

RV Consumer e-Magazine

May 2016

Volume 6

Issue 5



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Toyota Highlander
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5th Wheel Project Trailer Special

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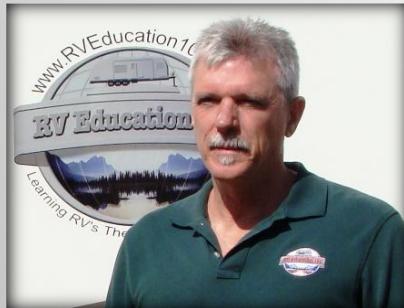
- Devin T., Georgia

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We had numerous RV video projects planned and scheduled for 2016, but we did not have an RV to use for filming the videos. Several of the videos were RV upgrade and DIY projects so we needed an RV that required some TLC. After searching on Craigslist I found a 1999 Coachmen Catalina 5th wheel and negotiated a price I couldn't refuse.

The 5th wheel was in poor to fair condition, but I knew we could whip it back into shape. In this issue we will highlight the work we did on our project trailer to transform it from a tired old RV into a desirable and affordable 5th wheel trailer. Lots of the upgrades are do-it-yourself projects that you can do to resurrect your RV.

Enjoy this issue, and if you have RV friends and family tell them to subscribe, and to like us on [Facebook](#)

~ Mark

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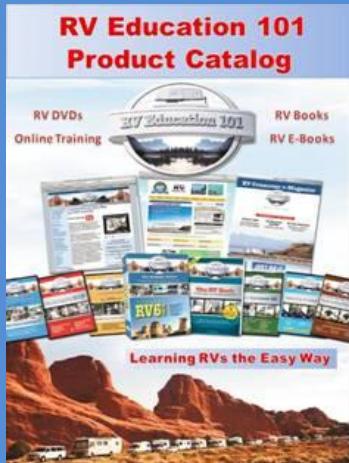
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This helps accomplish two things; it eliminates the guess work as to which DVD titles go together, and it saves the RV consumer a significant amount of money with our DVD box set discounts. Our goal at RV Education 101 is simple, to help RV owners until they are comfortable operating and using their RV, and to make their entire RV experience safe, fun and stress free. [Browse the product catalog now](#)

A close-up photograph of a television screen. The screen displays a colorful cartoon illustration. On the left, there is a cluster of green pine trees. To the right of the trees is a white and blue striped camper van with a red door. The text 'Livin' the Life' is written in white, stylized letters across the bottom of the illustration. The television is mounted on a light-colored wall, and the bottom edge of the screen shows a dark, textured frame.



5th Wheel Project Trailer Series



As you can see in the photo our 5th wheel project trailer was a little rough around the edges when we bought it. I think the previous owner was doing the happy dance all the way to the bank. But, it was exactly what we needed to produce numerous video projects we had planned and scheduled for 2016.

The Good, The Bad & The Ugly

The good news was the owner had a new roof installed less than two years ago, so that monumental task was off my shoulders. The trailer also had a nice livable floor-plan for being just 26 feet long. Unfortunately that was about the extent of the good news.

The bad news was the trailer needed much more work, above and beyond our planned video projects, to make it presentable. Cleaning the trailer alone was a two to three day project.

The ugly news was after inspecting the seams and sealants there was some water damage I would need to contend with.

Our Project Trailer “To-Do” List

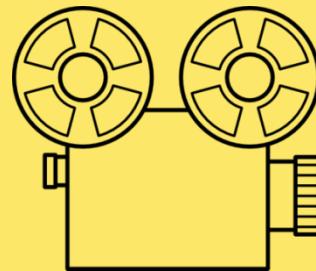
- ✓ Clean the trailer inside and out
- ✓ Replace the patio awning
- ✓ Install laminate flooring
- ✓ Remove & reseal rear window
- ✓ Remove and reseal corner molding
- ✓ Replace sun damaged exterior parts
- ✓ Sand & repaint the steps
- ✓ Lubricate the RV
- ✓ Inspect wheel bearings, brakes, tires
- ✓ Install Impulse roller shades
- ✓ Sanitize the water system
- ✓ Inspect the water system for leaks
- ✓ Check operation of all appliances
- ✓ LP gas system pressure & leak test
- ✓ Remove black streaks
- ✓ Replace the toilet

As you can see we have an extensive list to start checking off. Before starting on repairs and video projects I wanted to make sure the RV was safe to use. The first order of business was to test the LP gas system for leaks and check the LP gas operating pressure. After that I checked all of the appliances for

proper operation. My next concern was the water system. I don't know the history of the trailer so I wanted to drain any remaining water from the system, inspect it for leaks, flush and clean the water heater and sanitize the water system.

