

FOURWHEELER

THE WORLD'S LEADING 4X4 AUTHORITY

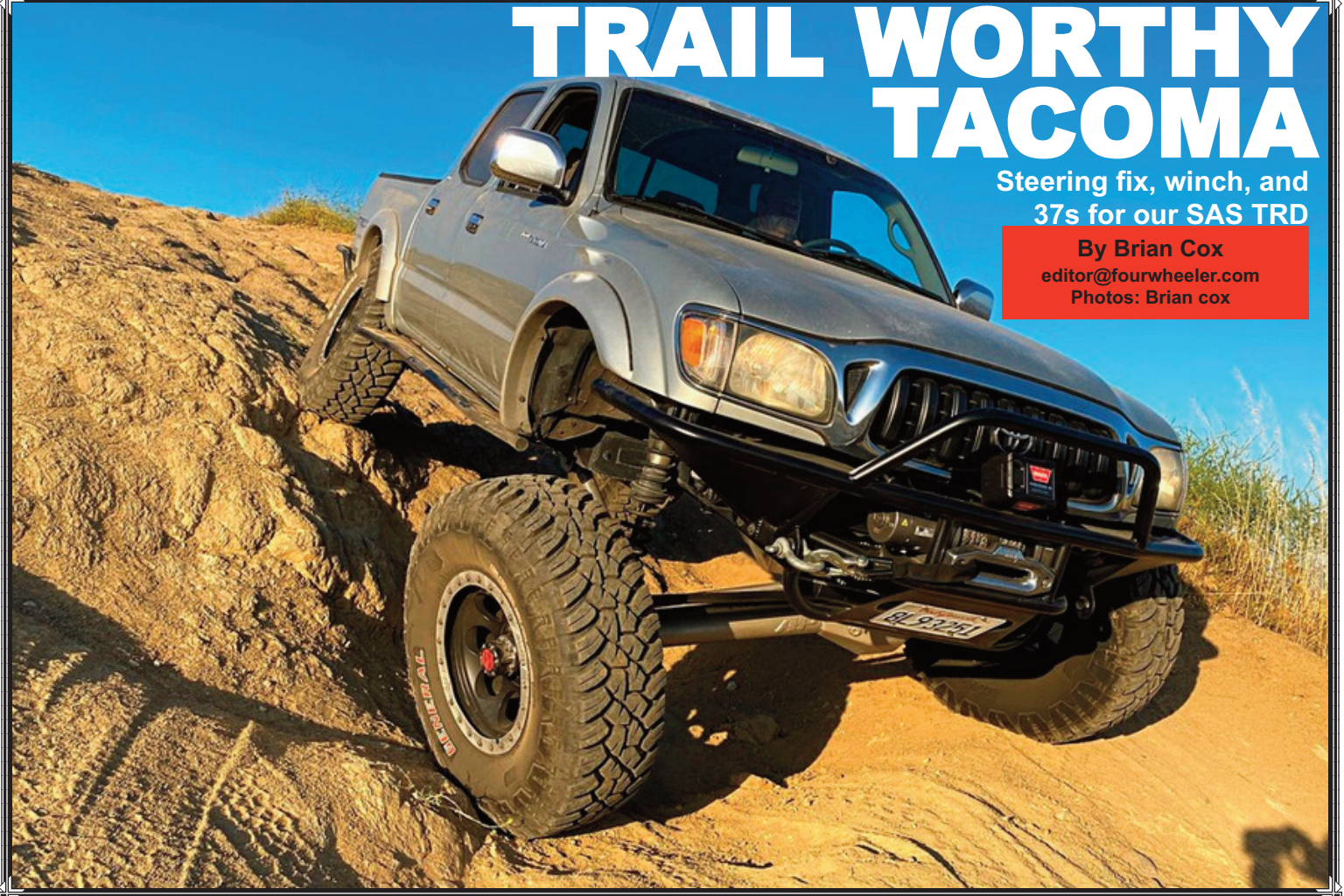
TRAIL WORTHY TACOMA

Steering fix, winch, and
37s for our SAS TRD

By Brian Cox

editor@fourwheeler.com

Photos: Brian Cox



The words "it's a great trail rig" and "this is my daily driver" are not typically part of the same conversation. Making any vehicle perform really well on the trail is something we all want, but doing it without sacrificing the way it tackles the duties of daily street driving can be difficult. In the past we've built and witnessed many 4x4s that quickly cross that threshold of very streetable to trailer rig with just a few mods. Those large, luggy tires and trail-centric mods work great on the hardcore stuff but can have an adverse effect on-road.

