment reviews you need to make your overland trip a success.

The reality is that this type of expedition offers so much more than a dream vacation.

Our caution went out the window when the AT trailer started going sideways in the super-slick clay-like mud.

a very ambitious expedition to take their well-outfitted 2011 Twin Turbo-Diesel 200 Series Land Cruiser from the Mexican border to the Arctic Ocean, following the continental divide the entire way.

Team Williams (myself, my better half Angie, along with Brenden (6) and Alana (3)) drew the card to cover the route from Northern Colorado through Wyoming to Southern Montana. Over 1,100 miles, mostly on dirt, in about six days. For most people interested in our industry, this sounds kind of like a dream vacation. The reality is that this type of expedition offers so much more than a dream vacation. Mapping a route that thousands of people will rely on for years to come is without a doubt an honor, but that doesn't mean it's always easy.

Day 0: Let's get out of here!

"Southern Colorado will experience a multi-day monsoon that's very uncommon."

The weather report was not encouraging as we started north on Day 0. Our first mission was to drop off a vehicle at Denver International Airport so we would have a ride home after flying back from Montana. Pulling the Adventure Trailer setup with the Land Cruiser (LC), I followed Angie to the car-park, then we headed for the hills.



Our route for the first day was going to be a long one no matter what: Drive from Denver on highways over Berthoud Pass, then toward Kremmling, CO. Hit the dirt over the Continental Divide (CD) and camp somewhere outside Steamboat Springs.

3.5 hours into the journey, we finally hit dirt under a thick layer of clouds. Rain was threatening, but so far everything was dry. We made it about 20 miles into the mountains, not five miles

from the CD when the light rain began. We've all explored various terrain when wet, and while a little more caution is necessary, it's not usually an issue. Our caution went out the window when the AT trailer started going sideways in the super-slick clay-like mud. Literally in four minutes of driving, the trail we were on became wet, dangerous, and impassable.

The reality for Day 0 was simple: Don't wreck the Hema Map Patrol rig and put Team Williams in danger on the first day (or the last day for that matter). After perhaps the most stressful 30 minutes of my off-road career, we managed to get out of the mud with everything intact. We ended up missing about 65 miles of dirt along the divide, but made it to a hotel in Steamboat Springs safe and sound.

Day 1: Well...that was interesting

We awoke to a little fog, but no more rain. Having made our goal for Steamboat Springs, we pointed the Land Cruiser north and headed out of town. The route on dirt from Northern Colorado into Southern Wyoming was very pleasantly uneventful, and soon we found our way into the great wide open of the southern WY plains. Clear skies, not too much wind, and a goal to cross the divide at Bridger Pass, WY were all accomplished without issue. We managed to find a "private" reservoir on BLM land (Teton Reservoir, as it turns out) for a near perfect first campsite in Wyoming.



After perhaps the most stressful 30 minutes of my off-road career, we managed to get out of the mud with everything intact.

Clear skies, not too much wind, and a goal to cross the divide at Bridger Pass, WY were all accomplished without issue.

The Great Continental Divide diverges in Southern Wyoming, at Bridger Pass. Our route kept us along the north-east path of the CD, which was the easiest to cross for thousands of pioneers when settling the west.

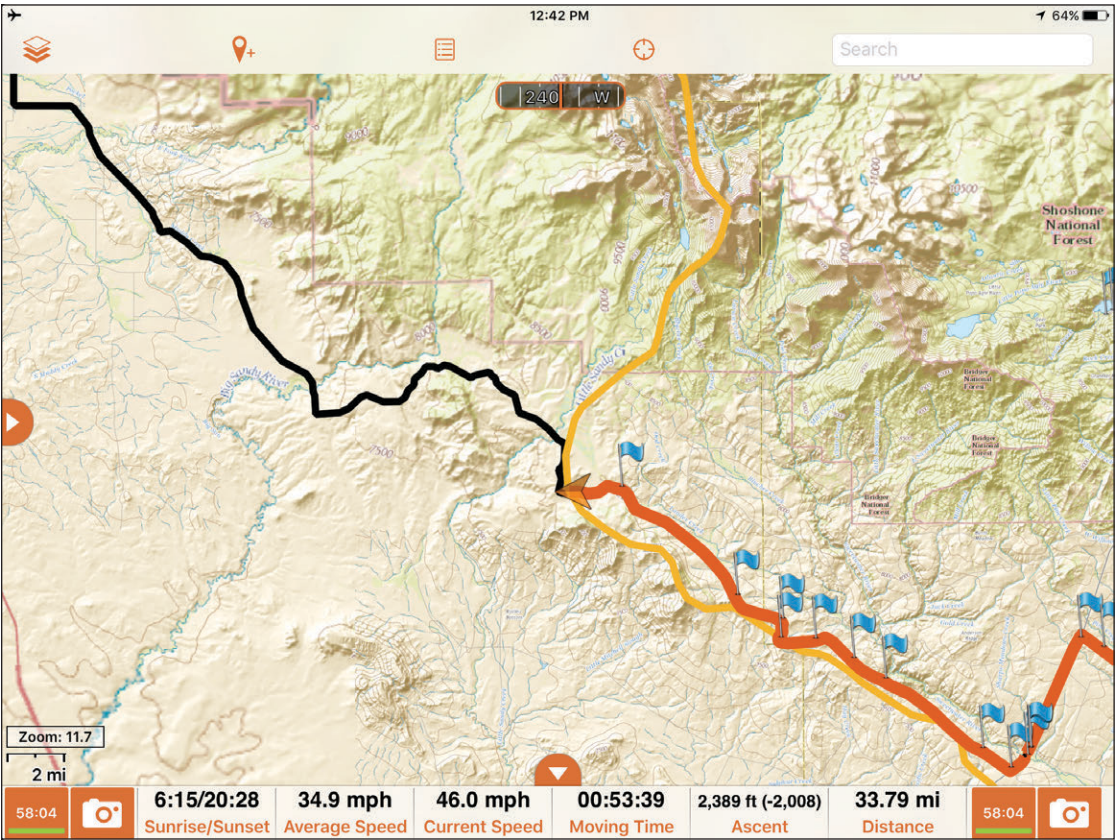


Day 2: Across. Wyoming.



Our route across the plains of Wyoming ended up being a bit of a zig-zag in an effort to mirror the CD as much as possible. Talk about deserted! For more hours than we care to discuss, we pushed the LC and AT Trailer first northeast, then northwest through long tracks of dirt and silt that would make any Aussie proud. We finally landed at an open area BLM campsite just outside Atlantic City, WY. Along with neighboring South Pass City, Atlantic City holds quite a bit of history: this location is where the Pony Express, Mormon Trail, and Oregon Trail converge.

For more hours than we care to discuss, we pushed the LC and AT Trailer first northeast, then northwest through long tracks of dirt and silt that would make any Aussie proud.



The reason historical trails converged in this area is simple: it's the lowest elevation (easiest way) to cross the CD when on horseback and covered wagons.

Day 3: Still in Wyoming.

An early trip to visit the well preserved South Pass City ghost town started the day off with a great sense of history. The reason historical trails converged in this area is simple: it's the

lowest elevation (easiest way) to cross the CD when on horseback and covered wagons. This also means that the area isn't necessarily the most exciting for those looking for an amazing overland adventure. Still, it was great to think about the thousands of early settlers that battled their way through the area.

