



## TOYOTA CRUISERS A STRUCKS

**VOLUME 9 | ISSUE 2 | SPRING 2016** 

On The Cover: The Toyota Fortuner exploring the north island of New Zealand

photo by Beau Johnston



























FRAMED

Overland Expo | Phillip Jones
Fraser Island | Shane Williams
Tundra Trophy Truck | Toyota USA
El Chalten | Desk to Glory

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#### FROM THE PUBLISHER

HERE, WE, GO!

Spring is nearly over, so we're getting this issue out just in time! We intentionally held the issue until after Overland Expo WEST so we could bring full coverage to you, our valued readers. Other unforseen circumstances resulted in a two-week delay in publishing. That's just how it goes sometimes;)

This issue is WELL worth the wait, IMHO. Not only have we included amazing Expo coverage, but we have a few special features that are exclusive to our little pulication.

Our fearless EiC, Beau Johnston, has been knocking it out of the park the last few months, and his stories of adventure in Vegas and New Zealand will undoubtedly pique your interest.

The entire Toyota Cruisers & Trucks Team has been very busy so far in 2016, with no plans of slowing down until after SEMA show this fall.

We hope you enjoy this issue as we push through our 9th year of publication!

Until next time, stay safe, Tread Lightly, and HAVE FUN!

Shane



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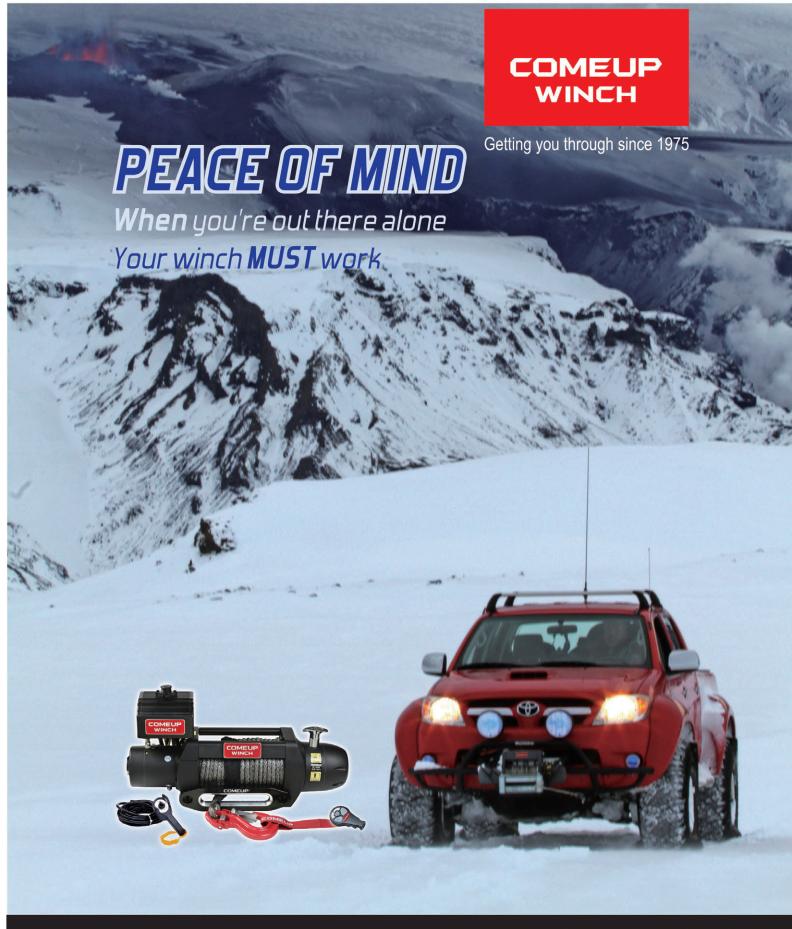
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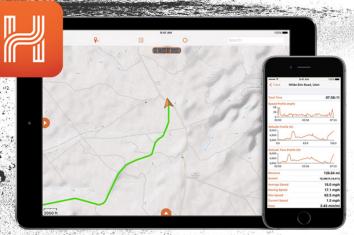
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## New & Noteworthy

#### Hema Explorer for North America



A few days before Overland Expo WEST 2016, Hema Maps released Hema Explorer for North America in the iOS App store, then the initial Android version arrived during the show.

Full Disclosure: TCT Magazine Publisher Shane Williams has been consulting with Hema Maps on this app for the last 12+ months.

According to the Press Release, Hema Explorer is built to "Plan, navigate and share your next 4x4 or overland adventure through the United States, Canada and Mexico." The app sells for \$19.99 in both App stores and is all inclusive: there are currently no in-app upgrades required for full functionality.

As a universal app, it works similarly on both smartphones and tablets, and requires a GPS connection (either built in or by using a compatible Bluetooth or wired GPS) to show your location without cellular service.

#### Key Features of the App Layers

Two different

US Topo layers: Modern USGS Topo and legacy USGS 7.5 Topo

The app includes the Hema US Road Atlas which can be downloaded in large chunks.

Two Terrain Layers: HERE Terrain and Thunderforest Outdoors, both include worldwide coverage.

HERE Streets and HERE Satellite for additional worldwide information and detail.

For Canada: CanMatrix (Topo) or CanVector (Street) can be enabled inside the app.

#### **Offline Maps**

All layers, except the satellite view, can be downloaded for offline use.

#### **Planning**



The app and cloud both allow creation of rough routes, placing waypoints, and importing GPX or KML (web only) files.

You can organize everything into folders for specific trips or legs of trips.

The Hema Cloud shows other trips/tracks worldwide, and those the Hema Map Patrol has already completed.

All public tracks in the cloud can be saved to the users profile and synced to multiple device(s).

#### **Documenting**

Record tracks, add geotagged photos, waypoints, and notes.

All data is backed up to the cloud when the device has signal or wifi service.

During the event, Hema announced their plan and route for an epic North American expedition, which they've already begun.

This summer Map Patrol teams from Australia and the United States will take their Twin Turbo Diesel 200 Series Land Cruiser from New Mexico to the Arctic Ocean along the Continental Divide. A return trip will see the truck and trailer traverse the west coast of the US, mapping a new overland route from Seattle through Baja all the way to Cabo.

The app is \$19.99 on the Apple Store or Google Play store

The cloud can be used free of charge.

Follow the Adventure at http://.www.hemaexplorer.com

Visit the Toyota Cruisers and Trucks
Hema Explorer Profile to see our
current and past trips: http://
tctmag.us/maps.

## THERE LIL BACK

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## New & Noteworthy

#### Yakima Debuts Streamline System



This Spring Yakima Products released a new base rack system meant to streamline installation and appearance. The aptly named Streamline System features four bar styles (details below), along with four new towers that adjust more easily to most vehicle shapes.

#### Crossbars CoreBar

The first steel aerodynamic crossbar on the market, the CoreBar combines the strength and utility of steel with the unique JetFlow



teardrop shape that minimizes wind noise and maximizes fuel efficiency. It can be used with all StreamLine System Towers.

#### JetStream Silver & JetStream Black

The JetStream is a premium alloy crossbar, engineered with a T-slot attachment and a wind tunnel-designed JetFLow™ aerodynamic bar shape for exceptional noise reduction. It's available in three sizes—up to 10 inches longer than other aero bars on the market.

#### RoundBar

This iconic steel crossbar is tried and true, with more than 35 years

of real-world testing. Its proven vinyl-wrapped steel construction provides years of trouble-free travel. Available in five lengths to fit any vehicle.

## Towers & Clips BaseLine Tower—for naked roofs



The BaseLine is Yakima's all-new, completely adjustable clamp tower system for bare roof types. Unlike any other tower system in the market, the BaseLine easily adapts to fit the everchanging shape of automobiles.

#### **BaseClips**

Yakima's new family of custom shaped clips and pads are designed to work with BaseLine Towers to fit vehicles with a bare roof. They're powder-coated stainless steel provides maximum strength and durability.

#### RidgeLine Tower—for flush side rails

This revolutionary tower creates a base rack system for vehicles with factory flush side rails. It features a unique, adaptive inner and outer clip design for secure, accurate rail contact, while the BarBed allows for pitch adjustment to level front and rear crossbars on vehicles with curved flush rails.

#### RidgeClips

Yakima's new family of custom shaped clips and pads are designed

to work with RidgeLine Towers to fit the unique inner and outer wall profiles of factory flush rails. They're also powder-coated stainless steel provides maximum strength and durability.

## SkyLine Tower—for fixed points, custom installation and tracks

This all-new tower is rugged and dependable. The easiest to use rack system on the market, it combines with the Yakima LandingPad to create a wide variety of custom base rack applications.

#### LandingPad

Proven to be the most seamless platform on the market, the LandingPad secures SkyLine Towers to the vehicle. They feature dedicated vehicle fits for key outdoor-centric models, such as the Honda Element and Subaru Outback, while also allowing custom applications to fit to any vehicle, including those with camper shells or truck caps.

#### TimberLine Tower—for raised side rails

This versatile tower creates a base rack system for verticles with factory raised side rails. The over-molded stainless steel strap accommodates a variety of raised rail profiles and sizes, and it provides excellent roof clearance, allowing for a full range of gear mounts.

Yakima has been a leader in the consumer grade roof-rack market for 35 years, we're excited to see these new products in the wild!

Prices vary from \$89 for RoundBarpairs through \$199 for most towers. Clips start as low as \$48/pair.





## OVERLAND EXPO 2016

Story and Photos by Phillip Jones

Amazing how weather can affect the overall mood among a large group of people. The lack of rain, snow, and mud this year made the strong winds bearable. Vendors were upbeat, classes were full, and attendance increased 40% over last year. The 250 exhibitors included feature vehicles, authors, and filmmakers. Also in attendance were approximately 20 VIP travelers, who were on global journeys from Germany, South Africa, Spain, Mexico, and South America. There were many more international guests who chose not to register as VIP travelers. I met a couple from Australia, who had already conquered much of the world and were now enjoying the U.S.