Sanitizing the RV water system is easy to do. I like to sanitize the water system on our RV every spring when I take it out of storage and anytime I notice an odor or other issue. This helps keep the water system fresh and safe to use.

The first step is to make sure all of the drains are closed and all drain plugs are installed. The formula for sanitizing the water system is a quarter-cup of household bleach for every fifteen gallons of water the fresh water tank holds. Next, fill the fresh water holding tank completely full of water. Turn the water pump on and run water through all hot and cold faucets until you smell the bleach. Close the faucets and let it sit for at least twelve hours. Drain all of the water and re-fill the tank with potable water. Turn the water pump on and open all of the faucets, running water until you no longer smell any bleach. It may be necessary to repeat this process to eliminate all signs of bleach.

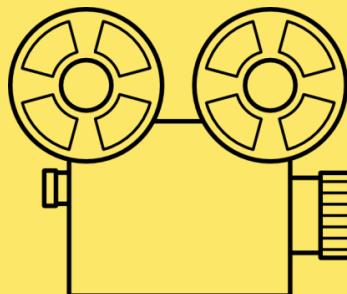


[How To Sanitize the RV Water System](#)

When I was inspecting the RV water system I noticed the original toilet had seen better days. The flush pedal did not operate properly and it was showing its age. I decided this was a good time to replace the toilet. This is not a high-end RV and it does not need a high-end toilet. What it needed was a good dependable and affordable replacement toilet. I decided a Dometic 300 series toilet was the way to go. Replacing an RV toilet seal or the toilet itself is a pretty simple job. Here are the steps involved:

Turn off any water supply going to the toilet. Release the water pressure and remove and drain the water supply line. Remove the toilet hold-down nuts and remove the old toilet from the floor. Make sure the surface of the floor flange is clean and free of any debris or sealant.

Insert two supplied T-bolts into the slots in the floor flange and make sure a new floor flange seal is installed on the base of the toilet. Carefully set the toilet over the floor flange. Align the holes in the base of the toilet with the T-bolts as the toilet is lowered on the floor flange. At this point the entire toilet base does not rest completely on the floor. The next step is to compress the floor seal. Install the washers and nuts on the T-bolts. Carefully tighten the nuts, alternating back and forth to prevent distortion of the toilet base. Do not over tighten. When tight the toilet base should be securely attached and flat against the floor. Attach the bolt covers on the nuts. Connect the water supply line. Do not over tighten. It's that easy!



[How To Replace an RV Toilet](#)

The old flooring in the RV was in bad shape. The carpet and linoleum was faded and worn. When we remodeled our house I installed all the laminate and tile flooring myself. I had some laminate flooring left over and decided to replace the living room carpet and kitchen area linoleum with the laminate flooring. It turned out good, but we did not film the process. If you decide to tackle a project like this make sure any slide-outs operate properly with the flooring you decide to use.

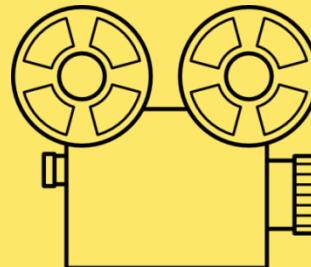


Old flooring removed



New flooring installed

After completing the project trailer flooring upgrade Dawn decided it would be a good idea to upgrade the flooring in our motorhome too. Boy did I open up a can of worms! In the motorhome we decided to use a woven vinyl product by Infinity Luxury Woven Vinyl. **Watch the video below to see how this project turned out.**



[How To Upgrade RV Flooring](#)

How to Reseal an RV Window

While I was working on the 5th wheel flooring project I noticed some signs of water damage around the rear window in the RV. With the base cabinets already out for the flooring upgrade my thoughts were this would be a good time to remove, repair and reseal the window and rear wall section.

There are different types and styles of RV windows, but one of the most common is a clamp ring style window. When you install the window there is a clamp ring on the inside with holes around the perimeter so you can screw the clamp ring into the window's frame. As you tighten the screws it clamps and seals the window in place. This is the style of window I am discussing in this section. On the interior window frame you will notice numerous screws. These screws secure the clamp ring to the

These screws secure the clamp ring to the frame and seal the window.



Using the correct screwdriver tip remove all of the screws. Keep in mind when the screws are removed the window is ready to come out, so it's a good idea to have somebody outside too. If the sealant around the window is still good it might take a little effort to get the window out, but it will come. You might also notice some small spacers around the window frame.