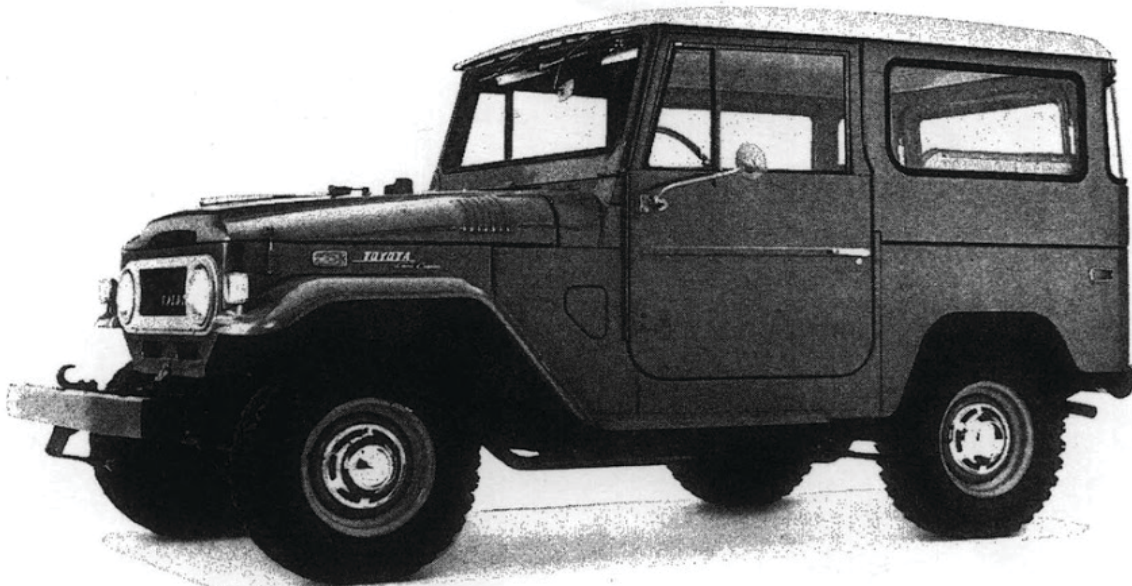


A full (second) day of crossing the wide open Wyoming plains started well, but ended in disappointment. We arrived in Pinedale, Wyoming ready to tackle another amazing CD mountain pass but instead were stopped by a heavy drizzle of rain. Further investigation revealed that while we had a rain, on the other side of Union Pass a fire had closed all the forest roads. We would have to spend the night in Pinedale.



Make sure you read the Winter 2017 Issue of Toyota Cruisers and Trucks for the last three days of our Hema Map Patrol Trip. You don't want to miss it! 📖

This is not a car.



It's a 4-wheel drive Toyota Land Cruiser. Sure you can drive it at top speeds on the highway. Sure your wife can take it to the grocery store. But those are the fringe benefits. They're not what it was built for.

The Land Cruiser has a straight six, 155 hp engine. Because it serves the purpose. All the torque you need for climbing. Plenty of power for pulling. The Land Cruiser doesn't overpower you. Or the land you want to preserve.

It's made of steel, heavily reinforced. Held together by nuts and bolts, rivets and welds. Not by sheet metal screws. There are no large vulnerable panels. All vital parts underneath are protected by skid plates.

The Land Cruiser doesn't have sleek styling. The design is simply utilitarian. The spare tire is on the back door to get it out of the way. The front bumper sticks out so you can easily install a winch. The wheel wells are extra high so you can easily attach snow chains.

The real beauty of the Land Cruiser

is in the planning. The knob that lets you shift to 4-wheel drive automatically without stopping. The chain on the gas cap and oil cap so you can't lose them. The 10 windows that offer 360 degree visibility. The rear doors that swing out for easy access. Separate heaters in the front and the back. The big steering wheel. The fact that you can't lock yourself out in the middle of nowhere.

And there's no nonsense with options. Seats for seven. 18.5 gallon fuel tank. 25 piece tool kit. Steering stabilizer. Heavy duty suspension. Spare tire with rear swingaway mount. They're all standard.

To this honest machine, Toyota has given an honest price. \$3320*. You'll drive it away for several hundred less than any of the others comparably equipped.

The Toyota Land Cruiser is not a car. It's a beautifully functional 4-wheel drive machine.

And that is beautiful.

Toyota Land Cruiser.

Hardtop \$3320*, Vinyl Top \$2965*, Station Wagon \$3885*

*Manufacturer's suggested retail price. Freight, taxes and any additional equipment extra. Toyota Motor Sales, U.S.A., Inc., 2055 West 190th Street, Torrance, Calif. 90501.

2016 Holiday Gear Guide

By Brandon Libby

Olympus TG-Tracker

The Olympus TG-Tracker records or “tracks” your location, altitude, water depth, and ambient temperature, and reports this data to a smartphone app. Waterproof to 100 feet, freezeproof, shockproof, dustproof, and crushproof this camera was designed to endure. 4K Ultra HD video capability, and a 204 degree extreme angle, F2.0, high speed lens helps you to get-the-shot, while the built in Wi-Fi makes sharing content a breeze. Two lens protectors are included for standard duty as well as underwater shots. Retail: \$349.99 at getolympus.com



Topo Designs Mountain Duffel

This large duffel sports padding on the base and sides to protect you from the gear inside and to reduce fatigue. Twin shoulder straps add functionality to the standard top, and end handles. The large internal cavity offers 61.4 liters of storage while multiple interior and exterior pockets keep smaller items organized. There are three colors to choose from, red, grey, or black. Water resistant YKK zippers keep your valuables dry and in place. Overall dimensions: 26"w x 12"h x 13"d. Made in the USA. Retail: \$229.00 at topodesigns.com

ARB Inflation Case

ARB's Inflation Case provides much needed storage for all of your pneumatic gear. A bevy of thoughtful pockets provide stowage for two ARB air hoses, tire inflator, E-Z deflator, large dial pressure gauge, and a host of other tire related accessories. The small, zippered, internal pocket is perfect for storing valves, caps and air chucks. A bright orange exterior wrapped with two reflective stripes, this bag is easy to spot day or night. Highly durable YKK #10 zippers ensure your delicate gauges stay put. The external dimensions (16" x 9.5" x 5") allow it to fit snugly inside the ARB Outback drawer system. Retail: \$53.00 at arbusa.com



Leatherman Signal Multitool

With over 19 tools this piece of kit contains all of the essentials. Multitools are notorious for burying knives internally making them difficult to deploy. Not the Signal, the 420HC combo knife and saw are both located on the exterior of the tool for easy one-handed open and close operation. All tools have internal locks to prevent accidental closure. The reversible flat blade/Phillips head screwdriver saves space and is replaceable. The large-mouth regular pliers house a 154CM replaceable wire cutter—both fine and hard wires. The large pommel and built-in carabiner double as a bottle opener and allow the Signal to be clipped to the outside of your pack for easy access. Retail: \$99.85 at leatherman.com



IH8MUD.COM - Since 1992

Slumberjack Big Timber Pro-20

The cozy Big Timber Pro sleeping bags are rugged, warm and cozy. This large form bag was recently updated to include a "Big Toe" footbox for "toes up" sleeping—designed to accommodate individuals up to 6'6", this is big news. Slumberloft Synthetic insulation wrapped in 450D polyester canvas gives this sleeping bag a rating of -20 F, while a soft poly-cotton flannel liner provides a soft, comfortable sleeping surface. Run up the #8 zipper and slip inside for the best night of sleep you've had under the stars. Dimensions: 80 x 38 inches (open), 36 x 15 inches (packed). Carry weight is 10 lbs. 1 oz. Retail: \$119.95 at slumberjack.com



Rinse Kit

RinseKit is the only portable pressurized shower that does not require pumping or batteries. It fills with two gallons of hot water using their Sink Adapter Accessory and delivers a high pressure hot shower—perfect for any adventure! MSRP \$89.99 at rinsekit.com



Combat Flip Flops Claymore Waxed Canvas 15 inch

The 15-inch Claymore bag by Combat Flip Flops is a rugged waxed canvas carryall that is ready for active duty. Peeling back the main flap reveals a laptop stowage compartment and two generous outer pockets which are fastened with snaps and hook and loop, or optional magnetic closures. True to its tactical purpose a two point weapons sling provides shoulder carry, and a 5.56 mag/cell phone holder and sunglass case comes standard. The main pocket dimensions are 14.5 x 10 x 2 inches and front pockets are 7.25 x 10 x 2 inches. Each product sold by Combat Flip Flops puts an Afghan girl in school and supports a Veteran owned business. MSRP: \$139.00 (waxed); \$109 (standard). Made in the USA, at combatflipflops.com

Watermans Aqua-Armor 50+

The American Melanoma Foundation recommends using a broad spectrum, UVA/UVB blocking sunscreen with an SPF of 15 or greater for year round exposure. Watermans Aqua-Armor 50+ meets all three of these requirements. Both water and sweat resistant, this lotion will stick with you whether competing in a triathlon, or hiking in humid climates and won't leave your hands slippery. The environmentally conscious packaging will allow you to squeeze every last drop from the package and the included carabiner ensures it will stay with you. MSRP: \$18.98 (3 oz.); \$28.98 (5 oz.) at watermansappliedscience.com





ARB—TPMS

It is easy to overlook checking one's tire pressure on a regular basis. Low tire pressures can have disastrous effects including vehicle roll overs. ARB makes it easy to add TPMS functionality to any vehicle. Kits come in two flavors, internal and external. The internal kit has a similar appearance to most factory units and requires tire removal for installation. The external kit consists of a sensor that replaces the factory valve stem cap.