Class offerings include subjects on technical off-roading, wilderness medical, and battery welding.

Total participation was close to 10,000 people, which is a significant increase over the 6,000 in 2015.

"We were blown away by a 40% increase in attendance this year—we sold out of Overland Experience packages (610 people), and the camping area completely filled, something we didn't anticipate happening for a few more years," said event organizer, Roseann Hanson. "We ended up running a shuttle for the weekend serving the outlying forest camps. We couldn't be more pleased—with 400 session-hours of world-class teaching, and 250 exhibitors of fine equipment and services for overlanders, it was a huge success thanks to our talented and hardworking staff, instructors, and volunteers."

Indeed, it was a spectacular event. My favorite thing to do is meet international participants who stop by Overland Expo as part of their world tour. Amazing what can be learned in a 20-minute conversation with these experienced travelers.

From a product perspective, I sought out anything that reduced setup and takedown time. Less time fiddling with gear means more time for taking in scenery, socializing, and cooking. I also looked for anything innovative that seemed highly useful and/or convenient. Following are products that seemingly met my criteria.





#### Road Shower (RoadShower.com)

This product is a long black tube, capable of holding five gallons, with a water port featuring standard hose threads and an air pressure port. The black tube heats the water during the day at 15-20 degrees per hour (includes built-in thermometer). Pumping air into the tube provides the water pressure. It mounts onto a roof rack where it can contain maximum sun exposure. Attach the included short hose and sprayer, add air (a pocket CO2 tire inflator will suffice), and you're ready for a hot shower.





#### ArkPak (arkportablepower.com)

This is a battery case on steroids and can serve as an easily accessible power source for all of your campsite needs. Drop in a Gel AGM battery of your choice, and the ArkPak 715 provides a LCD battery management display, two 12 V sockets, a 2.1 amp USB, a 50 amp Anderson plug, and a 150 W Power Inverter. Not enough wattage? Upgrade to their 730 model and drop in a 31 Group battery for 300 W. Plug it into your vehicle's 12 V socket to achieve a dual-battery configuration. During the day, additional charging can be achieved via solar panels. Mounting bracket is included. It is also compatible with lithium LiFePO4 batteries.











#### ShiftPod Tent (ShiftPod.com)

With a cushion-patterned silver exterior, it appears as something designed for use on the moon. The waterproof and dustproof roomy tent features built-in poles so that it can be set up in under two minutes. The exterior reflective material reduced heat absorption during the day. Waterproof vents can be opened from the inside. For hot climates, the included A/C port can be used with a portable air-conditioner. If near a power source, power cables can be ran through a power cable hole with adjustable closure. The spacious tent is 12'x12'x6.5' open, and 12"x12"x74" stored.



PHOTO BY DENNIS LLOYD]

#### Wilco Offroad HitchGate (WilcoOffroad.com)

If you don't want to equip your 4Runner with an off-road rear bumper, but you desire a way to carry a spare tire, fuel canisters, and other items, then Wilco has a great solution that plugs directly into the hitch receiver. The swingout arm is easy to move out of the way for tailgate clearance. The upper rack can haul wood and other items not wanted inside the SUV.







## North America Offline 4x4 Adventure Navigation

- Plan your journey with routes and waypoints
- Navigate offline with multiple map sources
- Share your trips with other explorers on the Hema Explorer Cloud

#### **LEARN MORE:**

hemamaps.com/hema-explorer



#### Scout Equipment Co. Overland Kitchen (scoutequipment.co)

This clever system fits in the back of the 4Runner and features a slide-out fridge, sink, stove, and utensil drawer, with additional storage compartments at the top.



#### Tentsile (tentsile.com)

Want more of a minimalist tent camping experience that integrates you into the environment? Tentsile Tree Tents are hammock-style tents that tie between trees, or even off-road bumpers, and elevate you off the ground or above water. With a screen covering to protect from insects, and a floor that isn't touching the bumpy ground, this is a great way to stay cool at night.



#### XPCamper V2 (xpcamper.com)

Pickup bed campers are limited by the width of the pickup bed, so XPCamper offers an aerodynamic hard-side pop-up design that replaces the pickup bed completely, and thus offers more room. The V2 model doesn't disable the utility function of your Tacoma or Tundra, rather it expands it. The camper base is a flatbed and walls can be attached when the camper is detached. The hard-side popup is motorized for raising and lowering. Roomy interior features kitchen and bed, interior shower setup, table, and chairs. The exterior has multiple storage compartments.









# Trucks BJ BALDWIN'S TROOMY TRUCK

s a kid, growing up in the 90s, I was mesmerized by off-road racing and the legend of Ivan "Ironman" Stewart. Stewart, driving under the Toyota banner, racked up an impressive seven Baja 500 and two Baja 1000 Unlimited Class wins between 1991 and 1999. In addition to dominating the Baja races, Ivan won a host of High Desert Racing Association, SCORE, and Mickey Thompson Entertainment Group stadium races for a total of 37 wins and six Trophy Truck Driver's Champion titles.

TOYOTRES

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It has been 17 years since Ivan secured a first-place finish for Toyota in the Baja 500, and 18 years since his last Baja 1000 victory. In fact, it was 2000 when Toyota last participated in SCORE races with an Unlimited Class entry. Toyota has instead chosen to wander the desert, focusing the last few years on the Stock Full Class with the team's Lexus LX 570 (2009 to 2013) and Toyota TRD Pro Tundra (2014 to present).

That all changed on May 7 when Toyota announced they had signed a multi-year sponsorship with "Ballistic" BJ Baldwin. "BJ's successful racing record, his adventurous attitude, and his ceaseless dedication to honing himself and his craft speaks volumes

to Toyota's core 'Let's Go Places' and kaizen philosophies," said Cooper Ericksen, Toyota vice president of vehicle marketing and communications. "We look forward to having BJ and his Tundra involved in this next chapter of Toyota's desert racing story that so far includes 11 Baja 500 and two Baja 1000 wins."



HOONIGAN) Only one other driver, Larry Ragland,

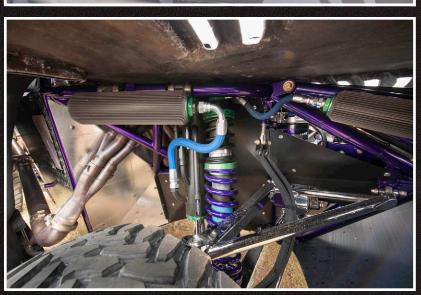
has won back to back first-places finishes in the Baja 1000 under the Ironman Spec, completing the grueling race as the single driver. BJ has a proven track record of winning but are his credentials enough to get Toyota to the promised land, a first-place finish? Toyota thinks so, investing heavily in Baldwin's new flagship race truck, a Tundra TRD Pro based Trophy Truck. The truck, built by ID Designs, is powered by a custom engine built by Kroyer Racing Engines specifically for this Trophy Truck application.













#### **BJ Baldwin's Trophy Truck Specs**

Year built: 2016 Chassis: ID DESIGNS Wheelbase: 124-inch Weight: 6100 lbs.

**Engine:** V8 built by Kroyer Racing Engines

Front Suspension: Twin A-Arm

Front Travel: 26-inch

Rear Suspension: Triangulated 4-link

Rear Travel: 30-inch
Tires: 39X13.50X17

**Steering:** Sawgnall Steering Box

Brakes: Alcon 6 piston

Trans: Albins Sequential ST6

Top Speed: 145 MPH

Wheels: 17-inch Method Race Wheels



Not only is Toyota banking on BJ's driving record, they hope to tap into his media influence. BJ's brings an added boost of energy to the Toyota team, which already supports drivers in the Lucas Oil Off Road Race Series, NASCAR circuits, and NHRA Top Fuel/Funny Car series. He has starred in Monster Energy's #RECOIL series of videos, with the first two in the series racking up a combined

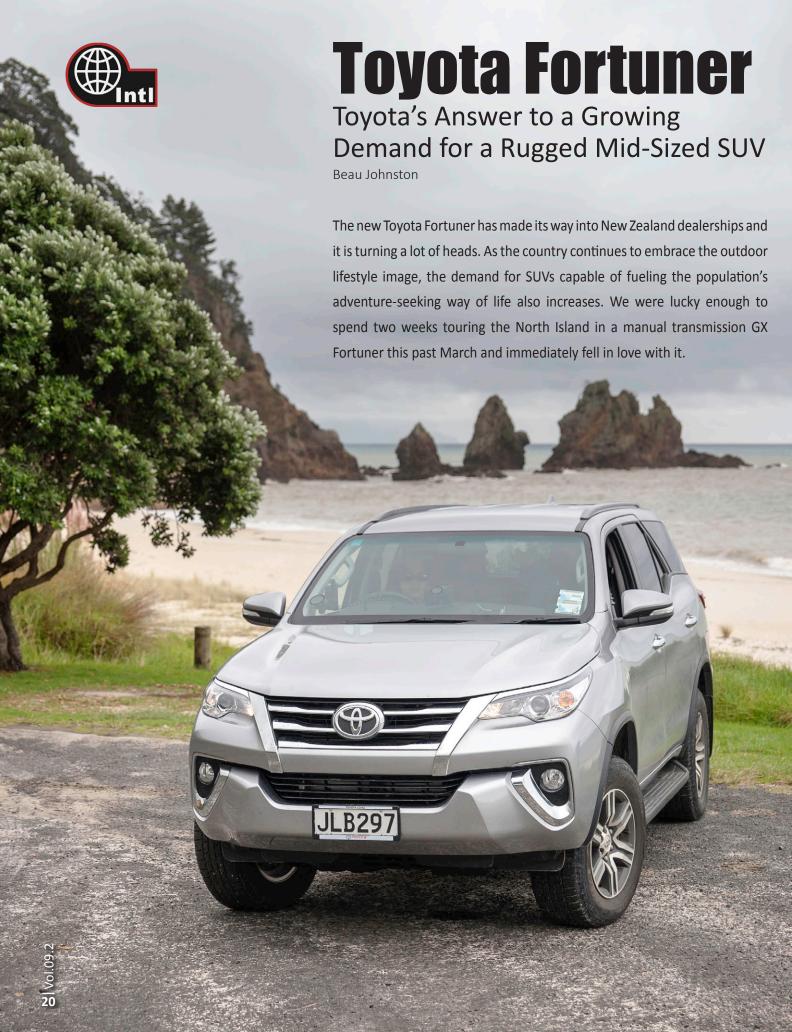
sponsored by Toyota, saw in excess of 36-thousand fans braving rain and hail to watch the races. Most of these fans showed up in pickup trucks and countless stood in line to have their photo taken with BJ and Ivan. Toyota wants to leverage BJ's name recognition in the market to help bolster sales of their Tundra and Tacoma platforms in a