Make a mental note where the spacers are located for installation.



With the window and interior paneling removed I could assess the damage. In lots of cases it's necessary to remove the corrugated aluminum sheeting from the exterior too, but the damage was minimal and I was able to make repairs to the window frame and wall section from the interior. After the framing repairs were completed and new insulation was installed I cut and stapled new interior paneling to fit around the window opening. Now it's time to re-install the window.



The first step is to clean the old sealant from the exterior metal or fiberglass and from the window frame itself. I use plastic scraping tools that are designed

to remove automotive trim for this job. They come in several different sizes and shapes, and they work well removing old dried putty and butyl tape. The cleaner you get all of the surfaces the better the window will seal. After all of the old sealant is removed you can use a cleaner that is compatible with the exterior of the RV, and as a final prep I like to go over the surface with some denatured alcohol on a rag. The exterior metal is usually stapled around the window opening. On this trailer some of the old staples were rusted so I removed them and re-stapled the metal.



After the exterior surface and window frame are clean it's time to install new butyl tape around the window frame. I prefer butyl tape over putty tape because it does not dry out like putty tape. You can purchase butyl tape at your local RV dealer. When you install butyl tape on the window frame make sure all the screw holes are covered and put the butyl tape around the entire perimeter of the window frame, leaving no gaps. If your RV has the uneven

corrugated aluminum sheeting on the exterior its a good idea to add more butyl tape to the low areas in the metal so the window will seal properly.



When you reinstall the window have one person inside and another person outside. Make sure the window is installed right side up. There are weep holes in the window frame that allow water to drain out of the track. The weep holes go on the bottom. After you get the window in the opening make sure it is spaced evenly around the perimeter. This is where remembering the placement of any spacers is helpful. While the person outside holds the window in place the person inside can install the clamp ring and start a couple screws. The holes in the clamp ring will line up with the holes in the window frame when it is installed properly. If you need to replace the screws for any reason make sure they are the same size and length as the old screws to prevent damaging the window frame or glass. Start the screws and slowly work around the entire frame snugging the

screws. Do not tighten screws on one side before the screws are installed on the opposite side. Snug all the screws and then go back around tightening them again. The person on the outside should start to see the butyl tape ooze out around the window frame as the screws are tightened. Do not over tighten the screws.



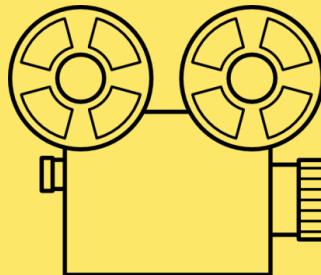
After the window is installed use your scraping tool to remove excess butyl tape from around the window frame. The final steps is to run a bead of caulk on the top of the window frame and slightly around the corners. This will allow water to run off and help prevent future water damage. Make sure the caulking is compatible with the surfaces you are sealing. If you are careful and take your time it is not difficult to replace or reseal a window in your RV. If you are not comfortable working on your RV have it done by a qualified RV service.

After all of these repairs I wanted to make sure there was no chance of future water leaks in the RV. The roof

was replaced by an RV dealership less than two years ago, but I noticed the corner molding on the exterior had been resealed numerous times some areas looked like water could penetrate the surface.

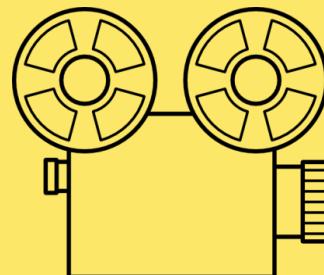
When I was at the National RV Trade Show last year I discovered a new product designed to reseal RV corners and prevent future problems. The product was called SEAL-TITE Corner seal by Seal Design, an affiliate of Dicor. I decided to give it a try.

The Corner Seal product requires removing the existing corner molding, thoroughly cleaning the area, installing the Corner Seal tape and reinstalling the corner molding. Watch the video to see how this project turned out.



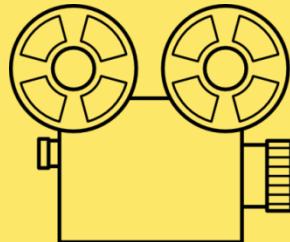
[How To Reseal RV Corner Molding](#)

With some of the major repairs out of the way I could focus on smaller jobs that needs to be done. First on my list was to replace some exterior components that were damaged by the sun. During my inspections I noticed parts on the RV made of plastic just crumbled when I touched them. Watch what I did to fix it.