Both systems include a bright display with all four tire pressures provided simultaneously. Low pressure alarms are adjustable and once fitted, synchronizing the sensors takes under ten minutes. MSRP \$366 (internal), \$314 (external), at arbusa.com

Trail Weld

24 volts, two leads, battery pairing cables, welding rods and eye protection. These are the foundation of the welding kit by Trail Weld. If you have more than one vehicle in your off road convoy, or a dual battery setup, you have enough amperage to stitch suspension components, a cracked frame, or other steel items back together. You handle the power, Trail Weld will handle the rest. TCT MAGAZINE DISCOUNT. Enter "holiday" at checkout for \$25.00 off of total purchase. MSRP: \$274.99 at trailweld.com



Garmin GPSMAP 276Cx

First introduced in 2004, the Garmin 276C has proven its mettle in the field. The recently updated 276Cx includes many improvements including both GPS and GLONASS for better performance in heavy cover. Upgrades also include HotFix for faster satellite acquisition, a barometric altimeter and 3-axis compass, and optional external antenna. The device is WiFi compatible and pairs with the Garmin smartphone app via Bluetooth. MSRP: \$799.99 at buy.garmin.com



Danner Mountain Light

Designed in 1979, the Danner Mountain Light was once touted as the best backpacking boot ever created. This classic has returned with all of its charm and original specs. Now you, too, can enjoy the durable, full grain leather design and classic look of this American legend. MSRP: \$380 at danner.com

Blue Ridge Overland Gear—Tool Bag

When it comes to carrying tools on the trail, soft sided tool bags are an upgrade over heavy, noisy steel tool boxes, with the exception of organization. Blue Ridge Overland Gear has solved this shortcoming with their interpretation of the classic tool bag. A large (12 x 12 x 5.5 in.) zippered portfolio opens flat to reveal six, removable, hook and loop pouches (12 x 4 x 2 in.). One broad face of each pouch has a transparent, string reinforced, vinyl front providing easy tool identification at a glance. The six pouches adhere in tandem across the open carry bag which folds and secures contents with a heavy duty zipper. MSRP: \$109.99 at blueridgegear.com



Craghoppers Agetha GORE-TEX Jacket

Craghoppers has created what they call the “ultimate insulated all-weather jacket”. Baffled insulation combined with GORE-TEX watertight technology, protects you from the elements, while RFID shielding protects your personal information. The outside contains pockets for maps, mobile phones, and audio accessories. MSRP: \$300 at craghoppers.com



Solar Paper—Solar Charger

Solar paper is a mere 1.5 mm thick (individual panels) yet can fully charge an iPhone 6 in 2.5 hours. A convenient LCD display relays panel power output in real time. Additional panels (optional) can be linked together via magnets to increase power output for larger items such as tablets and cameras.

Available power outputs range from 5 to 15 watts. Overall dimensions: 3.5 x 7.5 x .43 inches MSRP: \$135-400 (depending on output) at yolkstation.com



Maxpedition E.D.C. Pocket Organizer

With the ever growing list of daily carry items finding their way into our pockets, keeping things organized can be a challenge. How many times have your headphone wires drug a swath of gear out of your pocket dropping them all over the street? Maxpedition has the answer with their E.D.C. Pocket Organizer. Crafted from ballistic nylon fabric and coated with Teflon fabric protector, you can rest assured that your gear will stay secure and dry. Interior contents are secured with webbing, in slip pockets, or securely attached to a tether. Overall dimensions: 5 x 1 x 7 inches. MOLLE compatible and available in six different colors. MSRP: \$24.99 maxpedition.com





Midland MicroMobile 2-Way Radio (MXT100)

Midland claims that the MicroMobile GMRS two-way radio achieves double the range of traditional handheld GMRS radios. This compact unit pulls double duty working both in your rig, or in your own base station. Output is rated at 5 watts and includes a magnetic mount external-antenna for extended range. A high contrast, backlit, LCD display is easy to read both day and night. There are 15 high and low GMRS channels, and 142 privacy codes to block other conversations. Dimensions: .90 x 4.01 x 3.44 inches. MSRP: \$149.99 at

midlandusa.com



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The Spark 3 provides GPS tracking, route exploration, and stores up to 500 songs. A built in heart rate monitor helps you stay in the zone while the included Bluetooth headphones keep you in tempo. Battery life varies depending on features used; using all three modes simultaneously (Monitoring GPS, Heart Rate, Music) a charge will last up to five hours. Waterproof up to 40 m with 3 GB of storage. MSRP: \$249.99 at tomtom.com

Ironclad Ranchworx Gloves

Ironclad's top of the line glove consists of Bullwhip leather and is machine washable. Unlike most gloves of this type, Ranchworx won't shrink or dry out when wet. Patented ROLLTOP FINGERTIPS provide ultimate dexterity and double layer protection. Flexible finger impact protection keeps fingers safe while the patented palm design maintains dexterity. MSRP: \$42.99 at ironclad.com



Filson Mackinaw Cruiser Jacket

Patented in 1914 and made from 100% virgin wool this jacket provides natural rain repellency and insulation in any weather. Wool is both breathable and pliable creating natural comfort, warmth and moisture wicking elements. Military-grade melamine buttons provide an edge of durability and nine pockets add versatility. Available in three colors, forest green, charcoal, and red-black plaid. MSRP: \$385 at filson.com

Colby Valve

Colby Valve is an emergency valve system that replaces your tire's valve stem in the case of leaking or breakage. The patent pending Colby Valve is the only tool-free solution for replacing tire valve stems on-location, in five minutes or less. No tire removal. No special tools. No problems. MSRP: \$29.99 (2-pack) at www.colbyvalve.com





Timex Expedition Scout

Classic Timex commercials claimed their watches, “take a licking and keep on ticking”. That statement still stands true to this day. The Expedition Scout is a classically styled timepiece that keeps 12 hr./24 hr. time, and numerical day of the month—with a pair of proprietary Indiglo hands. The simple yet effective design will likely stay just as keen on your wrist for years to come without breaking the bank. Available in six different configurations including face and chassis color, and band color/material. MSRP: \$46.00 at timex.com

Smartwool Men’s Brilliant Hike Crew Socks

Engulf your feet in natural moisture wicking WOW technology with half-cushion soles with Smartwool’s hiking socks. Comfort features include flat knit toe seams and elasticized arch braces to keep them in place all day long. Materials consist of 60% Merino Wool, 38% Nylon, and 2% Elastane. Available in taupe, charcoal, or navy colors. MSRP: \$19.95 at smartwool.com



Light Bar Covers by Jackcovers.com

New Light Bar Covers by Jackcovers.com are made using the same great material their Jackcovers are known for. The marine grade UV stable vinyl means the covers will hold up to many years of weather, even in the harshest environments. The Roll-n-Lock strap design make the covers easy to install and remove, and work great on both straight and curved light bars. Some states are starting to enforce laws that require light bars to be covered. These high quality Light Bar Covers not only protect your investment, they might also save you a ticket or two! Production models are black, but of course custom colors are always available when you deal with Jackcovers.com



Safe Jacks Universal Hi-Lift Stabilizer

This base plate will accept a bevy of bottle jacks as well as the 48-inch Hi-Lift jack. The stabilizer creates a larger footprint for safer jacking in all conditions. A spring pin allows for quick and easy jack placement—switching between bottle jack and Hi-Lift takes place in a matter of seconds. Construction materials are black powdercoated steel measuring 18 x 8 x 1.5 inches. MSRP: \$242 at safejacks.com