His broader appeal as a driver reaches beyond the truck racing scene. Toyota chose to make the announcement at the Monster Energy **AMA** Supercross FIM World Championship for a reason. The event, co-





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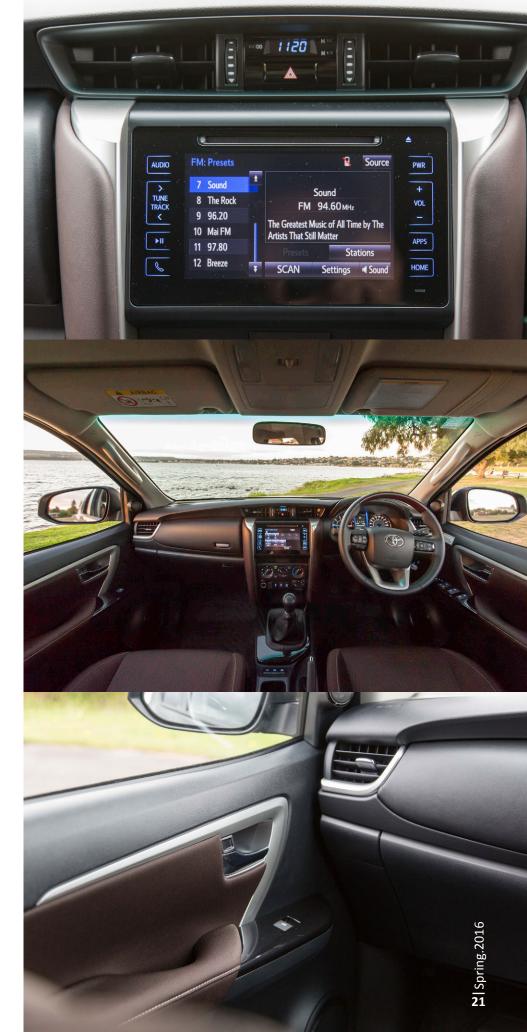


The new to New Zealand SUV bridges the gap between the Highlander and Land Cruiser Prado. It targets buyers looking for a rugged, diesel-powered SUV that can handle the demands of daily commutes and the rigors of hauling the family to the mountains for holiday. The Fortuner offers the same 2.8 L turbo diesel engine recently introduced in both the Hilux and Prado. It also shares the Hilux's drive train, coming standard with a 6-speed manual transmission and parttime four-wheel drive system.

I quite liked the look of the new Fortuner with its distinctive, sweeping lines. Even the stripped-down GX version I test drove looked like it was plucked from the premium SUV category. Chrome highlights were tastefully done and only served to accent the look. I found the overall styling to be a welcome change to its more aggressive looking American cousin, the 4Runner. It is a large SUV, by New Zealand standards, but its overall appearance does not suggest as much. It isn't until you sit inside of the Fortuner that it is packing a lot of space into what appears to be a small shell.

As noted earlier, the Fortuner shares much of its components with Toyota's other popular models. It incorporates the same double wishbone front suspension, with coil springs and stabilizer bar, as the Hilux and a 4-link rear axle similar to the design of the Land Cruiser Prado. Despite what seems to be Toyota's pulling parts that are already on the shelf and installing them on the Fortuner, the ride was extremely pleasant. It handled the curves of Wairata Canyon with less body roll than I was expecting. It also chewed up the miles along the dusty road to Port Jackson with ease.

In a word Toyota's new 2.8 L in-line four-cylinder turbo diesel is a fuel-efficient powerhouse. Okay, I know that was three words, but I cannot talk about one without the other. The "little" four-cylinder puts out a cool 130 kW (174 hp) of power and an astonishing 420 Nm (310 lb-ft) of torque. Now I know what you are thinking, "Doesn't the 4.0 L V6 found in Toyota's 2016 4Runner put out 75 kW (100 hp) more power and nearly





as much torque?" Well, in a nutshell, you are right BUT the 4Runner cannot boast an advertised combined fuel economy of 7.8 L/100 km (that is slightly over 30 mpg for us "Yanks"). Not once during our trip did I wish we had more power and we averaged 8.7 L per 100 km. I never babied the gas pedal during our travels and even during our short stint in Auckland's rushhour traffic did we see the fuel economy drop to 9 L per 100 k.

The new 2016 Fortuner is also packed full of features to make driving a little easier. One of my favorites was the Inelegant Manual Transmission function, or iMT, found on our manual equipped GX Fortuner. When engaged, using the button located on the center console, the engine computer uses the vehicle speed to determine the appropriate engine RPM for smooth downshifting. I found

#### Fortuner Specifications (as tested)

Engine: 2.8 L in-line 4-cylinder turbo

diesel

**Transmission:** 6-speed manual **Wheels and Tires:** 265/65R17 **Power:** 130 kW @ 3400 rpm

Torque: 420 Nm @ 1400-2600 rpm

Fuel Economy: 7.8 L/100 km

(combined)

Acceleration: 12.6 sec (0-100 km/h)

Max Speed: 180 km/h Overall Length (mm): 4795 Overall Width (mm): 1855 Overall Height (mm): 1835 Wheelbase (mm): 2750

**Ground Clearance (Exhaust Pipe)** 

(mm): 279

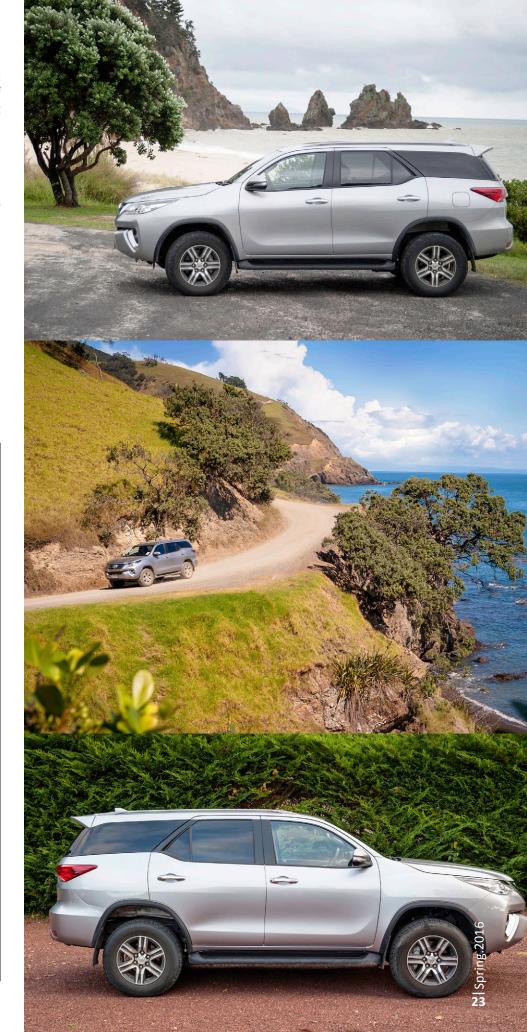
Approach Angle (mm): 30

**Departure Angle: 25** 

Max. Wading Depth (mm): 700 Gross Combined Mass (kg): 5745 Max. Towing Capacity Braked (kg):

3000

**Price:** \$60,990 NZD





the system to work brilliantly, although I wish it were a feature you could set and forget. Unlike economy mode the iMT system turns itself off after you turn off the engine and I constantly found myself forgetting to turn it back on each time I got back in to drive.

So is the new 2016 Fortuner Toyota's answer to New Zealand's growing demand for a rugged mid-sized SUV? Based off of the wildly popular Hilux and Land Cruiser Prado models, it is certainly from the right pedigree to be a hit. The new to New Zealand SUV features attractive styling and superior ride handling should be well received. The market should also enjoy Toyota's new 2.8 L turbo diesel, with its excellent fuel economy and ample power. I really enjoyed driving the GX Fortuner on our two-week New Zealand adventure and, if it were available here in The States, wouldn't think twice about buying one to replace our aging 1998 4Runner.



## Living Overland

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## 2015 Wild West Overland Trip

Story by Jordyn Pitts with input from Joey Pitts

his past September, Joey and Jordyn Pitts of J-J Adventures decided to set off on a road trip to the Rocky Mountains and surrounding areas. They started their 21-day trip in Paradise, Texas and traveled with their two dogs through eight states in their 2014 Toyota Trail Edition 4Runner. While on their journey, they primarily chose to camp and

live out of their Little Guy, Boss Edition teardrop camper. This is the second of a two-part series.

The next day was a chance for us to check off another one of our bucket list items. We ditched the camper and spent the day driving through Grand Teton and Yellowstone National Parks. Everywhere you turned there was a sight to see. Some of the highlights were seeing moose, waterfalls, and of course, Old Faithful. After experiencing as many sights as possible for our short little day trip, we finally made our way out of the park and into West Yellowstone, Montana. We decided on a whim to take the drive back to Jackson, WY by driving through Idaho. We were pleasantly surprised with the beauty that Idaho had to offer. Seeing the backside of the Tetons from the rolling potato farmland provided plenty of picture-perfect moments. We topped the night off by grabbing some dinner at a last minute stop called Three Peaks Dinner Table. This is a place you definitely have to try if you ever pass through Driggs, Idaho. Make sure to try the house made chips topped off with mushrooms and cheese.



