

## **1.0 Overview**

This writeup is to share my experiences on installing “skinny” 33-inch tires (aka “pizza cutters”) on a fully stock suspension 3rd generation Tacoma (2019 TRD Sport, DCLB). There are several forums out there discussing the idea of skinny but tall tires and the various advantages and disadvantages compared to wider tires, so I won’t get into all of that here. But one of the major takeaways is that anytime you want to put on larger tires, it becomes a delicate balance between the tires width, height, the wheels offset, the suspension components (on Tacomas in particular the stock UCAs), the truck’s lift, and possibly any body work (fender liner plastic, fender body, or cab mount chop) to get them to fit. Tacomas in general appear to be able to handle tall but not necessarily wide tires without a lift. For example, a common rule of thumb is that in order to fit something like a 285/70/17 (32.7” tire) one requires about 2” of lift. There has been some evidence that 33-inch tires (but only 255mm or 10” wide) can be put on stock without a lift and with either minimal or no other modifications necessary. Furthermore, although tires may be able to fit for normal everyday driving, one also has to consider if there will be any rubbing under situations when the wheel is turned and the suspension is fully compressed (“stuffed”), for example in off-road situations.

Here I install a set of 255/80/17 Toyo Open Country A/T III on a set of TRD Pro (“Sema”) wheels on a fully stock 2019 TRD Sport. With this wheel and tire combination, and the front suspension in “neutral” (simply supporting the weight of the truck) the front wheels are able to turn thru their full range of motion without any contact with any parts of the suspension, fender or, most notably, the cab mount. However, the two closest points of approach are small extremities of the fender flare (both front and rear) and the fender liner plastic; under a situation where the wheel is turned and the suspension is fully compressed, there could be some contact between the tire and these points. These areas were easily modified with some minor cutting to the body and molding of the fender liner without really changing any of the aesthetics of the vehicle. These modifications are documented below. A simulated “off road” scenario was performed by deflating the tire to 20 psi, placing it on a jack and lifting it 13” off the ground: this brought the widest point of the tire roughly even with the bottom of the fender line and the cab mount. The idea is that this widest part of the tire, when turned, would be most likely to rub. The wheel was then turned to try and look for any contact points between the tire and the fender or cab mount. Under this scenario, and with the described modifications, the tire still clears the fender flare, but the clearance is tight (about 0.38”). The tire clears the cab mount with 0.5” of clearance at a minimum. There are no issues in the front. More space could be created between the wheel and the fender flare and liner with some additional trimming and molding if one was concerned about the clearance. In addition, adding any sort of lift to the vehicle would also increase the clearance. The new tires increased the height of the differential by just over 1”.

## **2.0 Tire Choice**

The 3rd Gen TRD Sport comes stock with 265/65/17 tires (many people have found that 265/70/17 fit just fine stock as well). Below is a survey of a few tires manufacturers that make 255/80/17 tires. Another option for Tacoma owners is to use a 16” wheel and use a 255/85/16

tire. I chose to keep the original 17" wheels because I found that there was a much better selection of tires in the 285/80/17 size as opposed to 285/85/16 (based on my industry survey in 2020). I eventually decided on the Toyo Open Country A/T III based on the excellent reviews, snow capability, and their weight; since all tires in this class have much higher load ratings and therefore can be very heavy, I wanted to keep the weight down as much as possible.

Manufacturer	Model	Load	Width (in)	Diam. (in)	Weight (lbs)	increase (lbs)
Falken	Wildpeak 265/65/17	XL	10.6	30.6	42.3	0
Falken	Wildpeak	E	10	33.1	52.5	10
Cooper	Discoverer S/T Maxx	E	10.2	32.8	58	16
Toyo	Open Country A/T III	E	10	33.1	50	8
Toyo	Open Country R/T	E	10	33.1	56	14
Toyo	Open Country M/T	E	10	33.3	61	19
Nitto	Ridge Grappler	E	10.04	33.31	54.96	13
BFG	Mud-Terrain T/A KM2	E	10	33.3	57.19	15

**Table 1: Various 285/80/17 tire options considered.**

### 3.0 Wheel Choice

The 3rd Gen TRD Sport came stock with 17" x 7.5" wheels that have a +30 mm offset. I wanted to replace the wheels for three reasons. The first is that with such a high positive offset, there is very little clearance between the wheel and the UCA and I thought this would naturally cause problems going with an even taller tire. The second reason, which is a natural extension of the first, is that I also wanted to bring the tires outboard a small amount to give the truck a slightly wider stance but without having the tires stick out beyond the fender flare too much. And third, because I wanted black wheels.

Below is a survey of some various options I considered. I ended up choosing the TRD Pro wheels for several reasons. First, it was one of the lighter options (see discussion about tire weight above). Second, being slightly narrower (7" vs. 7.5" stock) and with less backspace (+4 mm vs. +30 mm) it would increase the backspace between the tire and the suspension components. Also, it would not push the tire out too far (see the "frontspace" column). One concern I had with this project is that, if the tire sits out of the wheel well too far, it might be less likely to clear the fender and cab mount when turned. Plus I really like the look of the TRD wheels so it seemed like a rational choice. Unfortunately there aren't too many other wheel options in the 17" x 7" size that match the Tacoma 6 x 5.5" bolt pattern and don't have extreme negative offsets. For any wheel manufacturers out there, perhaps there is a market for it.