But what if you could actually find the zone where road and trail

were both managed not just adequately, but fluently by the rig? With new tire technology, well-designed and -built stock-type steering boxes, and a winch that has your back if the going gets rough, we were on a quest with our 2004 SAS Toyota Tacoma TRD Off Road 4x4 to find that on-/off-road harmony.

We've been wanting to make the jump to 37s for some time to drive a more trail-worthy and proportionate-looking Toyota Tacoma, but the last time we took that route on a Toyota 4Runner from 35s it turned into a rig we had to haul to the trailhead on a trailer. Times have definitely changed, though,

as we're now in a 20-year-newer truck with a front three-link, dual-rate coilover suspension. Our moment of knowing it was time to make the jump to larger tires came when driving back from an off-road event and the power steering box sector shaft seal started leaking badly.

We seized the opportunity to replace the steering box with a stout unit, install the 37-inch tires we've been wanting, and make any necessary body, bumper, and other mods it would take to clear the larger meats as they stuffed into the wheelwells. We also felt this would be a good time to mount a more reliable winch since we

would now be venturing onto trails where having a stout winch might mean the difference between getting out of a bad situation easily or breaking something trying to get unstuck.

Our first call was to Eric Hansen, owner of Yotamasters, to get the lowdown on the best replacement power steering box for our SAS Tacoma. He quickly pointed out that a Toyota power steering box from Yotamasters would work great on the trails we venture on, so we ordered one to replace the leaking unit. Next, we looked to General Tire to get a set of Grabber X3s in the model's largest size of 37x12.50x17 LT. As a bonus,

this size allowed us to use our existing wheels and keep costs down. We like the General Grabber line as it has a great reputation in the off-road industry.

Among other things, the tire has durable sidewall construction and excellent tread wear. The X3 tread pattern is a mud-terrain design that also works well in a variety of other conditions with a low level of road noise on the highway. Completing the upgrades is a Warn M8000-S winch. Having used an M8000 many times years ago on another vehicle and knowing something is going to work every time when you need it most sits well with us.

Since the steering box was in such bad shape we immediately tackled that portion of the install in our driveway. Once the steering was addressed, it was time to head over to see Mike Duval at Duval Offroad Designs in Newbury Park, California, to utilize his expertise with the bumper modifications for the winch installation, mounting and balancing the tires, and assessing some tire clearance issues. Follow along as we show you the major steps to swap the steering box; fit, fabricate, and mount a winch to our existing bumper; and the modifications the Tacoma needed to run the 37-inch tires.



This seriously leaking steering box is the main reason we opted to make a few upgrades on the truck. The old steering box got us off the trail and home safely on its last outing, but continued use in this condition would be asking for trouble.



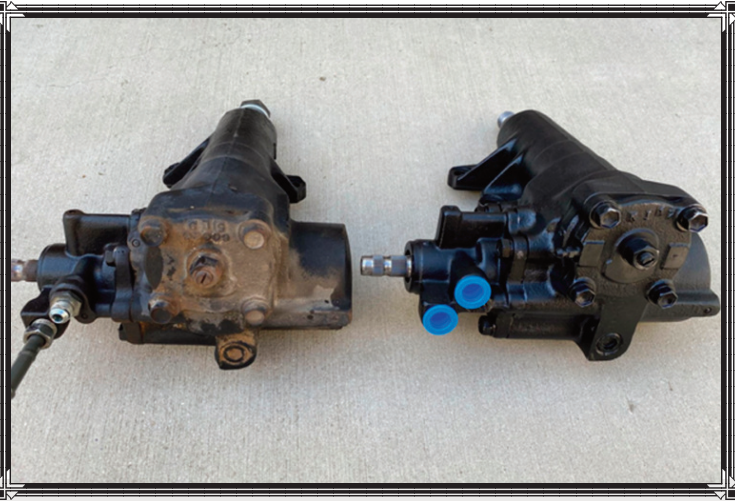
Our Toyota is equipped with a Borgeson steering shaft. We removed the set screws and the long pin/screw that goes all the way through the unit. We then slid the steering shaft off of the power steering box sector shaft.