Elk grazing in Yellowstone National Park.



After an hour-long drive back to camp in Jackson, we hit the hay and rested up for the next day's journey to Lava Hot Springs, Idaho. This is a unique little town complete with beautiful countryside and, as the name states, hot springs! We parked our home at the local KOA which happened to be within walking distance of the springs. After setting up camp, making new friends, and doing some laundry, we decided to grab a bite to eat and try out the hot springs. The hot water is piped into several different improved pools, each pool having a different temperature (102-112 degrees Fahrenheit). They weren't as eventful as taking a dip in a natural hot spring, but refreshing none the less.

We awoke to a dreary morning and headed on

to our next stop, Park City, Utah. We made a pit stop in Salt Lake City to visit one of Joey's long-time friends, Joshua Moses, who works at a custom car shop called Kindig-it Design, where he gave us a tour and an opportunity to see some of the car projects. We then headed up in elevation to our next camping spot in the Jordanelle State Park outside of Park City. This is a really gorgeous state park with stunning lake views and an abundance of wildlife.

Downtown Park City is also a great little place to visit. As luck would have it, I randomly found out that one of my favorite newfound artists was having an art exhibit the same time we were there. Of course I had to stop by and meet her. Teshia uses vivid colors to create huge paintings of various wildlife animals. It was such a pleasure to meet and speak with her. Check her out...she goes by TeshiaArt on Facebook.

The next day we set off in search of a nearby town called Midway. It's a quaint little town rich in history and great food! We tried a Mexican food joint called Tarahumara. The food was good but the ginger margarita was even better. We stopped at the local dairy, Heber Valley Milk, to grab some ice-cream and headed back to camp where we spent the rest of our time being lazy.









and hooked us up with a great camping spot in the Sand Flats Recreation Area. We were so blessed the whole trip to come in contact with awesome people, such as Matt. We spent the night chatting around the campfire and experimenting with cameras. Matt was able to grab an awesome shot of our rig that night, which can also be seen

in this article. New friends and new places, it doesn't get much better than that.

The next morning had us sad to leave Moab. It is a place we will definitely visit again. We headed back to Colorado. We had booked a condo in Telluride for a few days so that





we could take a vacation from our vacation; funny how that works. We were about 30 minutes away from our long awaited condo when we passed by a storage facility with an old, red Land Cruiser parked out front with a for sale sign on it. I have this real weak spot in my heart for Toyotas and pestered Joey to turn around and check it out. And boy did we hit the Toyota jackpot! Not only did this guy have a beautiful Land Cruiser, but he was sitting on a goldmine of old Toyota vehicles. He was nice enough to show us his impressive collection which ultimately left me trying to figure out how to bring one home with us. That was probably the best spur of the moment stop we made the whole trip. I'm still dreaming about a way to go back up there and take one of those vehicles back to Texas.

We eventually made our way over to Telluride where the next few days provided us with just what we needed to recharge. It was raining on and off which gave us a great excuse to be lazy. We had made a day trip to Telluride last year while doing Black Bear Pass and Imogene, but this year we had no shame in living it up in our condo and checking out the touristy side of Telluride. There are a great bunch of shops around town and the free gondola ride over to Mountain Village is always fun. The fall colors are amazing during late September and early October, all of which you get to soak-up while riding high in the gondola. Brown Dog Pizza was probably our favorite restaurant from the area,



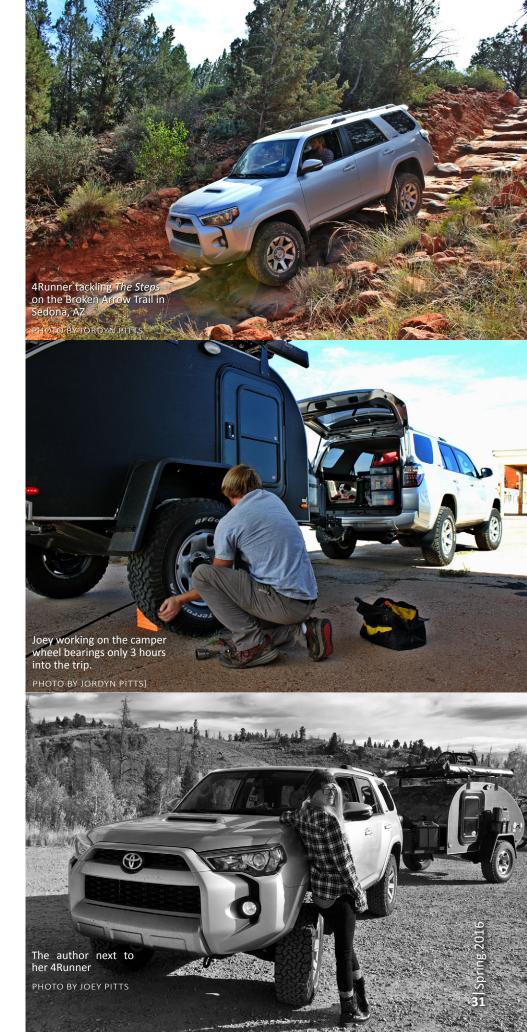
but we also enjoyed Smugglers and La Cocina de Luz.

As we came near to the end of our trip, there was only one stop left to visit. You see. I have always been a Toyota gal but Joey has always had a love/hate relationship with Land Rovers. I suppose that by default, I too am part of this love/ hate relationship. And so, as luck would have it, there happened to be a Land Rover rally in Sedona, Arizona during the time we were on our road-trip. We found out many of our Texas Rovers friends were heading out to the Western National Land Rover Rally and decided to see if they would let us sneak in with a 4Runner. We didn't do much sneaking, but they were nice enough to let us camp out and join in on the fun. We obviously got roped into going on a true trail run (which had me freaking out the whole time) called the Broken Arrow trail. The views were killer and the 4Runner did amazing over any obstacles we approached. My fear of accumulating body damage did not come to fruition, so I was a very happy camper.

We drove back to the rally and enjoyed a beautiful sunset and a great evening with friends. We even had the privilege of seeing our good friend and off-road guru, Bill Burke, who was also attending the rally. The next morning, we awoke for one last adventure with a few buddies from the rally. We spent the day hiking near Flagstaff and we ended our road trip with a family style meal with new and old friends. It was probably the absolute best way to top off the trip! The next morning, we grudgingly said our goodbyes and started the long haul back east to Paradise, Texas.

This was by far the longest road trip we have ever taken. There were so many beautiful sights and awesome people we met along the way. The 4Runner was a reliable companion that towed our cozy tear-drop and enabled us to pick a new home wherever we decided to park it. There's not much that can beat a night under the stars sitting around a campfire near the mountains. I'm already counting down the days until we can hit the road again. I'll always have a gypsy soul.

Jordyn & Joey Pitts, J – J Adventures





Maltec, a company based in northwestern Germany near the border with Holland, has established a reputation for building motor homes based on the good old Toyota Landcruiser HDJ80. Far from being just a gimmick for the rich end of the 4x4 market, they have actually produced the ultimate expedition vehicle, as Robb Pritchard found out.

For an expedition truck you could hardly imagine a better base vehicle, as the HDJ80 was already a legend in its lifetime. The production run lasted from 1990 to 1997, during which time it was the flagship Toyota with everything you could hope for in a tough off-roader: a strong chassis, two rigid axles of legendary strength with lockers as standard, permanent four-wheel drive, low-box and a burly 4.2 six-cylinder turbo diesel that gave out 160 hp. Today the HDJ80 is generally considered among those who know (and don't own Land Rovers) to be one of the best SUVs ever made.

Bought second-hand, the base vehicle is stripped down, the chassis sandblasted and repainted, brake lines are replaced and the cylinder head is removed to check the rod bearings ... and then the real work begins.

The Maltec website is dotted with page headings such as, "Reliability, Performance and Comfort at the Highest Level," "Departure into Unexplored Worlds—Without Sacrificing Comfort," and my favorite, "Only Light and





Powerful is Fun, We Hate Heavy and Slow!" Maltec's whole philosophy is to build using as lightweight materials as possible so that performance is not adversely affected, both for performance of components like the suspension and brakes, but also because you really don't want a heavy and slow vehicle for off-roading in some of the places that Maltec envisions that his creations will take you. This is why the camper section is made from fiberglass and polypropylene honeycomb sandwich panels and the pop-up part is made from a carbon-Kevlar mix, meaning that the vehicle has a curb-weight of just 2400 kg, including driver and full fuel tank. For those sharing the "lighter is better" mind-set, for an extra €3000 Maltec can build the whole cabin using carbon-Kevlar, saving another 140 kg.

So how do they add a mini house to the back of a Land Cruiser and still maintain the vehicle's structural integrity? "The camping cabin is fixed to what is left of the original bodywork and where the original pillars have been cut out we install a strengthening framework of chrome-molybdenum steel."

The camper stands proud at 2.2 meters high, a mere 25 centimeters higher than the standard vehicle height, but the roof lifts up on its gas struts a full meter. This lends to an internal height of more than two meters, meaning that even the tallest of expeditioners won't need to stoop. The upper floor houses the "bedroom." The lying area, with a real mattress, extends over the entire width of the roof and measures 1.4 x 2.1 meters. It can be







lowered down to sleep or folded up out of the way when you want to be in the "living space."

I remember a line from their website, "Reliability, performance and comfort at the highest level" and that's exactly what the interior is. There's a complete wardrobe and kitchen unit made of light Alucobond panels, a two burner gas stove, a sink, a 65-litre refrigerator and a water tank. On the other side is a wide couch that can also be used as another bed, and under it is a 25-liter boiler providing hot water for showers, although you'll have to take them alfresco as a bathroom is just about the only thing not included.

Mounted under the body, just in front of the rear axle, is a polypropylene tank to store additional fresh water for those long trips away from any fresh water source. Alternatively, could have aluminium storage boxes in the same place. There's another large storage space in the body at the rear.