RALLYING THE RAV4

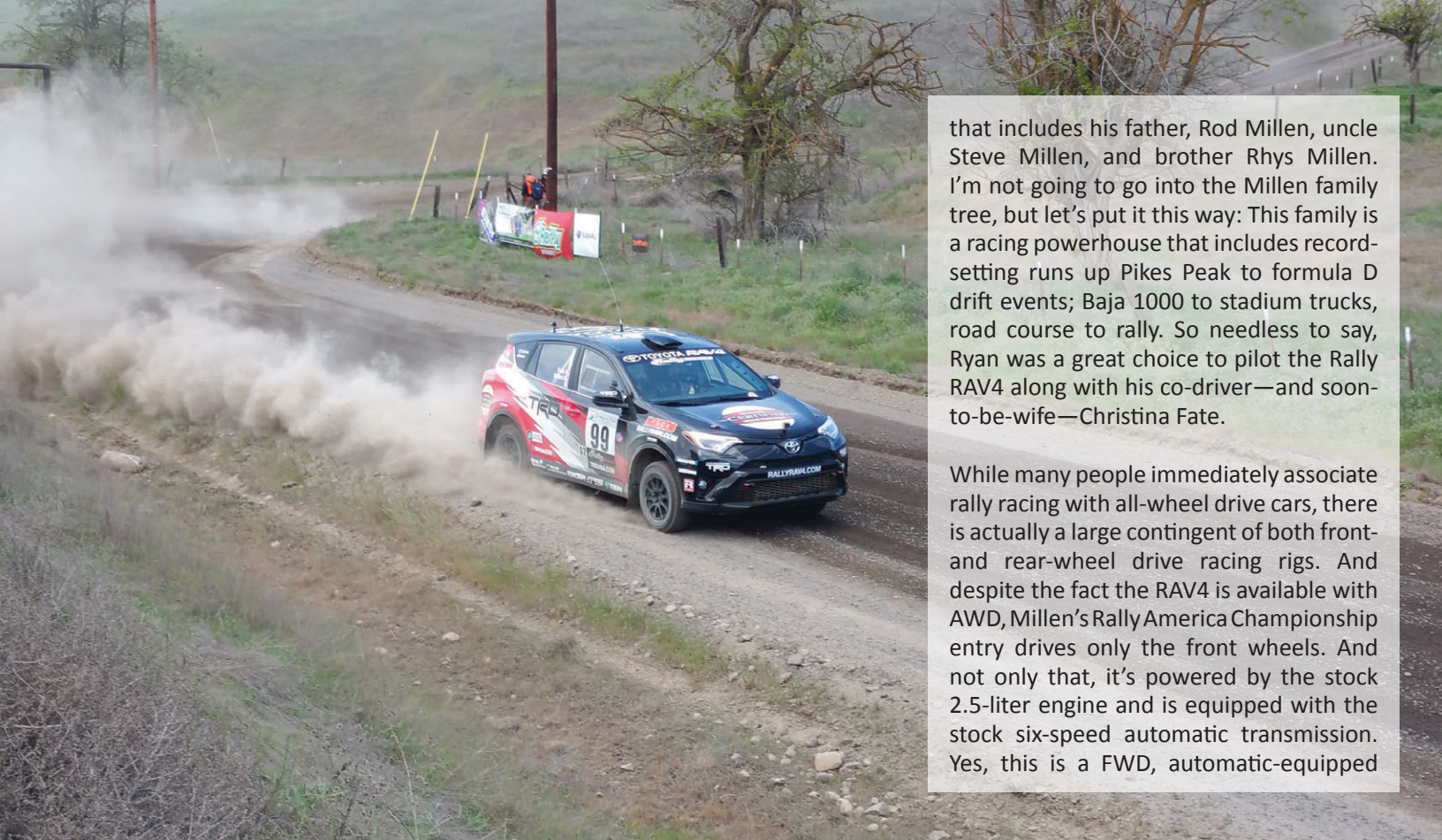
By Andy Lilienthal | Photos by Mercedes Lilienthal, unless otherwise attributed





I love rally racing. For me, it's one of the most intense forms of motorsports out there. Drivers with nerves of steel are bombing down narrow dirt roads at break-neck speeds, sliding sideways around corners, and executing hand-brake turns on a dime. They pilot a variety of vehicles in several classes across the countryside in hopes of turning the best times on various rally stages. Frankly, rally car drivers—and the rally cars—are pretty incredible.

Toyota is no stranger to rally racing. It has a storied rally history, with its epitome being the World Rally Championship (WRC) Celicas from the 1980s and 1990s, complete with fire-belching turbocharged engines and tenacious all-wheel drive systems that clawed for traction around every corner. However, recently Toyota has been making a name for itself in rally with a different type of race car: a RAV4. Yes, you read that correctly—a RAV4. The rally CUV is piloted by Ryan Millen. And yes, he's part of the legendary Millen family of racers



that includes his father, Rod Millen, uncle Steve Millen, and brother Rhys Millen. I'm not going to go into the Millen family tree, but let's put it this way: This family is a racing powerhouse that includes record-setting runs up Pikes Peak to formula D drift events; Baja 1000 to stadium trucks, road course to rally. So needless to say, Ryan was a great choice to pilot the Rally RAV4 along with his co-driver—and soon-to-be-wife—Christina Fate.

While many people immediately associate rally racing with all-wheel drive cars, there is actually a large contingent of both front- and rear-wheel drive racing rigs. And despite the fact the RAV4 is available with AWD, Millen's RallyAmerica Championship entry drives only the front wheels. And not only that, it's powered by the stock 2.5-liter engine and is equipped with the stock six-speed automatic transmission. Yes, this is a FWD, automatic-equipped







rally racer. Heck, it even employs the stock ECU! That means this vehicle produces 176 horsepower and 172 ft/lbs. of torque through the stock drivetrain. But don't worry, the competition is fierce.

"We are racing a stock vehicle in an essentially open class," said Millen. "Shocks and brake pads are the primary thing we have changed, apart from a safety roll cage."

So how is it possible to be so competitive in a nearly stock vehicle?

"What makes us successful with the RAV4 is its build construction. Being an SUV, things like bolts, brakes, and the suspension are over built," said Millen. "Where others are trying to make a car reliable in such a harsh environment, we are thriving. The RAV4 has a ton of wheel travel, similar to a TRD Pro Tundra. We can carry so much more speed through rough terrain where others have to worry about protecting their vehicle."

Let's face it: This is a racing vehicle, so it's not 100% stock. But the modifications, which include a roll cage, fire suppression system, a gutted interior, and Sparco racing seats with five-point harnesses, are mainly for safety. Additionally, the Rally RAV4 has a faster steering ratio (1.5:1), TEIN dampers, Porterfield brake pads, 15-inch Method wheels, plexi windows, full underbody protection, and—like any good rally car—a hydraulic handbrake for

executing the perfect Scandinavian flick around hairpins. Stock, the RAV4 weighs 3,455 lbs., but slims down only 105 lbs. for racing.

So what's it like to race a nearly stock RAV4?

"It's awesome!" said Millen. "I've raced a lot of different types of vehicles. Primarily my background has been with off-road racing—Baja 1000 etc. Those types of vehicles are typically very heavy and have a lot of wheel travel. When you compare them with the RAV4, it's a night and day difference. The Rally RAV4 is so much more stable in high speed corners and the grip is insanely better."

So how's the RAV4 doing this year? In one word: stellar. I personally witnessed Millen and Fate at the Oregon Trail Rally back in May of 2016 and despite the myriad of stock parts, it kicked some butt. They took the top spot in their class and a fifth overall ... in a nearly stock, automatic-equipped FWD RAV4. That says something.

"We've had an awesome year so far. There's two more rounds to go and we are sitting in second place by five points," said Millen. This was in August of 2016.

Millen would finish in either first or second place in every race for the 2016 season. However, it all came down to the last race of the year—Vermont's



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Lake Superior Performance Rally (LSPR). Unfortunately, on stage 6, Millen and Fate missed a corner, forcing them to go off the course, hitting some trees, and coming to a stop. With damage to the RAV4, Millen and Fate opted to retire rather than risk it, and came in a hard-fought second place at the LSPR, which resulted in a second-place overall finish for the year. Millen did, however, take the esteemed Jeff Moyle



Cup as the 2016 Rally America Rookie of the Year.

Congratulations to Millen, Fate, and the entire RAV4 Rally team for a heck of a season in what could only be described as an underdog of a vehicle. Great work, and we look forward to what 2017 has to offer.