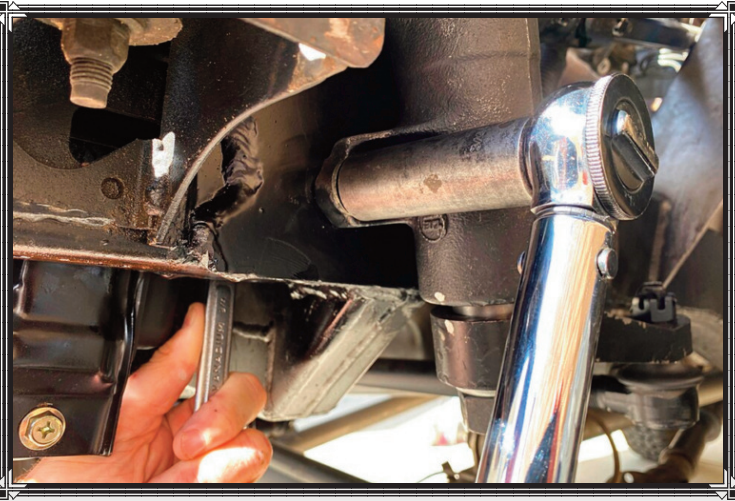
To make things easier for the steering box removal and to allow assessment of the frame and mounting hardware, we removed the Tacoma's aftermarket front bumper.



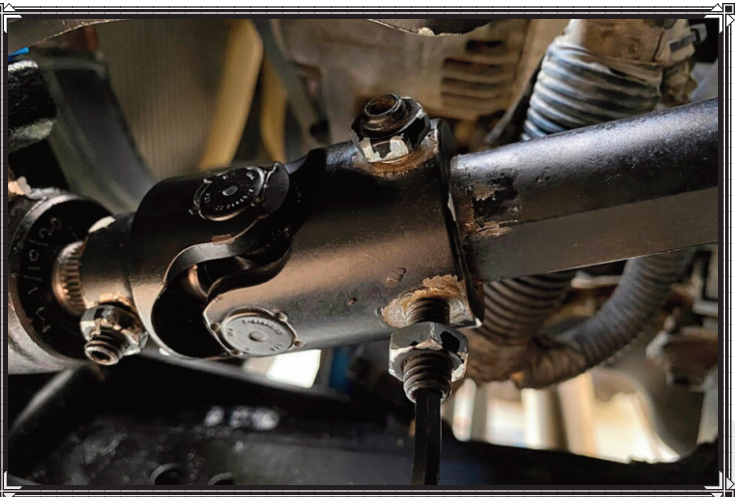
With the steering box removed it was a good time to completely flush and clean all of the caked-on steering fluid from the frame and box mounting area.



The professionally remanufactured Toyota power steering box shown is available from Yotamasters, and it looks as if it came straight from the factory. We compared both steering boxes to make sure that all dimensions were the same, and then we transferred both high-pressure and low-pressure hose fittings to the new steering box.



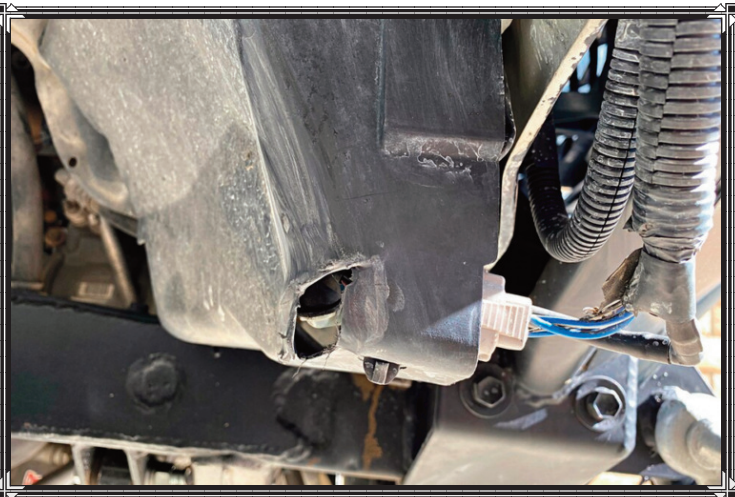
Mounting the new steering box was fairly straightforward. Tip: Make sure to use new hardware whenever possible. In our case, the bolts looked to be in great shape, so we simply replaced the Stover lock nuts and torqued them to spec.