Power comes from a 12 and 220-volt system powered by a solar panel on the cabin roof that charges an Optima battery with 85 Ah capacity. Energy consumption is minimized by using LED technology for the interior lighting and the pretty cool looking tail lights. There are also external 220 volt connections for campsites. And what about those heading to cooler climes or those particularly cold desert nights? Well, the interior can be heated in three different ways: by the water heater, with a Webasto air heater, or from ducts directing warm air back from the engine.

The fuel carrying capacity is an impressive 275 liters. The stock Toyota tank is already a generous 90 liters, but Maltec adds an additional 185 litre aluminium tank mounted where the spare wheel used to be. But if massive range is what you are after then it's possible to have another fuel tank in front of the rear axle which will give you a massive 345 liters!

The standard exhaust doesn't fit after the additional fuel tank is installed, so it is re-routed to come out just behind the passenger door which gives a nice throaty sound to the big engine. It seems pointless to mention that a snorkel is fitted, and what expedition truck doesn't have a heavyduty bumper, but cleverly this bumper doubles as another water tank! Also mounted on the outside are a set of sand tracks and an awning. On a quest for shedding kilos wherever possible, the wheels are a set of aluminium Alocas with the spare mounted on the roof overlapping the windscreen a little. It may not be the most aesthetically pleasing option but there is nowhere else for it to go!









To accommodate rough roads, Maltec outfits the vehicle with HT-springs and Koni shocks although they will install any set-up you request.

Each Maltec Explorer is a custom vehicle, built to the requirements of each individual customer, so no two are alike and prices vary accordingly. The base vehicle itself, stripped and re-built will set you back 23,000€ and the standard interior will be around 5,500€. The complete vehicle featured on these pages runs 78,000€ which might seem a lot of money for a car that is at least 20 years old, but it's a fully-equipped, luxury expedition vehicle that you can trust to take you almost anywhere. You know that old saying; you get what you pay for! ■







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As FJ owners, we know all too well one of the few shortcomings of our rigs—the poor the visibility when looking out our windows from inside. It is especially difficult to see out when the rear of the vehicle is stacked to the ceiling with camping gear and we can't use our rear view mirror effectively. Trail Toys has introduced a solution. Their new EZView mirrors provides a 35% increased field of view, eliminates blind spots and also allows the rear tire to be in view.

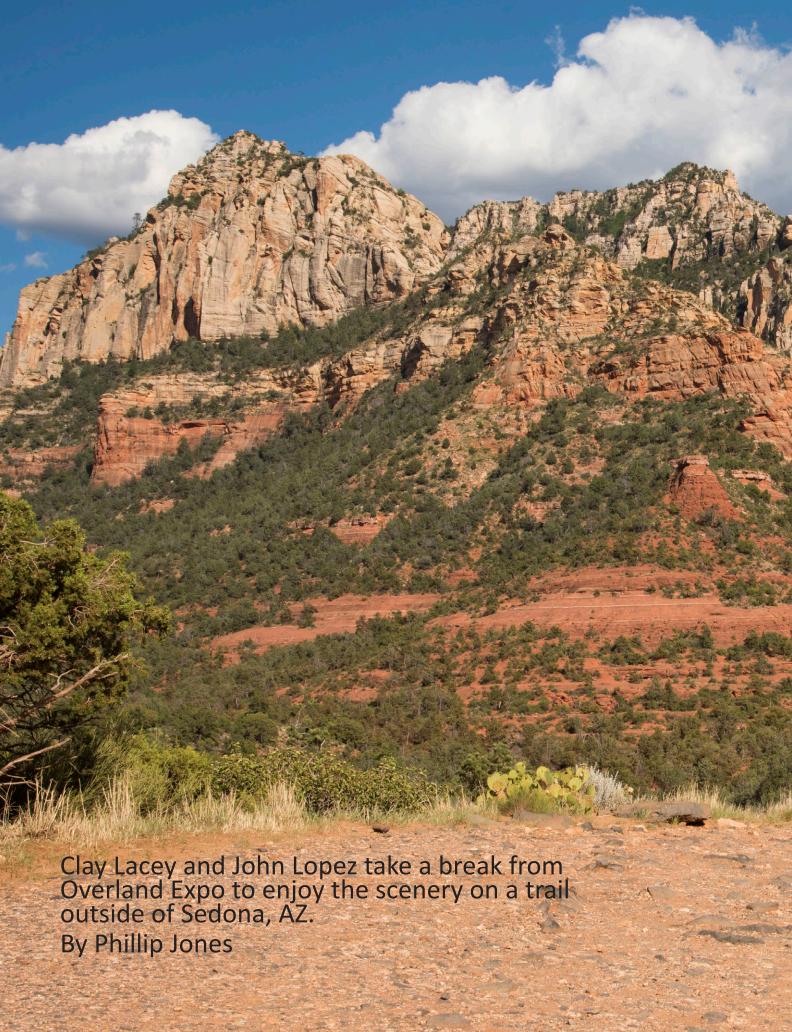
To remove your old mirror you unsnap it from the mirror housing. Then you use a bit of heat from a hair dryer or heat gun to loosen the plastic edges of the backing plate. Work your way around the edges, pushing the plastic edge "off" the mirror's edge. Apply enough heat and it will soften the plastic and the mirror can be removed. Follow the above instructions in reverse to install the new EZView. Heat the plastic edges enough to work the edges of the new mirror into position. Take extreme care to make sure the plastic is pliable enough to bend so you can get the edges of the mirror into

place (I broke one while applying too much force trying to get it seated). Once the mirror is set in the backing plate, it's easy to snap the new mirror into the housing. Installation was a bit tricky, so I would suggest checking out the installation video; a link to their YouTube video can be found on the Trail Toys website.

Angle both mirrors in toward your vehicle, enough to where you can see your rear tires. Take a drive and test out your new mirrors. You'll notice passing vehicles are distorted much like a carnival mirror. This will take some time to get used to, but it's well worth it. Seeing vehicles approaching from directly behind me is one of the mirror's best features since I always load my rear cargo area to the point where the rear view mirror is useless. Vehicles approaching from behind in adjacent lanes can be seen in the mirror up to the point where they reach your doors and you can see them out the door windows. No more blind spots! The Trail Toys EZView mirrors are hands down one of the best mods you can do to your FJ. There are optional defrost films and wiring kits to make the mirrors heated for colder climates. They also sell a kit for 2005-15 Tacomas.

















f/5 1/500s 21mm







# First Look: Napier Sportz Truck Tent + Link System

By Shane Williams with additional info from Beau Johnston

ast year at SEMA Show, Senior Editor Dennis Lloyd and I were racing through the show, like we do, when suddenly I was stopped in my tracks. In front of me was a 2014 Tundra with a full truck tent plus add-on ground tent. We were looking at the

Napier Outdoors Sportz 57 Series with their new addition, the Sportz Link model 51000.

As you've read over the last year, my goal with our 2015 Tundra CrewMax TCT Explorer has been to uncover that most delicate balance of utility vs. convenience vs. performance. Our initial goal to build an amazing family explorer has been met, so since we finished our first round of modifications last year I've been thinking ... outside the box.



quite comfortable. The ability to sleep in a comfortable, elevated truck bed with room for the kids on their cots is certainly appealing.

Still, some questions needed to be answered:

- Would the truck tent fit on our short CrewMax bed with the Truck Covers USA rolltop cover?
- Since the 57 Series Truck tent would need to be disassembled prior to leaving camp, would this be useful for basecamp to exploring adventures we're used to?
- How will this equipment hold up over the long term?

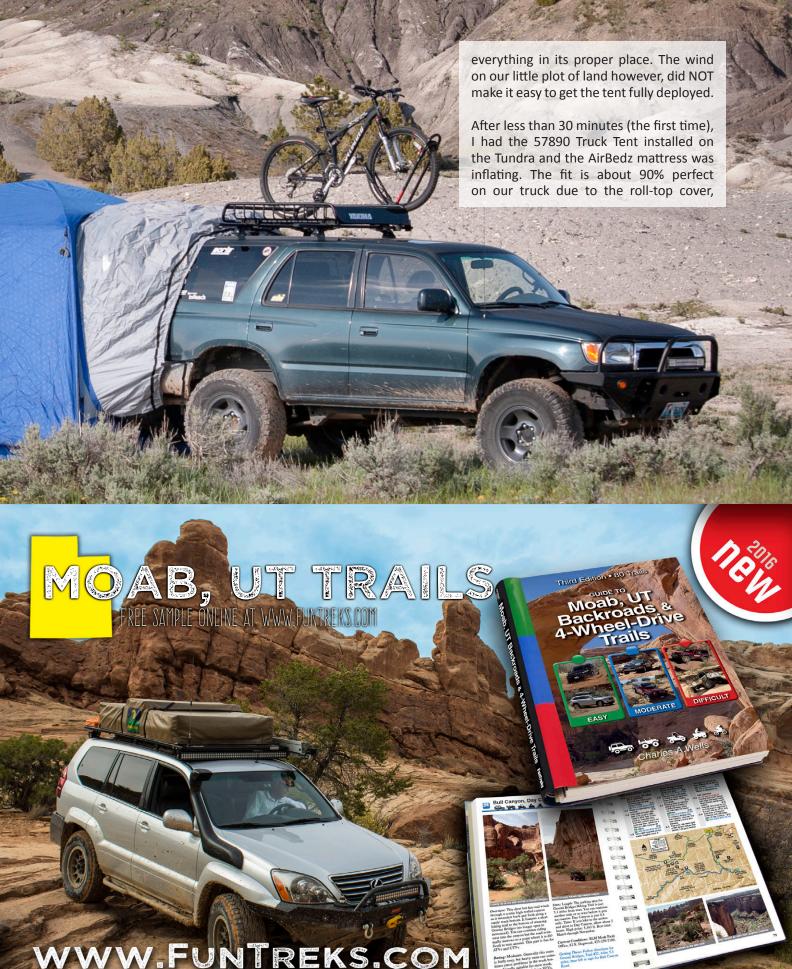
After the show, I contacted the great folks at Napier Outdoors (they're Canadian—of course they're super friendly) to find out if we could answer these questions.