For more information and to keep up with the team, visit RallyRAV4.com. 🇺🇸



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Big Horn mountains in
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FRAMED

f/8 1/125s 60mm





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f/6.3 1/250s 30mm

2017 Toyota Tacoma TRD
PRO | David Dewhurst
Photography;





Alstrom Point | Bob Holliday



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f/9 1/125s 17mm

FRAMED

f/3.5 10s 17mm





Star fire at San Rafael Swell Camp



Surfing the Pan American Highway

The best places to surf while driving
the Pan American Highway

By Dean Moran



My wife, dog and I drove the Pacific coast from Baja, MX to Chile, then crossed over to Argentina and Uruguay in our 2001 Toyota Tacoma. We slept in our roof top tent and cooked on the tailgate, traveling for 16 months. Surfing was one of the highlights of the trip; these are some of our favorite spots.

Southern Baja, MX

Americans have been scoring surf in Baja for decades and will continue to do so. Baja is the ideal place for the surfing nomad who prefers to live frugally while roughing it in the desert. Baja was the most inexpensive place we traveled ever. We explored mostly in the southern half of the peninsula far from the weekend warriors. Not only was the surf top notch, but we managed to harvest most of our meals from the sea. With that being said it would be smart to bring the necessary fishing equipment for spearing as well as casting, because when you're not surfing you may likely be fishing. Be prepared to fix flat tires on the fly, escape deep sand during low tides, and don't run out of gas or water. Some of those back roads look like shortcuts on the maps, but they might not get any traffic for weeks on end, so don't count on a ride back to town when your truck gets stuck in the river bed.



Michoacán, MX

There was a noticeable difference when we crossed into this state in Mexico. There was more poverty, and it's very rural and indigenous. This area is a hot spot for car jackings and people disappearing. There was only one main coastal road, not many roads traveling inland, not many big towns and nowhere to go if things got sour. This is a destination for the outcast surfing globe trekker, or possibly expats on the run. Those people will often post up for several weeks if not months at a time and just lay low, live cheap and simply, and surf all day. Our experience here was nothing but positive, and surfing cobblestone reefs and river mouths all day was as refreshing as the local papaya and coconuts that cost only cents.



Nicaragua, South

The second poorest country in the Americas (with Haiti being the first) has also been called the safest country in Central America. Lake Nicaragua produces off shore winds all day long, resulting in bueno surf and cooler ocean water than the surrounding areas. There are rock reefs, beach breaks, and it's completely uncrowded if you know where to look. I would give this dude Edward a few bucks to (watch the truck) nap under the truck while we surfed. We also camped under a palapa near a beach shack bar for two weeks, after paying a local security guard to let us stay there. We set up a small compound with several nomad surfers from Spain. At night, the security guard would tie up a giant beast-like dog to the bar while he slept in a chair. He said, "Be careful, the dog is very dangerous and if you go near it, it will kill you." This was no joke.





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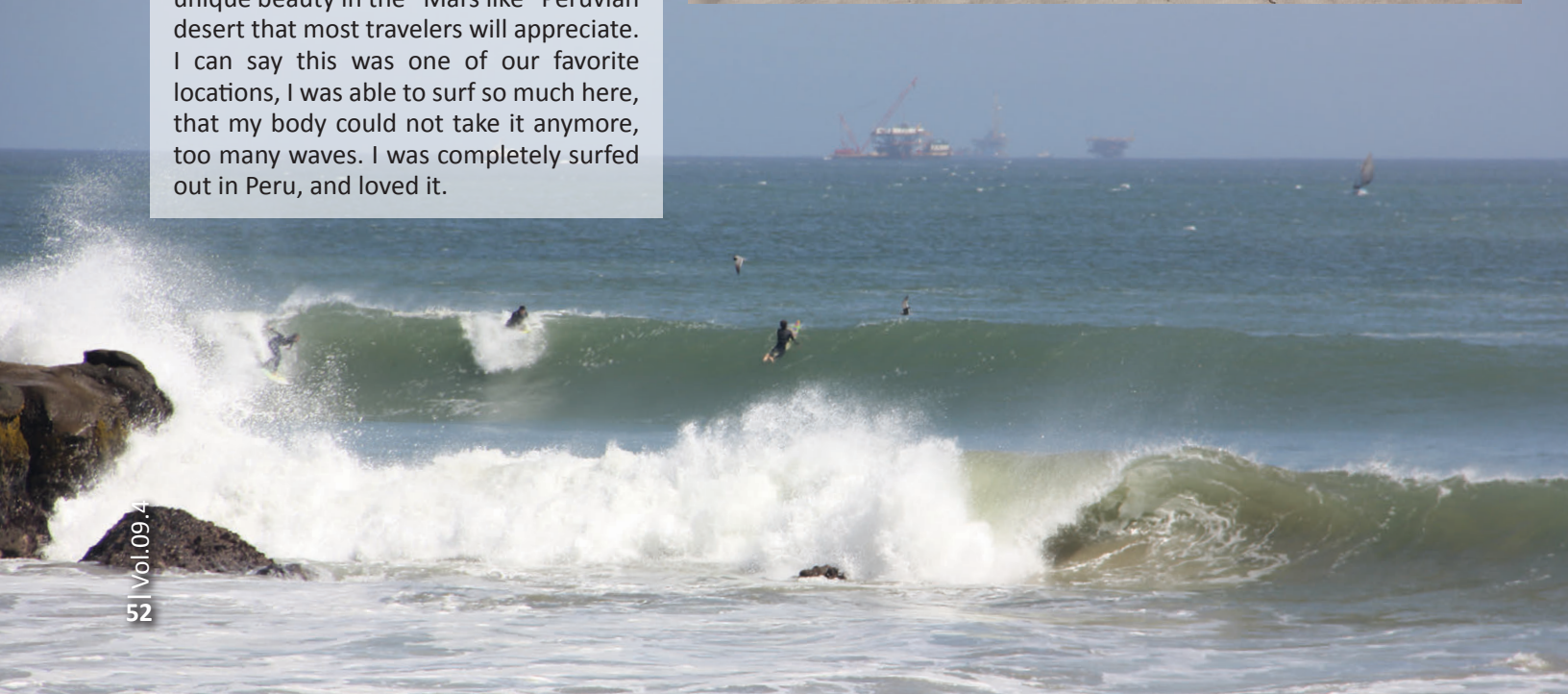


Golfo Dulce, Costa Rica

This is one of the more “out there” and underdeveloped areas of Costa Rica. On one side of the Golfo, its rainforest has been called the most ecologically diverse place on the entire planet. The water is the color of turquoise with parrots flying everywhere and sometimes tricky to access. My first trip here, I found myself alone catching waves, a rainbow above and dolphins breaching in the near distance, and when I looked on shore not a person in sight. While on the other side of the Golfo you can find one of the longest waves on the planet. We were lucky enough to arrive for the first big swell of the season at that spot. Watching this mile-long left hander was mesmerizing, but surfing it was even better.

Northern Peru

Looking more like a scene out of the movie “Mad Max” than a surf destination, surfing in the North of Peru is an interesting experience, to say the least. This was the most extreme place we visited. Just driving to some of these locations you will see an unbelievable amount of poverty and trash blowing around the desert, off shore drilling platforms on the ocean’s horizon and the remnants of small fishing villages just scraping by. A wide variety of point breaks, beach breaks, and consistency will come in handy here because there is literally nothing to do but surf. Don’t be turned off by the atmosphere, there is a unique beauty in the “Mars like” Peruvian desert that most travelers will appreciate. I can say this was one of our favorite locations, I was able to surf so much here, that my body could not take it anymore, too many waves. I was completely surfed out in Peru, and loved it.



Northern Chile

Arriving in Chile after traveling the third-world for over a year was refreshing, finally some organization. We set up shop for a while at the border town, sleeping on the barren beach every night. There were a wide variety of waves ranging from what's said to be the most dangerous wave in South America, to longboard point breaks while sea turtles swim beneath you. The Chilean Coast is rugged and rocky with pockets of sandy beaches. It's so vast, barren, and goes on for what seems like an eternity. With that being said most of its waves will go unsurfed or even unseen. The surfing explorer could spend a lifetime here discovering unsurfed spots.