Once the steering box was in place, we were able to push and slide the steering shaft up toward the firewall enough to get it back onto the splines and then slide down to the set pin position. We reinserted the long pin/screw and then set and tightened all bolts.



We then installed the pitman arm to the recommended torque spec. We used a new lock washer to keep the nut from possibly loosening up. It's important to check the steering box mounting bolts and pitman arm fasteners after 500 miles or so to make sure all are still tightened to spec.



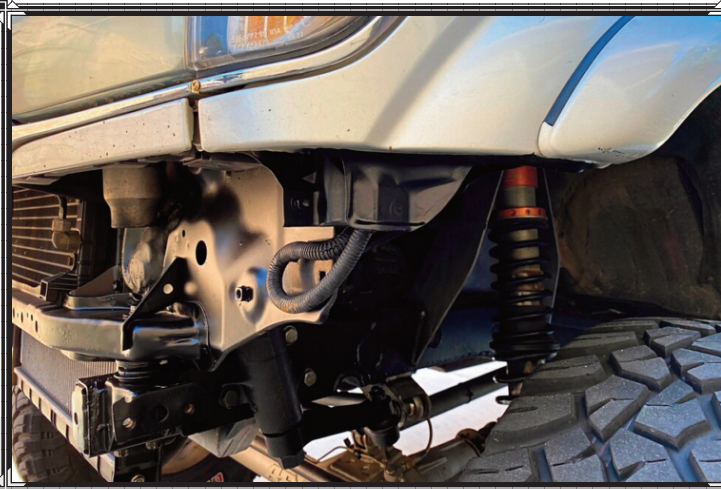
Moving on to the tire clearance list, the first order of business was this lower windshield washer plastic cover in the front passenger wheelwell area. It was slightly contacting the 35s, so we knew it was going to need to be addressed due to the larger 37s.



Relocating the wiper fluid motor plug and draw line up several inches as shown did the trick. This was easily done by shortening the line and using a zip tie to hold up the plug. We then cut the plastic for maximum clearance and will re-cover the area later.



With the front bumper removed, we noticed there was plenty of useless sheetmetal located just behind the area of the front bumper wraparound, so we took the opportunity to generously trim the excess on both sides.



Once all the sheetmetal was removed with tin snips, there is now less risk of it cutting into the new 37s at full articulation. We also found this to be a good time to remove some surface rust areas and touch up the front core support and frame horns with some paint.



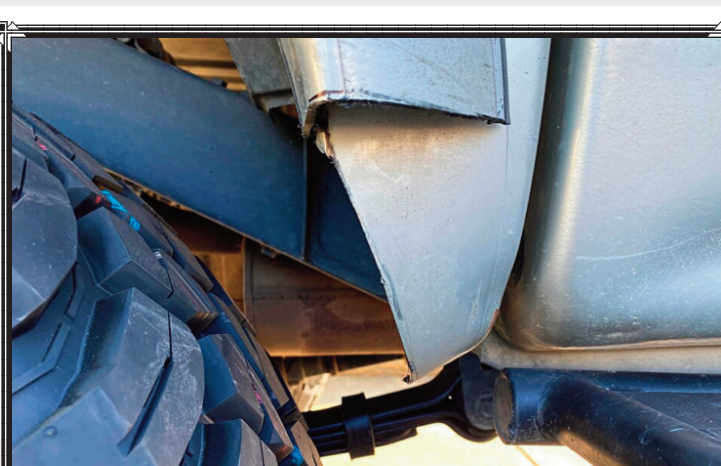
The old 35-inch front tires had been rubbing the very end of the front bumper wraparound, so we removed 1 inch at each end of the bumper knowing the larger tire radius is about 1 inch.