[RV Sun Damage Repairs](#)

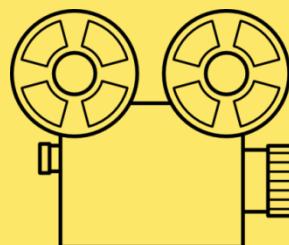
I also noticed things like the steps and landing gear were in desperate need of lubrication. I don't think anything on the RV has been lubed since the trailer was purchased new. This is a simple preventive maintenance procedure I recommend RV owners do on a routine basis. Watch how easy it is to do in the video below.



[How To Lubricate your RV](#)



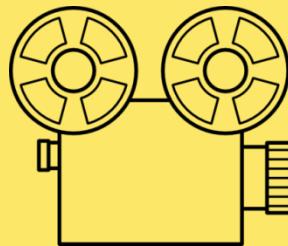
The RV steps needed some attention too. I could hardly pull the steps out or stow them. The steps needed some serious lubrication, but first they needed to be sanded, primed and repainted. A little sanding, painting and routine lubrication will keep your RV steps looking and working like new. Here's how I did it.



[RV Step Maintenance](#)

After all these repairs and cosmetic upgrades you would think the project trailer would start to look better, but that wasn't so. This RV has so many black streaks and so much embedded dirt on the sidewall and front and rear that I was embarrassed to have it on my property. I always tell folks the best way to handle black streaks on an RV is to wash the RV frequently and keep it covered if the RV is stored outside. Dirt from the RV roof runs down the sides when it rains resulting in black streaks. If you don't deal with the black streaks in a timely manner they get baked in the surface and are nearly impossible to remove. This trailer needed

a good cleaning starting with attempting to remove the black streaks. I have tried lots of black streak remover products in the past. Some products work better than others, but my personal preference is a product called The Reliable One. It cleans almost any surface and it works good on black streaks. But like any cleaning product I recommend you try it in an inconspicuous area on the RV prior to using it and avoid getting it on graphics, especially painted on graphics. Watch how I dealt with the black streaks on this super dirty RV.



[How To Remove RV Black Streaks](#)

There are more RV DIY projects to complete on our project trailer, but I ran out of time this month. We plan to replace the old window shades and valances with brand new Impulse roller shades by United Shade and install a new patio awning by Dometic. I will post the remaining videos in the next issue of RV Consumer Magazine.

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Toyota Highlander Tow Rating Questioned

By Mark Polk

I want to say at the onset I contacted Toyota on several occasions in an effort to get answers to my questions and to hear Toyota's response on what you are about to read. Initially Toyota did respond and seemed eager to assist, but as more questions arose my requests for information went unanswered.

The Backstory

For years I looked on as vehicle manufacturers published trailer weight ratings that seemed too good to be true. In many cases these tow ratings were too good to be true, when a particular vehicle could not safely tow the amount of weight it was supposedly tested and rated to tow. This is what is commonly referred to as "the towing wars." In a nutshell vehicle manufacturers sell more vehicles if they can tout "best-in-class" tow rating for a particular vehicle during a particular model year. And in my opinion it is an ego thing; not to be outdone by competitors they up the ante and claim their truck can now tow more than the other guy's truck.

The towing wars continued for years and unfortunately the consumer was the loser. Folks based buying decisions on how much a manufacturer stated a vehicle could tow or haul, only to be disappointed afterwards.

The problem, as I see it, was individual manufacturers developed and used their own methods to determine a vehicle's towing capacity, but these tests and standards were not vetted. Manufacturers could say pretty much whatever they wanted and not be questioned. I watched this evolve into genuine safety concerns for consumers who purchased vehicles based on published tow capacities, with plans of towing a trailer.

Something needed to be done!

Interestingly several manufacturers must have acknowledged the problem too. Way back in the 90s the Society of Automotive Engineers (SAE) began working on standardized testing to use in determining trailer weight ratings. Ford, Dodge, GM and other truck manufacturers worked voluntarily on the committee tasked with developing a solution to the problem. It literally took years, but by 2010 it looked as though a solution was on the horizon. The voluntary standard, referred to as SAE J2807, was gaining momentum; making one believe manufacturers were on board with standardized testing for the 2011 model year. It turned out Toyota was the only manufacturer to use the new 2807 standard in 2011, and it would be several more years before others would follow suit.