North East Uruguay

With more than 90% of the population being of European descent, Uruguay feels more like Europe than South America and now that we are back on the Atlantic we get that inconsistent Atlantic surf. In the two months we stayed here we did score waves, but nothing like the Pacific side of the continent. Uruguay is known for its quality meats and gaucho way of life, not surfing. The people speak Spanish with what sounds like an Italian accent, and just like Chile, good wine is cheap, like a few bucks for a bottle. The quality of life here is so good that it almost makes up for the lack of waves. One day when I'm on the run and too old to surf I might reside in Uruguay. 🇺🇾





2017 TRD Pro Tacoma

Toyota's Shift to a TRD-Tuned Suspension From Fox

Written by Beau Johnston | Images as attributed



It's back! After a year-long hiatus, while the team at Toyota tinkered away in their lab, the 2017 model year is bringing back the TRD Pro Tacoma. I am sure, if you are anything like me, when Toyota announced the package earlier this year (<http://tctmag.us/trdpro17>) you poured over the release with a fine-tooth comb to see what goodies would be included. Although the updated Tacoma flagship brings with it several factory-installed upgrades, keen observers



will have noticed the Bilstein shocks and struts found on TRD Pro Tundra and 4Runner were replaced with new TRD-tuned equivalents from Fox.

The move to Fox came as a bit of a surprise to many as Toyota tends to keep with tradition, following the adage "If it ain't broke, don't fix it." One could spend hours speculating as to the reason for the shift. Regardless, I am excited to see it happen and welcomed the opportunity to put the new suspension and truck through its paces last month (October 2016 if you are reading this after the issue has come out) in Hawaii. Although I cannot directly compare these with those found on the other TRD Pro models, I can compare them with the Bilsteins found on the TRD Off-Road Tacoma.



IMAGE COURTESY OF TOYOTA



IMAGE COURTESY OF TOYOTA



IMAGE COURTESY OF TOYOTA

I found the suspension on the TRD Off-Road Tacoma I drove earlier this year to be quite good in most of the driving conditions we found ourselves in. It did fall short, however, driving over rough roads at high speed. It is here where the new suspension from Fox shines. The new 2.5-inch Fox system, combined with progressive rate springs, increase the Tacoma's ride height, roughly one inch



IMAGE COURTESY OF TOYOTA

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and, most important, increased each wheel's down-travel. This, combined with the inclusion of internal bypassing up front, is advantageous when we turned off the road and onto the high-speed driving course Toyota set up for us at Maui's Hana Ranch.

The driving course combined fast straightaways with tight hairpin turns and showcased the capabilities of the new suspension. The new suspension package did a great job soaking up everything from the bumps in low-speed corners to whoops found along the high-speed straightaways. Although the front stabilizer bar diameter remains the same as the TRD Off-Road (1.18-inch), I perceived less body roll in the Pro and it (seemed) to corner better



A white Toyota Tacoma TRD Pro is shown from the side, driving through a muddy, grassy field. The truck is covered in mud splatters, particularly on the lower half of its body and the wheels. The background is a dense, green, hilly landscape. The truck is angled slightly towards the right, and its rear wheel is visible in the foreground, kicking up some mud.

than Off-Road. Man, even as I am typing this a smile comes to my face as I think back at how fun, ahem, I mean I didn't have fun—this is serious work I am talking about here.

I have to hand it to the Toyota team, and I cannot forget the folks at Fox, for really dialing in the suspension on the new TRD Pro Tacoma. They made some great improvements and made an already top notch platform. Now we just have to wait for these trucks to start hitting dealer lots before we can start getting some real world data. My only fear is that they have produced such a fine-tuned setup that the ride will be compromised once owners start loading their trucks down with camping and travel gear. 🐾



Making it Work

Installing a Borla Exhaust on a pre-1995 FJZ80

By Daniel Markofsky

Most OEM parts that make up my Land Cruiser have performed for 23 years and 283,000 miles. Durability and reliability is a huge part of why we drive our Land Cruisers. I struggle to think of non-wearing parts that have failed except the head gasket which failed at *only* 226,000 miles!

If you wheel your rig, the underside is going to take hits. The tailpipe on the 80 series, and on the predecessor 60 series, exit in an exposed spot under the rear bumper. In my 1982 FJ60, I kept a breaker bar handy to pry the tailpipe back open. I never had that problem in my 80 because I hit the tailpipe so badly the first year I owned it, 2002, that we had to cut it off on the trail. (My trail kit includes a hacksaw.) Rolling backward down the “wall” in Poughkeepsie Gulch, in the San Juan mountains of Colorado, the tailpipe and resonator caught the ground and pretzeled up under the body. Driving back home across Colorado the hot exhaust gas melted a mud flap and bumperette. More clearance!

More than once, but surprisingly few times, I hit the muffler on a rock. Whatever’s inside the muffler loosened and would rattle at specific RPMs. I tolerated the rattling and whistling exhaust since it only occurred at specific RPMs and the stereo drowned out the noise. At least twice I replaced the rubber mounts, which do a fine job if you

If not for plenty of trail time, there would have been nothing wrong with the exhaust.

don’t use them to support the truck on a rock. Recently I found the muffler bracket had cracked off. If not for plenty

of trail time, there would have been nothing wrong with the exhaust. The Toyota Land Cruiser exhaust is stainless steel built to withstand harsh treatment and high miles.

Recently I had been eyeballing replacing my muffler and tailpipe. The OEM muffler, if you can get one, (called the “center pipe”) lists for \$627.63. The tailpipe for \$298.28. My local Toyota dealer showed five tailpipes and three mufflers available in the US.

I approach the aftermarket with caution. Usually the upfront cost savings or “improved design” is lost over the long lifespan of these trucks. The last time I bought aftermarket, it was a well-regarded brand high-pressure power steering line. It lasted two years. The original OEM had lasted 19. Most people consider five, six, or 10 years an acceptable lifespan. We don’t.

We met the folks from Borla Performance Industries, Inc., Johnson City, Tennessee, at Overland Expo back in 2015. A major provider of aftermarket and racing performance exhausts, Borla was actively engaging the 4x4 and Offroad community. We wanted to learn more about their offerings. Questions started flying. Borla offers Cat-Back™ models for the Tacoma, Tundra, FJ Cruiser, and Land Cruiser. They wanted to provide us with a system to install and test. We wondered if we’d put their “million mile” warranty to the test.

While we always initially like the sound of “free” product to test, the reality is very different.

First, we had to select a product. The Toyota Land Cruiser 80 series was offered in the US as the FJ80 in 1991 and 1992 with the same engine as the predecessor FJ62. 1993 saw the introduction of the FZJ80 with the new 1FZFE 4.5 liter inline six engine, rear disc brakes, an option for full floating rear axle, and front and rear factory electronic locking differentials. 1995 to 1997 models are also the FZJ80 but distinguished by electronic changes with the introduction of OBDII diagnostics. There was also a side-by-side catalytic converter configuration resulting in a different muffler input and pipe routing.

I examined Borla's drawings and specifications and consulted with several Land Cruiser parts gurus. The Borla

exhaust uses 2.25-inch 304 stainless steel. The 1993–1997 models use an identical tailpipe. The Borla drawings looked right. The muffler size and rear mount are also identical across the years. We expected these would work on my '93.

However, the muffler input and location of the rear O2 sensor is different over the model years. The 1993–1994



Land Cruiser has an O2 sensor forward of each catalytic converter. The catalytic converters are in a side-by-side configuration in a single heat shield. The 1995–1997 models have an O2 sensor before and after the two in-line catalytic converters. The Borla muffler comes with a bung for the rear sensor welded to the input pipe, OEM style. The pipe between the muffler and catalytic converters goes over the frame rail in a 1993–1994 and under in a 1995–1997. Having worked out the differences, Borla recommended we start with the 1995 to 1997 muffler and tailpipe, Borla model 14590. MSRP is \$765.99. I found various online retailers for around \$690.00.

The choice of the model 14590 over a muffler and bending pipe was based on the belief that the model 14590 tailpipe would be a direct fit and the muffler was tuned to the engine common to both variants. Using the 1995–1997

Favorites with the 4x4 community and well-known for custom exhaust work, Scott and Tammy were happy to work with me.

system should only require modification of the muffler input.