Model	Width (in)	Offset (mm)	Backspace (in)	Increased Back Space (in)	Front Space (in)	Increased Front Space (in)	Weight (lbs)
Toyota Stock	7.5	30	5.43	0.00	3.07	0.00	26
Toyota TRD Pro	7	4	4.16	1.27	3.84	0.77	25
Black Rhino Rumble	8.5	0	4.75	0.68	4.75	1.68	22

Black Rhino Ravine	8.5	12	5.22	0.21	4.28	1.21	29
Black Rhino Several Models	8.5	0	4.75	0.68	4.75	1.68	25-35
Methods Several Models	8	0	4.50	0.93	4.50	1.43	???
Leve 8 MK6	8	-10	4.11	1.32	4.89	1.82	31
XD131 RG1	8	0	4.50	0.93	4.50	1.43	28
Sparco Dakar	7.5	24	5.19	0.24	3.31	0.24	???

**Table 2: Various 17 inch wheel options considered.**

#### **4.0 Modifications**

Figure 1a shows a picture of the Toyo tire mounted on the TRD wheel. Naturally, they look sick. Figure 1b shows what the space between the tire and UCA looks like when the wheel is mounted (the wheel is turned slightly out in the photo). There is a lot more space now.



**Figure 1 a/b: The tires/wheels and showing the space between the UCA.**

The next two pictures (Figures 2 a/b) show the rear part of the wheel well. Figure 2a shows the clearance on the rear part of the wheel well when the wheel is on and the suspension is weighted (but not fully compressed). In the first photo you can see how close the wheel comes to the fender liner and the fender body. Although the tire cleared without issue, the clearance is not much; if the suspension were fully compressed the tire would probably rub here. The first photo also shows the clearance between the tire and the cab mount. As will be shown later, the tire clears the cab mount even with the widest point of the tire is even with the cab mount. The photo on the right (2b) shows the part of the frame that I cut and where the liner was molded back. The next photo (Figure 3) shows the same cut region from below, where the fender flare

joins with the rocker panel. It was a bit awkward getting to this region and it was my first attempt, so it was not the cleanest cut. The second one looked a lot cleaner.



**Figure 2 a/b: Rear part of the wheel well before and after.**



**Figure 3: Bottom view of the rear part of the wheel well fender that was cut.**

The next set of photos (Figure 4 a/b) shows the front part of the wheel well before and after modifications. There is a small fin of the body that sticks out into the wheel well. Again, under normal weight the tire cleared this fin, but just barely (maybe a few millimeters). Under full compression it would likely rub. On the TRD Sport model, there is a front air dam that comes stock on the vehicle. Normally this air dam is attached to this fin. If you remove the air dam, there is a small retaining clip that holds the liner to the frame. In the after shot (4b), you can see how the small fin was chopped and the liner was molded back and the clip was reattached thru an existing hole. No drilling required. With these modifications, the front part of the wheel well is no longer a problem for the bigger tires.



**Figure 4: Front part of the wheel well a) before and b) after cutting.**

### **5.0 Stuff Test**

After making the modifications described, the wheels were mounted and the vehicle and driven on some easy roads and over a few curb-size bumps while turning the wheel sharply. No rubbing was noticed. Next the vehicle was placed on level ground and a jack was placed under the front tire. The tire was deflated to 20 psi and raised to 13 inches off the ground. This brought the widest part of the tire roughly in line with the rear part of the fender flare and cab mount. For each lift of the wheel, the wheel was turned so as to bring it into its closest point of contact with the fender flare and cab mount. The pictures showing these clearances are shown in Figures 5 a/b. These gaps were measured with calipers and found to be 0.38" (fender flare) and 0.5" (cab mount). If the wheel is turned any further, these distances increase. Figure 6 shows the angle of the wheel during the stuff test that created the closest point of approach between the tire and the fender flare.



**Figure 5: Clearances during the “stuff test”. a) Tire to fender flare. b) Tire to cab mount.**



**Figure 6: The position of the tire during the “stuff test” when it was closest to the fender flare.**

## **6.0 Conclusion and Observations**

The 255/80/17 tires on 17 x 7 TRD wheels seem to fit just fine for everyday driving on a stock 3rd gen Tacoma (no lift). However, the clearances between parts of the fender are tight so some minor modifications would seem like a good idea. No cab mount chop would be required. With these modifications, getting rubbing even under off-road situations seems very unlikely, but even further modifications trimming/molding could be done if one wanted to increase the clearances. I plan to add a bit more lift to the truck (about 1") which should also increase these clearances and I will probably wait until after I've done the lift to do any more fender mods. All-in-all I was very happy with the results. The wheels and tires look great and add a bit more of an aggressive stance without protruding far beyond the wheel well and fill in the wheel well nicely (the stock 265/65/17 have always seemed a bit small). Furthermore, the tires added a little over 1" of lift to the whole vehicle (based on a pre/post measurement of the differential height). Figure 7 shows the obligatory before and after photos. Figure 8 shows a final image.



**Figure 7: Before and after. Wheels were stock with 265/65/17 Falken Wildpeaks.**



**Figure 8: Final result.**