Note: SAE J2807 is basically a standard that can be used to determine a vehicle's Gross Combined Weight Rating from which a Trailer Weight Rating can be assigned. The formula is simple; GCWR minus Loaded Vehicle Weight equals Trailer Weight Rating. If all manufacturers participate the consumer can compare vehicles (all measured against the same standard) and determine the best vehicle for their needs.

[Click here to read my others posts on this topic](#)

By 2015 I thought the towing wars, as we knew them, were officially over. The majority of vehicle manufacturers were using the SAE J2807 standard to test and publish trailer weight ratings. *But even with standardized testing methods in place issues continued to surface.*

For example:

Toyota Highlander SAE J2807 Trailer Weight Rating

It's not uncommon for me to receive emails from individuals who are disgruntled, or have concerns about a particular tow vehicle not performing to their expectations. I can usually distinguish between buyer's remorse and a genuine problem or concern. I recently received one of those emails and immediately saw flags, signaling it could be a real concern.

The gist of the conversation went like this:

Vehicle owner: "I have a complicated towing question that nobody seems to know the answer to, or nobody will give me a transparent answer. I have contacted several people including SAE, Toyota Corporate, Toyota dealers, and other online sources. My question is what is the real towing capacity of my 2015 Toyota Highlander, XLE front-wheel-drive SUV? I have tried to get results documenting a 2014, 2015 or 2016 Toyota Highlander XLE or a Limited Front-Wheel-Drive (FWD) was actually tested and passed all of the standards set forth by SAE J2807 towing tests as Toyota states in their brochures."

The owner explained he purchased a new 2015 Toyota Highlander XLE front-wheel-drive vehicle, based on Toyota literature stating the vehicle had a 5,000 pound tow capacity. His plan was to tow a new Flagstaff 21DS Micro-Lite travel trailer that he special ordered. The trailer had a dry weight of 4,053 pounds and a hitch weight of 468 pounds. The 2015 Toyota Highlander in question had a 5,000 pound trailer weight rating and 500 pound tongue load rating.

When the trailer arrived the owner had the vehicle prepped with a 7-pin connector, electric brakes, and a name brand weight distribution hitch and sway control. On his way home with the new vehicle and trailer he noticed something wasn't right. His mileage dropped from 28 mpg to 8 mpg, and the engine RPMs were racing extremely high. He said while driving on a

level highway the front tires lifted off the ground (it is a front-wheel-drive vehicle) and the tachometer raced to 7,000 RPMs.

He also stated when they arrived home he parked the trailer and didn't move it. A few weeks later a professional hitch representative from Blue Ox came to his home and readjusted the Blue Ox Sway Pro weight distributing hitch for the Highlander and trailer combination. They test drove the vehicle and trailer combination again. The engine RPMs were still revving high as they attempted to drive at 55 mph. The Blue Ox rep said at this rate the owners would need to camp locally and on flat land. The owner explained they were planning on towing the trailer from the east coast to the west coast. The hitch representative said they probably would not make it on that trip, and based on current conditions mountains and steep hills would burn the transmission or engine up. He recommended they buy a larger tow vehicle, but they could not afford to trade on a Tahoe or Yukon. The end result was selling the (brand new) trailer at a loss. The RV dealer would not buy it back because it was a special order unit and was already titled.

The vehicle owner told me Toyota claimed the Highlander tow rating was tested using the SAE J2807 towing standard. He researched J2807 on the

internet and saw a list of standards a tow vehicle needs to achieve in order to gain a tow rating.

There is one towing event that takes place where the vehicle is required to tow a trailer up a 3,500 foot steep grade, and he did not feel the Highlander could do it with a 5,000 pound trailer in tow. The owner asked Toyota for documentation of the results showing the J2807 testing did happen. He was refused any results except for a published brochure stating the Highlander has a 5,000 pound rating based on SAE J2807 testing. *He said Toyota guaranteed him the Highlander did conform to the standards, but they do not share the details with the public.*

The vehicle owner's concerns and questions were:

Did Toyota use an All-Wheel-Drive Highlander rather than a Front-Wheel-Drive for the J2807 testing?

Why is the Highlander XLE pre-wired with a 4-pin connector (for 2,000 lbs.) rather than a 7-pin?

If Toyota tested a Highlander XLE or Limited for a 5,000 pound rating did they rewire and install a 7-pin connector for the electric brakes?

Was the Highlander XLE really tested using the SAE J2807 towing standard?

Why is a 2016 Toyota 4-Runner, with a 4,800 pound rating wired with both a 4-pin and 7-pin connector, but a Highlander with a 5,000 pound rating is only wired with a 4-pin connector?