The Fedex truck arrived in short order, dropping off 50 lbs. worth of truck tents. However, as luck would have it, our spring in the foothills of the Rocky Mountains lasted a bit longer than usual this year. Getting out to test this setup has proven ... difficult.

Finally, last week I seized a few hours of almost sunshine to setup the entire system. My main comparison for this review has been our full Manley ORV trailer with CVT Family-12 tent, which







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certainly suitable for a restful night's sleep. Installing the 5100 Link tent took another 15 minutes or so, but I expect that the entire setup time will shrink as I become more familiar with the system.

At this point I feel like I've answered our initial questions:

- The tent does in fact fit with our rolltop cover, at least close enough for moderate use.
- For using this in a basecamp scenario, it's simple enough to remove the truck side of the tent and put it back on after exploring. I do not think it would be worth it to disassemble the entire setup and pack it up during a multi-day overland adventure.
- The material is of high quality, but it will likely take several more trips before I truly get a feel for how it holds up.

For a first look, I really like the option of less than 50 lbs. of tent and less than \$600 investment for both parts of this system. While it may not be suitable for multiday, multi-location adventures, it would certainly be perfect for a hunting trip or basecamp adventure. It's certainly a great option for a family on a budget that's searching for maximum flexibility with their Toyota Truck.

In an effort to fully serve our various readers, Napier also sent a SUV Tent system to our Editor in Chief, Beau Johnston, for his initial evaluation:

The Sportz SUV 82000 from Napier Outdoors is an interesting option for Toyota 4Runner and SUV owners interested in an inexpensive way to camp with their vehicle. A step above standard tent camping, the 82000 is built to attach to any vehicle via a universal sleeve, so it's suitable for virtually all 4Runners, Land Cruisers, or FJ Cruisers. For us, the ability to access all of our gear in the back of June without leaving the tent is very useful.

The tent and built-in awning are a great size for the two of us. With our lifted 4Runner the sleeve was a tight fit and a bit problematic to mate perfectly. My lift-







## Dometic CFX-65DX Long-Term Review By Beau Johnston

There are a lot of portable fridge/freezers on the market these days, with more seemingly being introduced each year. With such a saturated market, it can be tough to decide which is the best for your needs. A newcomer to the US market, but a brand that has been forged in the Australian desert, is Dometic's line of CFX fridges. Dometic, known by our friends Down Under as Waeco, has been a worldwide leader in automotive fridge/freezers, they only recently introduced their CFX line here in the US.





controls for each compartment, we found the design to work well. While working at a remote field location last year I was able to freeze, and keep frozen, bottles of water in the freezer compartment while keeping the fixings for lunches and dinners in the refrigerator compartment. I even had a stash of ice cream bars in there to enjoy after a long day.

We also found user features, like the built-in USB port and spring-loaded handles, to be welcomed additions. We liked how the side-pivoting lid, which can be configured to hinge from either side, opened fully under the hatch of our 4Runner and stayed open by itself. The built-in battery monitor, which can be set to three monitor levels based on battery voltage, saved our bacon in the field. After a day of driving we discovered the "bat" error code on the fridge display and a low voltage alarm from the wireless temperature display. It turns out one of the vehicle's battery connections had come loose and even though the truck had been running all day, the alternator had not been charging the battery.

There are a couple of items I think could be improved upon in the fridge's design. First are the basket designs. Unlike other fridges we have used in the past, each of the sides of the CFX-65DZ fridge baskets go all of the way to the top. This really restricts the size of items that can be placed in the fridge. We wish the height of the front side of the refrigerator basket was only as tall as the dairy shelf. This would allow long/flat items, like the pie we tried to take to Thanksgiving dinner, to fit with ease. The basket could easily be rotated 180 degrees if items in on the diary shelf needed to be separated from the main refrigerator compartment.

Our second thing we would like to see improved has nothing to do with the fridge itself, but instead with the accessory wireless display. Although it saved us from being stranded in a remote corner of Wyoming, it seems antiquated. We found the signal from the fridge to routinely cut out, even with it being mounted in the vehicle with the fridge, and resulted in a blank screen. We also wish the display offered a better form of mounting, other than a small



suction cup on the back. We secured ours to the center console with Velcro strips but wish it came with a mounting bracket instead.

In all, the Dometic CFX-65DZ fridge/freezer has impressed heck out of me. It kept ice cream frozen while keeping vegetables crisp and fresh. While only anecdotal, the fridge seemed to draw less current than our previous fridge, even with the added load associate with the freezer. Even though I believe the fridge's baskets and wireless display could be improved upon, it has proven to be a rock-solid fridge for our travels.

Do you want to cut down on the amount of electricity your fridge/freezer uses? Dometic offers these helpful tips to ensure you don't drain your battery while enjoying the back country:

- Choose a well ventilated installation location which is protected against direct sunlight.
- Allow warm food to cool down first before placing it in the device to keep cool.
- Do not open the cooling device more often than necessary.
- Do not leave the cooler unit open for longer than necessary.
- Defrost the cooler once a layer of ice forms.
- Avoid unnecessary low temperatures.







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o you just got an RC Crawler for the Holidays and now you want to mod it out to get the most out of the little package. The RC world is very similar to the 1:1 world of trucks, it's very easy to get sucked into the modifications and the bills can add up very quickly. Luckily, parts for your new RC come a lot cheaper than for your 1:1 rig! That said, it's still nice to gain performance on a tight budget. Here's a few tricks to pull a little extra out of your Axial SCX10 (other makes and models may have similar results). These mods were done on an Axial SCX10 Honcho (available at http://www.axialracing.com).

**Gain up travel:** The factory coilovers come with a rubber bump stop that can easily be removed with a knife or scissors. Simply lift the coil spring up to reveal the bump and carefully cut the rubber bump out. This will give you a little extra up travel and zero cost!



**Secure coil spring:** On some occasions, on full extension with the coilover on zero preload, the coil spring can lift off the lower perch. This can leave to your lower spring perch prone to falling out. A simple solution is to drill a small hole in the perch and run a thin wire around the spring to hold it in position.



**Ride height and travel:** This is not free, but a cheap mod. There are many options out there for shock relocations. This version keeps the shocks outside of the frame, but allows you to easily add lift and adjust the suspension travel.





Tire performance: There are a few things you can do to the factory tires to get a little better performance out of them. First is to thin out the foam insert to allow for more tire flex and the second is to add weight to the wheel while the tire is apart. Adding weight to the wheel, especially the front tires, will help keep the tires planted while on steep climbs and off-camber terrain.

The tires come from Axial glued to the wheels. To separate the tires from the wheel, preheat the oven to 325 degrees F and bake the tires for up to 10 minutes.



Using thick gloves to avoid any burns, grab the heated tires and peal back to separate the rubber from the wheel. Go slowly, if the tire is not separating from the wheel, put the tire back in the oven for a little longer.



With the tires separated, you can now modify the foam and add the tire weights. Tire weights are available for purchase or you can wrap the wheel with wire or solder. There are different ways to cut the foam. Here I have shown a "V" and reverse "V" compared to the full foam. Another option is to run without any foam for a very flexible tire.



To reattach the rubber to the wheel, use a strong glue along the inner and outer beads. I suggest setting one bead at a time, allowing the glue to set before working on the other bead.



The mods with these RCs are endless and these are only a few of the cheap/free mods you can easily do to squeak out a little more performance.

Do you have any cheap tricks that you'd like to share? Please let us know by visiting our Facebook page, maybe your cheap trick can make it into our next installment!



## Switch-Pros All-in-One Switching System

If you know me, you know I'm a nut when it comes to wiring up lights on my FJ. I started out with an sPod switch system to control all the lights, but at Overland Expo in 2015 I discovered Switch Pros and their new 8100 Switching System. A guick demo at the Pelfrey Built booth had me hook, line, and sinker. The funny thing was that sPod's booth was just across the road and they were showing off their newest touch screen module, but I wasn't interested in something built on the older relay/fuse system. I just saw the future in a solid state, modern switch system by Switch Pros. The brain was small and could be mounted virtually anywhere. There was only a small wire harness containing four small gauge wires to route into the cab of the vehicle and the switch module was small for easy mounting. It had eight switches, two more than the sPod, and could be customized with the included sheet of switch decals. Whenever I see innovation in our market it gets me giddy-here was a new company flipping switching control systems on it's head. There are plenty of offerings from basic do-it-yourself relays and fuse boxes to the sPod, but there is a new kid on the block with something up its sleeve.

## Mounting

In a few of the installs I've seen, the 8100s control module was mounted near the battery. The control module contains the brain, has a positive post and waterproof harness connection. I decided to install a bracket on the rear firewall of the FJ where my sPod was previously installed. I found an L style bracket in the lumber section of Lowes where all the angles, clips and straps are for tying lumber together. It provided enough surface to mount the switch module and the Blue Sea terminal bus.







## **Making the Connections**

I connected all my exiting ground wires from my accessories to the new Blue Sea terminal bus. Using the diagram in the instructions I noted which wires on the switch module corresponded to each switch on the switch module. I wanted all my roof lights on the top row and the bumper lights on the lower row. I labeled each wire with a label maker and did the same to each wire for each accessory. This bit of work helps keep things organized when making the final butt connections. I made all the connections tidied up the wires by bundling them with several zip ties to keep it neat. There was an "aha" moment after finishing up my install; I may re-do the positive connections with a small bus bar so that the connections are not permanent. The bus bar allows for all connections to be made at a screw terminal so further wire organization is possible on the positive side. So, having two matching terminal bus bars, one for ground and one for positive is the way to go. This is one thing the sPod does well because it provides screw terminals for ground and positive.