With the bumper cut 1 inch at each end, we then deburred and painted each end. We installed 1.5-inch temporary end caps until we could see if it would interfere with the new tires before welding in the new end caps.



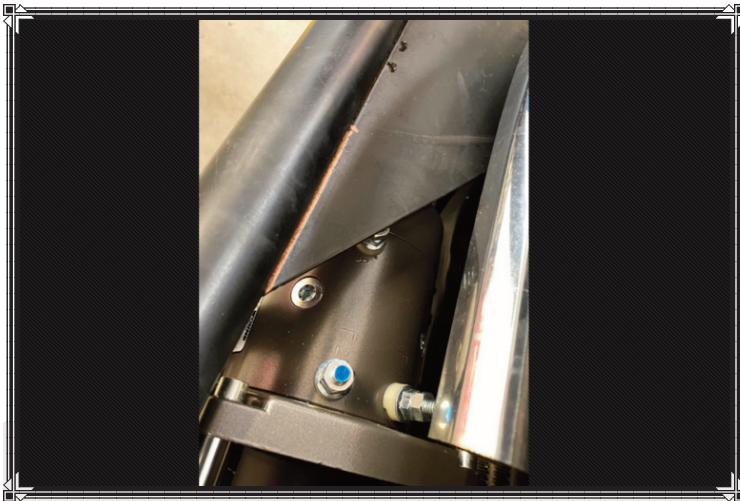
Moving to the rear of the Tacoma, we knew the factory fender flares were going to be an issue. With the old 35s we were able to get away with only slightly modifying the rear of the flare since the spring shackle and axle all flex rearward. But with the 37s nearly hitting the front at static ride height, it was time to cut.



In an effort to not remove the entire fender flare as a lot of folks do when going to 37s and wanting to retain some tire coverage, we cut the flare on both the front and rear of the opening. We then used a cutoff wheel to trim and contour the sheetmetal to the tire as shown to improve clearance.



As mentioned, Warn has been our go-to winch for over 30 years for good reason. Shown here is our Warn M8000-S. It has a 4.8-hp motor, 216:1 gear ratio, 100 feet of 3/8-inch Spydura synthetic rope, a Hawse fairlead, and a remote control with 12-foot lead.



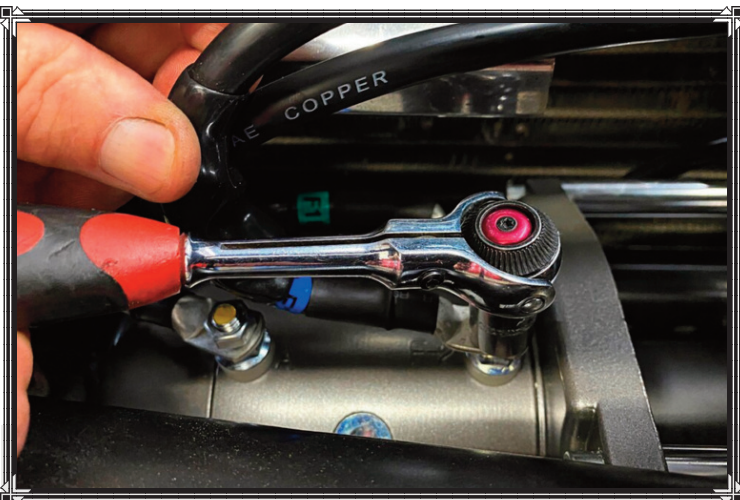
Our first hurdle fitting the new Warn winch on the existing after-market bumper was that the top cover plate made contact with one of the power terminals.