For installation, I turned to my local resources in the Rising Sun Four Wheel Drive Club of Colorado. I was connected with AA Performance Muffler and Brake, nearby in Englewood (www.aaperformancemuffler.com). Favorites with the 4x4 community and well-known for custom exhaust work, Scott and Tammy were happy to work with me knowing that I'd be crawling around under the truck with them taking photographs and asking questions.



The exhaust arrived via Fed Ex ground securely packaged in expansive foam. Despite its size, the 70-inch long, 43-pound

box was easy to handle. Given the busy life for all, the Borla box sat in my garage for several months before installation.



The first thing we did was evaluate the muffler, tailpipe, and hardware. The Borla came with all the necessary gaskets and hardware. We placed each up next to the truck for fit and comparison.



Out came the Sawzall and before I could get the camera ready my old muffler and tailpipe were on the floor. Still, it did not give up without a fight. The tough Toyota stainless steel required fresh blades.

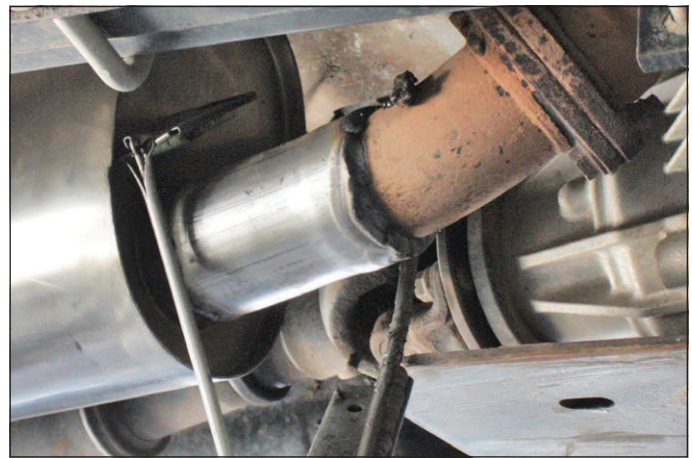


Once tacked in place, the new pipes were fully welded in place. After each weld they used a mirror attached on a stick, also fabricated in the shop, to check welds and verify there would not be any leaks.



Next, Scott and fabricator, Tory got to work cutting back the input pipe on the new muffler. When they were done, a short section of straight pipe remained to stick out from the muffler. They mocked up the new exhaust in place and located it using the factory rear mount—which lined up perfectly with the Borla. They supported the front of the muffler on shop-fabricated fit and weld stands. Then they cut, flared, and slipped a short section of straight pipe over the stub extending back from the catalytic converter flange to the stop coming out of the new muffler.

One option would have been to cut the flange off the output of the catalytic converters. I requested they retain the flange so I would have bolt on capability for catalytic converters. I did not replace the catalytic converters because even with 280,000 miles they just recently passed emissions and my next test wasn't coming for two more years. Now if I need to replace the catalytic converters it will be a bolt on, OEM style.



Quickly it was time to go to the tailpipe. For a mostly on-road rig the exhaust will exit in the OEM location under the rear bumper. Some, including me, had my trail-clearance exhaust exiting under the body. Tucked out of the way, and pointing down. It had no ill effect. but it's unwise to have the exhaust exit under your truck. Hot gases melt things. Exhaust moisture rusts things. Air pressure can suck the exhaust into the cab—a potentially fatal situation. If ever stopped in an area where exhaust could accumulate under the truck, say perhaps in deep snow, running the engine could be fatal.

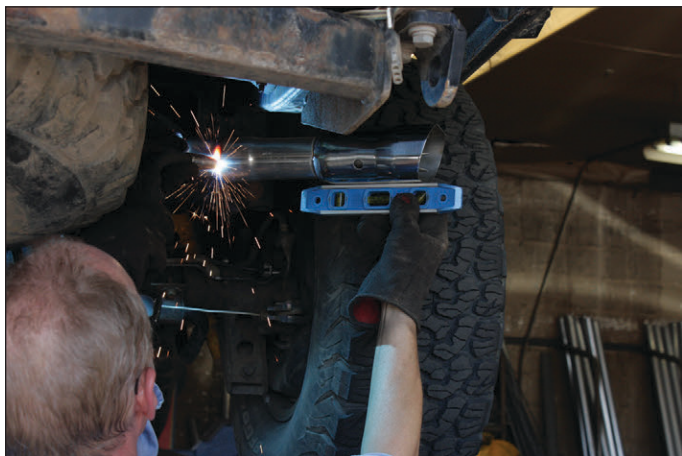
The Borla comes with a resonator in the OEM style. Without a resonator, some people experience exhaust whine or whistle. Some find it objectionable and others don't notice.

We thought about reattaching the resonator—there is plenty of room. Ultimately we deleted it.



Most aftermarket exhausts are going to mimic OEM routing. This was no exception. However, knowing that I did not want the OEM tailpipe exit for my extensive off-road use, we planned to cut off the resonator and have the tailpipe exit at a 45-degree angle behind the rear passenger tire. That turned out well. I'm only regretting that we did not complete the installation first to hear how it sounded with the resonator. However, earlier in the year at Cruise Moab I listened to a Borla exhaust installed on another 80 Series that still had its resonator. It was very quiet. Just like I wanted.

Toyota put early Land Cruiser exhausts in a protected spot exiting behind the rear tire. Duplicating this location would also allow a bit of bling with the Borla chrome tip peeking out. The tip is vented and could also save you a leg burn. Fitting the tip was as simple as holding it in the desired location while Scott and his crew eyeballed a length of pipe needed. They bench welded the tip onto the pipe and tacked the pipe and tip in place, confirming location with me before final weld. My location would interfere with the stock bumperette. If I had them I would either have to trim some plastic or angle the tip downward slightly.



The final step was a new exhaust hanger at the tailpipe. Though the Toyota stock units are quite stout I'm confident this generic version is going to last a very long time. To mount it, Scott and Tory first unbolted the stock rear hanger bracket. Then they welded a bolt to the inside of the frame and fastened the hanger to it with two nuts. We were done.



The first thing I noticed when we fired it up was how quiet it was. This exhaust is the “touring” sound, Borla’s quietest model. As much as I wanted to sound like the Canguro Baja 1000 race truck, I said a thank you to Scott, Tammy, and the crew then settled up my installation tab and drove quietly off on the streets of Denver.

The rattle was gone and everything seemed smoother.

The rattle was gone and everything seemed smoother. The differences were more noticeable as I put on more street miles. I was glad the rattle had been in my muffler and not the catalytic converters.

Before long I started to notice a noise that sounded like the exhaust hitting the frame. It would happen only at 1500 RPMs and only under load. Never while revving the engine

in park or neutral. It was mild and I actually forgot about it for a while.

A few weeks later I headed out to lead the Denver trail run to CruiserFest in Salt Lake City. We were about to cover an estimated 750 miles of dirt. The 1500 RPM rattle under load was still there. I was noticing it more since I was spending more time in the saddle.

The first morning on the trail was a crisp and clear camp at 9,000 feet on Buffalo Pass in north-central Colorado. Ascending to the 10,295 ft summit, my first thought was that I no longer had exhaust noise. Now I had an exhaust "sound." The engine was singing a tune as I eased on and off the throttle while ascending the smooth dirt. The notes were telling me things were happening. I was playing the tune with RPM, speed, throttle, gear, and load. I was digging it.

My first thought was that I no longer
had exhaust noise. Now I had an
exhaust "sound."