## SWITCH-PROS

## **Routing the Switch Harness**

I used the same hole I used for my sPod in the main firewall boot to push through the significantly smaller 8100 switch panel harness. I sold my sPod and included the driver's vent with the six installed switches. In return, the buyer gave me his untouched driver's vent, so I had a new, clean surface to mount my 8100 switch panel. I drilled a hole large enough to route the harness through the vent and it provided a clean install with no exposed wiring. I used 3M VHB double sided tape to mount the switch panel. Using a band saw, I cut off the mounting tabs on the sides then I sanded and wrapped the entire sides of the panel with black decal vinyl for a clean look. I used a razor blade to make a clean cut around the edge using the panel's edges as a guide for the blade. You can't tell I cut them off. Switch Pros will be providing forthcoming versions with no mounting tabs for more installation choices. Had I left the mounting tabs on the sides of the panel it would have been wider than the vent's width and looked goofy.



## **Connecting Your Accessories**

Installation is easy, even for the electrical novice. That's why I recommend an all-in-one solution like the sPod or Switch Pros to many friends starting out. This gives you the ability to organize your wire routing to keep it clean and plan for future accessories. Mine was a bit more difficult because I had all my accessories hooked up to the sPod. Consequently, I needed to remove and reorganize the wiring to connect it to the new Switch Pro 8100. It was tedious and I'm satisfied with the results, but since I like clean installs I'm already contemplating re-doing the

layout for an even cleaner install. The 8100 is a nice unit but the sPod was better at organizing the incoming wiring since it had negative and positive terminals for connecting your accessories. The 8100 only has positive connections and it's up to you to figure out where you're going to terminate your ground wires. I installed my 8100 with a Blue Sea Terminal Bus for all my negative wire connections and connected all the positive wires on the 8100 to each accessory positive using the included heat shrink butt

connectors.





## **Programming the Switch-Pro**

There are two different methods to programming each accessory on your new Switch-Pro. Either at the switch panel or on your smart phone. The Switch-Pro comes with Bluetooth installed. I tried both methods and he smart phone method was easier since you have direct feedback when inputting settings for each accessory. When you're programming via the switch panel buttons you have to pay attention and count the blinking lights to keep track of where you are in the setup. You can configure several features on the Switch-Pro; momentary, battery input,

flash, strobe, override low voltage disconnect, memory, switch panel dimming, switch names, set password and master switch.









Momentary: Set your switch to act like a momentary switch.

Battery Input: Set your switch to remain on with the ignition turned off. The default is all switches are "hot" with ignition turned on.

Flash: Set your switch to a secondary flash when the switch is double-tapped.

Strobe: Set your switch to strobe (flash fast) when double-tapped. You can't have both flashing and strobing lights. It's one or the other.

Low Voltage Disconnect: The unit will shut down if it detects 11.5 volts for 60 seconds. If it detects 12 volts for 60 seconds it will can be powered on again.

## SWITCH-PROS

Memory: Set the switch to come on with the ignition.

Dimming: Set the switch panel night-time backlighting and LED indicator brightness.

Switch Names: Set the name of each switch.

Set Password: Set a password to secure the system.

Master Switch: When programming via Bluetooth you can set a master switch to activate more than one accessory. For example, set a switch to turn on all your roof lights.

When using your smart phone to control the Switch Pro, you can turn on and off accessories using Bluetooth regardless if you had programmed the switch to function with Battery or Ignition Input set to ON.

It's good to know companies like Off Road Engineering keep pushing the envelope and advancing the technology to power all of our accessories in a safe and well-thought-out package. Like I said earlier, I wouldn't hesitate to recommend the Switch-Pro to anyone looking for an all-in-one switching system.





# Rokmen Off Road Pro Series Upper Control Arms

By Eric McKercher

okmen Off Road has been building quality off road parts for 12+ years. Their attention to detail and precision machining leads to a phenomenal end product with everything they build. In the last couple of years, Rokmen has begun to produce specialized parts for Toyota trucks and SUVs. TCT Magazine has highlighted some of their great products in past issues and now we bring to you their latest addition to the lineup—Rokmen Pro-Series Upper Control Arms (UCA).

Now, you are probably thinking ... not another UCA for Toyota suspensions. Well, rest assured that this UCA is far from ordinary. Aside from the precision machining to ensure the highest quality, there are a number of differences that set the Rokmen UCA apart from the crowd. From the top of the line stainless steel uniball to the precise fit heim boot covers, every detail has been carefully thought through to be able to provide Toyota owners with one of the best UCAs in the market in 2016. Being able to fine tune this arm is why Rokmen incorporated into the design stainless steel spacers that can be aligned in different configurations. There is even more to touch on as we install a set on our 2007 second Gen Tacoma in this article.

## Installation

Our install truck already has a 3-inch lift and uses OEM lower control arms. The current UCA has already been removed and we are ready to install the Rokmen UCAs. We begin by opening the Rokmen UCA kit and find that this kit goes to extreme lengths to include everything you need for a smooth install. Some notable items included in this kit are:

- Rod End alignment tool, fully enclosed rod end weather boots
- Boot installation tool
- 2 oz. bottle of Tri-Flow dry lubricant with PTFE



These arms are built in-house to insure quality production at every step.

Kit

We start by setting up the arms for installation. The FK Stainless Uni-Ball with PTFE liners comes already pressed into the arm. So we move on to installing the rod ends into the arm. These arms are built in-house to insure quality production at every step. The tubing is 3/8-inch thick and the rod end threads are machined directly into the tube. This insures a perfect thread match between the tube and the rod end. We coat the rod ends with silver anti-seize to help protect threads from the elements that the arms will see. The rod ends are threaded all the way in. For the average install Rokmen suggests you back the rod ends out 1.5 turns. For this particular truck we actually backed the rod ends out 2.5 turns.



Rod end installation.





The tubing is 3/8-inch thick and the rod end threads are machined directly into the tube.



We coat the rod ends with silver anti-seize.

One of the hardest parts of setting up a UCA with heim ends is getting both ends lined up perfectly. Rokmen includes in the kit, a rod end alignment tool that allows you to set up the ends perfectly and tighten the jam nuts down tight so the ends cannot come loose. Without this tool, getting both ends lined up can be a chore and require multiple tries to get it right.



Heim arm tool.

Next up we need to get the rod end boots installed on the ends. Before you install them, make sure to put some Tri-Flow on the joints. You can use the UCA bolt to move the ball from side to side and work the Tri-Flow into the joint. It should be noted that only a small amount of Tri-Flow is needed and make sure to wipe off excess Tri-Flow. The weather boots are designed to be very tight fitting to keep moisture and dirt out of the joint, so Rokmen includes a special tool designed to allow you to expand the boot for ease of installation on the end.



Before you install the rod end boots, make sure to put some Tri-Flow on the joints. You can use the UCA bolt to move the ball from side to side and work the Tri-Flow into the joint.



Boot install

Once the boots are on you need to set up 17-4 Stainless Steel spacers. Rokmen includes an "Alignment and

Make sure to inspect the rubber boot after this is done so that it is not twisted or kinked. The boot can easily be worked by hand to get it to lay evenly and flat.

Adjustments" guide in the instructions to help guide you on the best way to set up your arms. The spacers allow you to change the amount of top end caster based on your needs. In the stock location set up, the arms have approximately four degrees of castor when installed on a vehicle with 2.5inch to 3-inch of lift. Our install truck is running larger sized 315 tires so we ended up adjusting the arms forward to increase the top end castor and get the tires further away from the inner fender wall. After you have determined your best spacer set up you need to insert the spacer inside the boots. Using the included tool, you just need to open up the boot ends and install the spacers. Make sure to inspect the rubber boot after this is done so that it is not twisted or kinked. The boot can easily be worked by hand to get it to lay evenly and flat.

Spacer adjustments and Alignment and Adjustments Guide.



Spacer install in boot.

Last thing we needed to do before installing the arms on the vehicle was to add Tri-Flow to the uni-ball. Again, use the UCA bolt to work the Tri-Flow into the uni-ball by moving the ball back and forth. Make sure to get the top and the bottom. Once you are done with this it's time to get them on the vehicle. These arms are installed the same way as any UCA. Once you have the arm on the frame end you need to line up the uni-ball so that it seats fully into the spindle. Rokmen has machined 17-4 stainless steel inserts for each Toyota model for which these arms are built. Through extensive research and development, Rokmen discovered that the spindle taper is different across different Toyota models. There is a common misconception that the spindles are the same, which is not

> To insure the most precise fitment, a different insert was created for each model.

the case. So to insure the most precise fitment, a different insert was created for each model.



Before installing the arms on the vehicle, add Tri-Flow to the uni-ball.

Once you have insured fitment is correct, it's time to tighten everything up. Make sure to follow the torque specs that are included in the instructions. The signature Rokmen aluminum uni-ball dust cap gets installed next. The cap includes a rubber O-ring to seal it and is secured with stainless bolts. Don't forget to reinstall the ABS bracket onto the arm with the stainless bolt that comes with the kit.





Complete arm



Installation on the truck.



Installation on the truck.

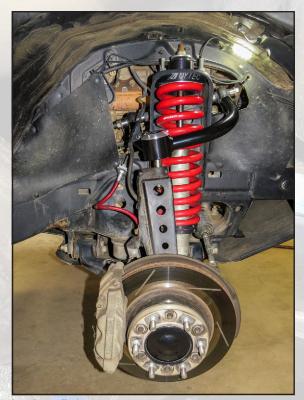


Installation on the truck.

Once the install was complete we took the truck to get it aligned. Post-alignment the truck drives great. I myself am enjoying the solid feel that comes with having heim ends on the UCA versus a bushing. At the time of writing this article, the install was only three days old, so we have not had an opportunity to get them off road yet, but we know that they will not let us down and will perform at the level in which they were manufactured. Hence the name "Pro-Series." We're looking forward to putting them to the test in the coming weeks and months as the adventure season begins. There is a lot to be said for the peace of mind that comes from having quality performance parts on your truck when you are hundreds of miles away from civilization.