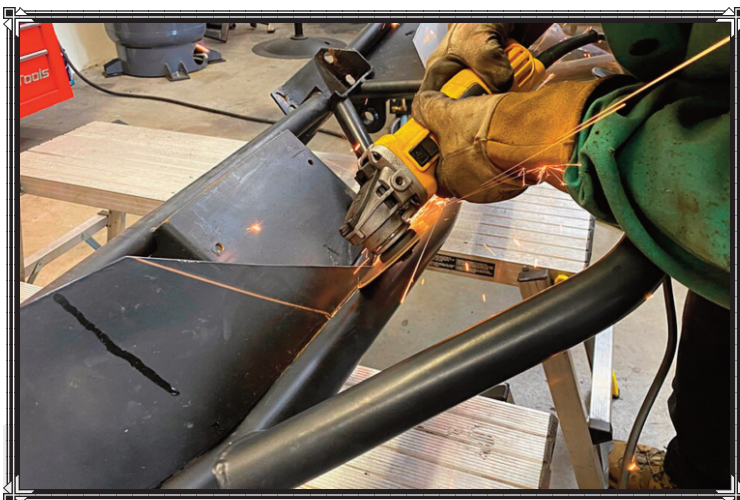
With the front hook installed and the red part of the rope securely screwed to the winch drum, we installed the rope per the included instructions to get it spooled the correct way. If done incorrectly the synthetic line can be damaged when you need to use the winch with extreme line tension.



Here you can see the custom winch control box mount tab Duval welded onto the bumper. We also used this time to completely paint the bumper after all the necessary modifications.



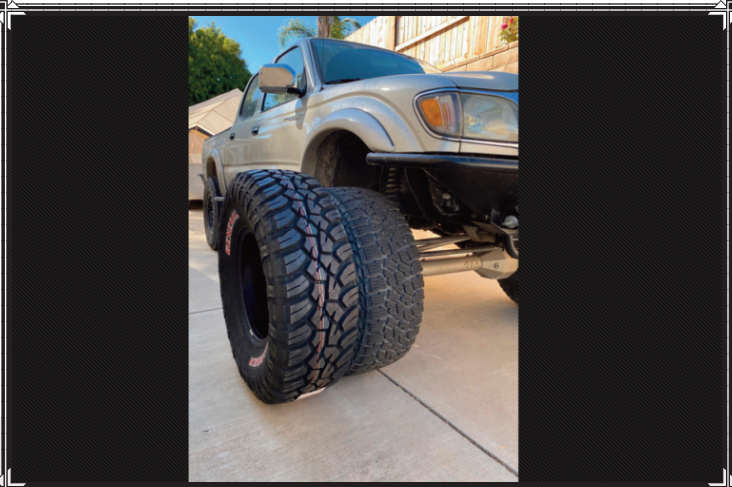
Once the winch was installed onto the bumper with the four main mounting bolts, we installed the bumper and winch as a unit, feeding the wires to the necessary locations until it was bolted up. We then connected the color-coded terminals from the control box to the winch, along with the power and ground connections.



Mike Duval of Duval Offroad Design made quick work by marking the plate where it needed to be removed equally on both sides and then cutting out the offending metal. Next, he added a control box mount tab angled back on the front of the bumper since the box would not fit on top of the winch without cutting the grille even more than it already had been for the last winch.



Shown here is the completed winch install with the control box up and out of harm's way. Having the control box mounted in this location also aids when someone is helping you with the recovery so they do not have to search for a hidden box with a difficult plug location.



Here's the side-by-side comparison between the 35s mounted on the truck and the 37s upon arrival. It looked substantial, and we wondered if the fitment mods would actually be enough!



Here's how the truck looks at static ride height once everything was installed and modified to fit the 37-inch General Grabber X3s. Our Tacoma now looks way more proportional and should perform better on the trails, as well.



Although the 37-inch tire cleared the front bumper end and flare in this photo, the obstacle probably only utilized 85 percent of the suspension travel, so we anticipate some contact on tougher terrain, and we may need to make more modifications. Out of view here, the rear of the front fender flare was not making any contact, but could slightly as the wheel is turned while navigating certain obstacles.



With the new 37s mounted and modifications complete, it was time to hit the trail and test on some obstacles to see just how the tires would clear. Shown here is the rear at decent flex with the tire easily clearing the sheetmetal and barely missing the flare.

Sources

Duval Offroad Designs
805-375-7551
dodoffroad.net

General Tire
generaltire.com

Warn
800-543-9276
warn.com

Yotamasters
951-279-0220
yotamasters.com