We didn't have much challenging four-wheeling and no rock crawling, but at no time did I worry about hitting the exhaust. My garage measurements before and after installation show a half inch clearance gain measured from

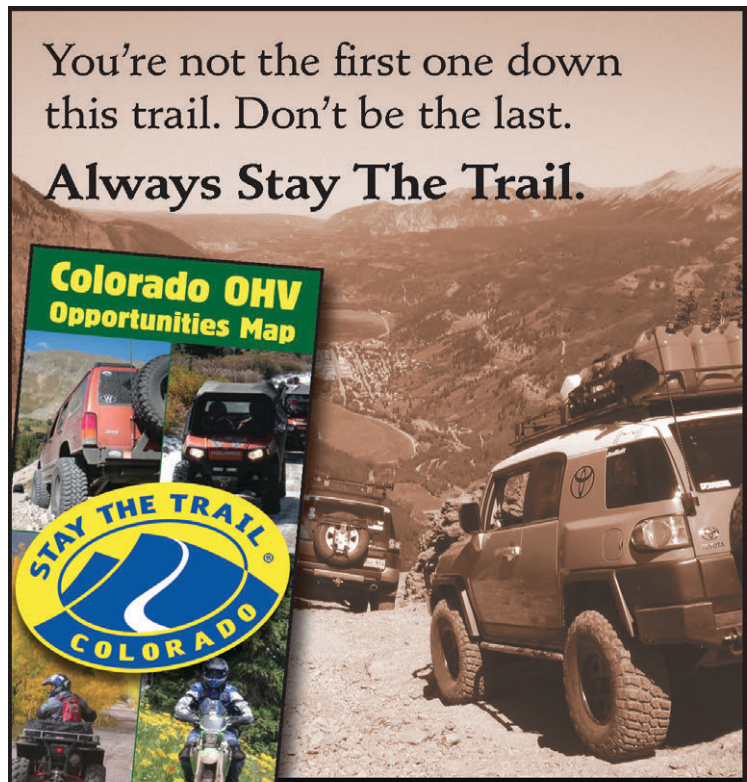
the lowest part of the muffler. The Borla muffler is smaller than OEM. While it's oval design sits vertically, it does not reach any lower. Here Borla could maximize ground clearance by rotating the muffler to the horizontal. A good fabricator should be able to do that for you with relative ease. Further, based on my experiences of catching the leading edge of the muffler on rocks, I plan to go back to the shop and rotate the muffler or weld a small ramp to the front.

On our very last day approaching Salt Lake City I climbed underneath and see if I could determine where the exhaust was hitting. The shiny spot was where my transmission skid plate mount was very close to the factory pipe just after the catalytic converters. The new installation probably moved the existing pipe about a quarter inch which was just enough. Further 12 plus years of hitting that skid plate had caused its mount to bend slightly, putting it even closer to the exhaust. The immediate solution was to loosen the skid plate mount bolts, which also hold the slider in place, and slide the plate down the frame about a quarter inch. That helped somewhat but a more permanent solution will be needed. I can't blame Borla for this. Not every aftermarket skid plate or slider situation can be anticipated.

In sum, the Borla is a competitively priced product with good fit and finish and I'm looking forward to many happy years of listening to its music. 🇺🇸



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2016 TACOMA

HEFTY Fabworks

Scott J. Hunt <http://www.forgeoverland.com/> | Photos by Chris Hefty <http://www.heftyfabworks.com/>



In a competitive industry where profit and productivity often supersede innovative design, it can be difficult to find a company willing to risk pushing the cookie cutter molds aside, to build a truly unique and high quality product. As it turns out, the City of Colorado Springs is home to one such company, Hefty Fabworks. Chris and Dan Hefty have been

building innovative armor solutions for Toyota trucks and SUVs for nine years now, and their popularity is growing like wildfire. While lead times can be a little long, they are definitely worth the wait, as these men and their highly skilled crew put profit margins by the wayside and quality engineering to the forefront. I've personally been 4-wheeling with these guys, and trust me when I say they are willing to push the envelope to find any improvements that need to be made before final products are released to their customers. Their newest and ongoing project truck, a 2016 Toyota Tacoma TRD Off Road, is no exception to the creativity and skill they possess.



Unless you've spent your entire life under a rock or in a grass hut, the venerable Toyota Tacoma needs no introduction and is revered around the globe as the most dependable and capable mid-size truck on the planet. The 3.5 liter Atkinson-cycle engine now available in this, the third generation of Tacoma, has more power than its predecessor, as well as a slight increase in fuel economy. Combine this with Multi-terrain Select, Crawl Control, and selectable rear locking differential, and you have an extremely capable rig even in stock form.



When it was time to choose a proven and reliable suspension system for the Tacoma, Hefty naturally chose Toytec Lifts who provided the new Boss 2.5 Remote Reservoir System and SPC upper control arms. When asked, Chris had this to say about the system, "The ride and handling of this suspension are simply amazing. It is smooth on the road and feels far better than the stock suspension, but where it really shines is in the dirt. Steady and stable through the rocks and at speed ... it's

amazingly smooth on rough terrain. There is no question that Toytec is a great company with a great product." Having used many of their products myself, I completely agree.

The Hefty Fabworks front aluminum winch bumper is simply fantastic. The design of these trucks from the factory leaves much to be desired with their massive chrome grill and low hanging bumper valance, but keeping the factory design elements is something that Hefty Fabworks pushes to maintain. "We want it to look like the truck should have come this way from the factory," said Chris Hefty, Co-owner of Hefty Fab. The bumper certainly improves dramatically on the factory looks with the recessed Rigid Industries Flush mount amber D2 fogs and the new custom grill with a 30-inch amber Rigid Radiance light bar that matches the 40-inch Radiance bar fitted in between the factory roof rack. But is this bumper strong enough, being built from aluminum? The design incorporates a 1/4-inch thick bumper shell, wrapped around their 3/8-inch backbone mounting system with 3/4-inch thick, sleeved recovery points, boxed sections in the wings and a reinforced winch mount. This bumper may look subtle and weigh less than 60 lbs. total, but it is all about strength with their designs. Strength and durability are not an issue here. Did I mention it's aluminum, and strong? It is tough as nails, and proven as such. Ever hit a Buffalo at speed, and not total the vehicle? One of Hefty's bumpers have, and I've seen the photos.






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Probably the most noticeable feature of the Tacoma is the two toned chase rack design. The rack incorporates a sleek design that has a hint of “Back to the Future” with a modern persona. The lightweight aluminum rack system incorporates a pair of Rigid Industries Duallys facing towards the rear and a modular design that will allow future customizations and accessories.

The rock sliders fit tight to the body and kick out just slightly. The integrated step plates provide a functional step without compromising strength. Hefty Fabworks only uses top quality materials in their sliders including DOM outer rails. At Hefty Fabworks, cutting corners is never an option. 



Toyota Mini Motorhome Project

Photos and Story by Brad and Belina Larsen

The Dolphin RV, built in the 1970s until early 1990s, cornered the market on small, affordable, and practical recreational vehicles. As a young couple who loves the outdoors, we knew this fit our needs perfectly. After looking for a few months on classified ads all over Southern California, we finally found one less than 20 miles away! Our new 1990 Dolphin was in very good shape, but was still very much a remnant of the past. We made the decision to renovate and it ended up being a much larger project than we had imagined. It started with a complete removal and replacement of the crusty old carpet. After the painstaking removal of an endless number of staples, we managed to rip all of it out. Our next dilemma was painting the interior. It was the midst of summer, we live in the high desert, and the RV had old wallpaper that came off in pieces so small that The Sistine Chapel would have taken less time to complete. Thankfully, we found some oil-based paint from the hardware store that, when applied in two coats, completely

sealed and filled any memory of the ugly wallpaper. We also repainted the cabinets to finish the white-on-white clean look.

Next, we replaced the upholstery, non-functioning refrigerator, drab toilet, rotten kitchen countertop, and dreary swivel chair. We completed upgrades to the interior lights to LED, cushions, cabinet handles and hinges, and modernized the look by changing from the old curtains to clean white roll shades. We had to have it completely re-plumbed with new PEX lines, from the old Polybutylene of the past. With the help of a friend, we repainted the Toyota truck front-end. We worked day and night to make it our own (total DIY)! This Toyota Dolphin Motorhome has gone from 80s style to modern in three months of renovations. A good project is never finished, but for now, our little RV takes us (including our little, adventurous furry pooch) on trips while we relax in custom luxury with the satisfaction that can only come with a dream finally realized.

The Dolphin RV at Valley of Fire, NV



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This is a series of before and after photos showing what the Larsens accomplished in just 3 months of renovation work.





The Dolphin in Death Valley, CA at the sea Level sign.



Aside from enjoying our Dolphin RV adventures around the US, we love exploring globally as well, as we are avid travelers around the world. You can follow along on our adventures on Instagram @ [bb_traveltherapy](#) 🇨🇦



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Get In Touch

Shane Williams shane@tctmagazine.net 303-578-9868
Tyler Elser tyler@tctmagazine.net 307-262-6445



YOUR RIGS



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From John Peterson

October evening fishing
with a new Tacoma

From Wyatt Bell



Getting a little flexy with the 3rd Gen 4Runner

From Alex Fleming