Rokmen Pro - Series UCAs are available for:

- 2003+ 4Runner
- 2007+ FJ Cruiser
- 2005+ Tacoma



Completed installation.

For more information on Rokmen UCAs and other Toyota product they offer visit: www.rokmen.com Also check out/

follow their Facebook page for upcoming product releases and news.



Rokmen flex shot.

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## Crawl Control Retroff on 2015 ARunner SR5 YOU BET! By Steven Kn

**Bv Steven Knaus** 

ike a lot of people, I am disappointed Toyota does not offer the Trail Edition 4Runner with a third row seating option. We decided to settle on the SR5 4Runner because seating for more than five people was mandatory for our family. One option is to get a Trail Edition and add a third row, but safety for my family is of utmost importance. The SR5 includes additional air bags and safety equipment designed for the third row. Being the engineer that I am, I decided to look a little further into the Crawl Control Circuit and see if it was somehow possible to put this into my SR5. Why not just go straight for lockers? I am a technology guy, and Toyota has really developed some great off-road Technology and I really wanted to use this over lockers anyway.

I started off by doing a pretty extensive search of the internet forums and found nothing, just a lot of people wanting a Trail with third row seating (BIG HINT TOYOTA). I started by purchasing a two day subscription to the Toyota TIS website for \$15 (https://techinfo.toyota.com). This provides access to schematics and repair manual information needed for this mod.

I found the schematic for the Crawl Control and Multi-Terrain Select. Upon closer examination, Toyota actually calls the Crawl Control Switch, the "Drive Monitor Switch." There are six connections on this switch and they are Constant +12V(+B), Switched +12V(IG), Ground, 2 CAN bus connections (CANN and CANP) and LINT. From finding a section in the repair manual about the Drive Monitor switch, it appeared that the brains for all of this are right in the switch assembly itself and it communicates with the Combination Meter via LINT and the rest of the system via the CAN bus.

I examined the actual wiring in my SR5. Removing the dash components is pretty straightforward (FIG 1A-D). From the overhead console (Connection SU1, FIG 2A) down to the A-Pillar (Connection FS1 Male, FIG 2B) all wiring was in place. From Connection FS1 (Female, FIG 2B) down, the needed wires were missing. The connection F14 (FIG 2C and 2D) for Combination Meter was missing the LINT wire and the F10 Connection on the Body Control Module was missing the 2 CAN bus wires as well.



Fig. 1A



Fig. 1B



Fig. 1C



Fig. 1D

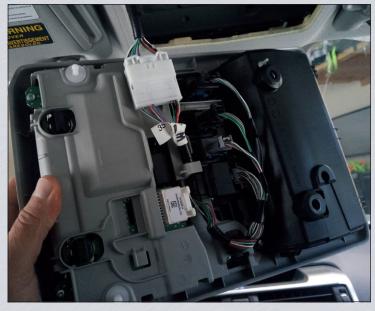


Fig. 2A

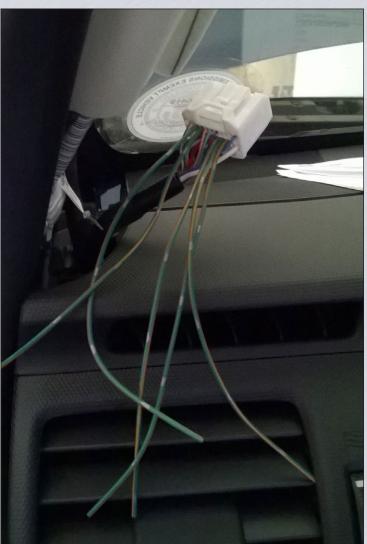


Fig. 2B



Fig. 2C

I researched to find the proper repair harness parts that plug directly into the connectors. I was able to find all of the connector repair parts except for the F10 connector on the Body Control Module (still working this through Toyota as the repair manual shows no repair part numbers for this connector). For this one I was able to strip the 22AWG wire back and fold it back on itself and slide it in the connector with some dielectric grease to make a good connection. If I cannot get a repair part, I will just epoxy the wire in place as-is. I got all of the other repair parts plugged into the proper connectors and soldered the physical connections between all the wires and used heatshrink tubing to protect the connections AWG 22 wire was used between all the points. I connected the source ends of the+12V switched (IG) and Constant (+B) to the switched and constant wires leading to the Steering Sensor right in the steering column. The Trail has them connected this same way but through connectors hidden way up under the dash. I tried to find them, but it was easier to do it this way. I used some T-Taps for these, which is easy to access by pulling off the plastic covers on the steering column. You could always use whatever switched and constant sources you want, but I chose to keep it the same as the Trail.

Next up is replacing the stock Body Control Module (BCM) with one from a Trail. This unit acts as a gateway for the Drive Monitor Switch to communicate on the CAN bus and the 2 pins needed (CANN and CANP) are disabled on the stock SR5 BCM. This is quite simple and you just need to unplug the harnesses from the BCM and use the release mechanism to allow the BCM to come out of its holder. You do not need to do any kind of initialization on the BCM; just

plug and play.

After this is complete, the hard stuff is done. The Combination Meter needs to be swapped out with one from a Trail unit as well (FIG 1E, FIG 3). The Trail unit has the LINT connection enabled and the programming to display and enable the Multi-Terrain Select and Crawl Control. This may be the most difficult part to get.





Fig. 1E



Fig. 3

I connected with a great dealership that wanted to help me out and was able to order a new Combination Meter with the correct mileage on my 4Runner (more on this below). You will also have to order the Drive Monitor Switch and a new Overhead Console from a Trail to mount the switch. Once you have these you can get everything plugged in. One thing I was hoping to do was keep the Downhill-Assist Control (DAC) . What I found out is that when you do a memory reset and do the Crawl Control Calibration, it disables the DAC Calibration. Whatever one you do first, the other is disabled. Thus, there is no way to have Crawl Control and DAC.

Once everything is hooked up and back in place, you will need to do a Memory Reset for the Skid Control ECU, then a Crawl Control Calibration and Zero Point Calibration. It is important to do the memory reset otherwise the crawl control calibration will not work. These can be easily done through Techstream Lite with the mini-vci connector or you can do it manually by using a jumper wire on the



ODBI port. See the repair manual for detailed information on this procedure. After this, everything will work just like the Trail. Overall I am extremely happy with this retrofit and looks completely factory including the display lights in the combo meter (FIG 4A-4D).



Fig. 4A



Fig. 4B



Fig. 4C



Fig. 4D

Certainly feel free to e-mail me (stevek@staythetrail.org) with any questions or comments you may have about this and I will do my best to help.

## Some things to note:

I did this on a 2015 SR5 4Runner base model. The part numbers listed below are what I used for this mod.

## Part Numbers used:

Drive Monitor Switch: 84977-35020 (x1)

Trail Body Control Module: 89220-35340 (x1)

Trail Combination Meter: 83800-35R40-RP (x1)

Base Trail Overhead Console: 81260-35650-B0 (x1)

FS1 Connector Repair wire (Female side): 82998-24290

(x5)

F14 Connector Repair wire: 82998-12870 (x1)

## Misc. items used:

AWG 22 wire, heat shrink tubing, soldering iron and solder, wire strippers/cutters, screw drivers, and plastic trim removal tools.

There may be some slight variance in the BCM part number needed and Overhead Console depending on what configuration you have. If you have a Premium model, you would need the Overhead Console from a Trail Premium. There are a few choices with the BCM as well: just try to match the version you have to the equivalent Trail version. The part number stamped on the BCM does not always

dictate what you may have. This stumped me for a bit as I was researching this. A lot of people who have a Trail version do not have a part number that corresponds to a Trail version. It would appear the BCM modules themselves are the same, it is just the program in them is different. When I received the Trail version I ordered, the right part number was on the box, but the one on the actual BCM was showing for something else.

From 2014 on up, Toyota Changed the Combination Meter as well as the part number for the Crawl Control Switch. Make sure you get the equivalent part numbers from your year. For 2010 to 2013 you should still be able to do this mod, but you will need the center display that is in the middle of the dash as well (Accessory Meter). I am not sure if you will need additional wiring, but possibly.

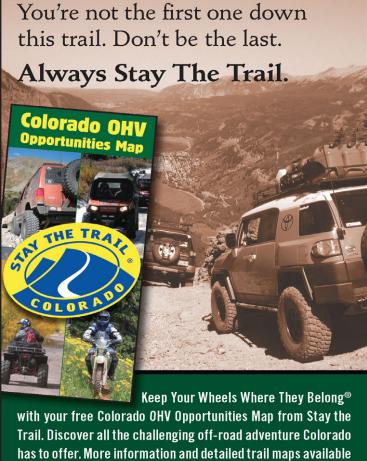
If you have a Limited, I am unsure whether or not this will work, but I'm leaning towards it not working. The Skid

Control ECU Part numbers are different on the Limited so it probably has different programming. Also, there is no center diff lock light in the trail Combo Meter. It would be interesting to see if it could be done though.

## **Special Thanks**

I could have not have completed this mod without the help of *Toyota Cruisers and Trucks Magazine* and them putting me in touch with Tim Bernard, the Parts Manager, at Larry H. Miller Toyota in Colorado Springs, Colorado. Tim was extremely receptive to what I was trying to do and offered to help out in any way he could. He was able to get the remaining pieces I needed to complete this mod without any issue. He is willing to help anyone out there that reads this article and wants to do the same thing. Please contact the dealership at 866-554-0772 and ask for Tim Bernard in parts. Please let Tim know that you read about him in this article and that we sent you.





online at www.staythetrail.org

## YOUR RIGS



Taking our new 2016 TRD Pro 4Runner out for her maiden voyage off-road in Big Bend Ranch State Park, Texas!

From Tim and Helen Schuckers



1985 Toyota Pickup at Cleghorn OHV, California

From Jesse Riley



This is the last day of quail and chukar season. I'm in the Mojave National Preserve, near Clark Mtn. From John Wymore