These are all legitimate questions in my opinion.

After researching a towing guide I discovered there were three tow ratings listed for a 2015 Toyota Highlander: 2000 pounds for a V-6 without a tow package, 3,500 pounds for a V-6 Hybrid model, and 5,000 pounds for a V-6 with a tow package. The Highlander with the 5,000 pound rating included a footnote with the letter "T" meaning a tow package is required for a 5,000 pound rating.

Whenever there is a significant difference in tow ratings there is usually something in the footnotes to explain the difference. For example a vehicle might need a different transmission, axle ratio or larger engine to achieve a particular tow rating. After some research I discovered a Toyota Highlander XLE or Limited model rated to tow 5,000 pounds comes equipped with a towing package that includes a heavy duty radiator, 150 amp alternator, supplemental oil cooler and upgraded cooling fan. *I was quite surprised to see a tow capacity increase of 3,000 pounds based on these upgrades alone.*

My initial thoughts were the owner purchased a front-wheel-drive Highlander model rated to tow 2,000 pounds rather than 5,000 pounds. The owner verified his 2015 Toyota Highlander XLE front-wheel-drive had

a factory window sticker stating a 5,000 pound towing capacity, and it did in fact come equipped with the towing package.

Now his questions held more validity. With this new information I was concerned there might be a real problem, and decided to dig a little deeper.

The next day I located contact information for the National Manager of Toyota Product Communications and sent him an email. I explained who I was, and that I was working with an individual who purchased a new 2015 Toyota Highlander with a 5,000 pound trailer weight rating, with intentions of towing a trailer. I told him the owners had a bad towing experience and were seeking information regarding if the 2015 model Highlander used the SAE J2807 standard to determine the towing capacity. *I asked if he could answer some questions I had.*

He responded, thanking me for reaching out to him. He asked about the vehicle owner by name, and said if this was the individual he already contacted him directly. He also confirmed in the email the Highlander was indeed tested under SAE J2807 standards in determining the 5,000 pound towing capacity for models equipped with V6 engines and the towing package. I told him it was the same owner, but that I had concerns too. I explained after looking into this further I had a few questions about the Toyota Highlander's published tow capacities, if he didn't mind.

My questions to Toyota were:

- 1)** Is there a reason the Highlander towing package does not include a 7-pin trailer plug wiring? A vehicle with this tow capacity requires electric brakes and should be equipped with the proper trailer plug.
- 2)** There are several models of the Highlander available and I noticed the maximum trailer tongue load on these models ranged from 150 pounds to 500 pounds, but I did not see any upgrades in the suspension or tires in the towing package to account for the higher tongue load rating. It basically looks like the tongue load rating is simply 10 percent of the towing capacity assigned to the various models, is this correct?
- 3)** I noticed in some Toyota literature the difference between the V6 equipped Highlanders with a 2,000 pound tow rating and the 5,000 pound tow rating is based on the vehicle being equipped with a towing package. From what I could see the towing package includes a HD radiator, engine oil cooler, upgraded cooling fan and a 150 amp alternator. Usually when there is a significant difference in tow capacities there are upgrades in other components like the engine, transmission, axles, brakes, tires etc. Is the difference in tow capacities based solely on the Highlander's towing package?
- 4)** I also noticed some Highlander models are front-wheel-drive and others use some type of all-wheel-drive

configuration. Were both drive types tested by the J2807 standard and assigned the 5,000 pound rating?

- 5)** Is there any way possible I could see the SAE J2807 results for the 2015 Highlander models?
- 6)** I looked but could not find the 2015 Highlander Gross Combined Weight Ratings (GCWR) for the various models. Is this published somewhere on the Internet that you are aware of?

I thanked him in advance for taking time to address my questions.

Note: I think these are reasonable questions, deserving of answers. Initially the Toyota representative told me he was gathering information and would get back to me soon, but later stopped responding and acknowledging my requests. ***Toyota never answered any of my questions.***

I told the vehicle owner about my correspondence with Toyota and he confirmed he contacted the same individual too. He wrote to the National Manager of Toyota Product Communications in an effort to gain documented proof that a Highlander XLE front-wheel-drive model was tested using the J2807 towing standards. He said he did not receive any documented proof, only a reply stating they did do the testing.

The vehicle owner sent me the following excerpts from the National Manager of Toyota Product Communications reply:

“Any documentation of internal engineering tests would not be able to be shared publicly. Toyota engineering assured me the Highlander was tested according to SAE J2807 standards, and the stated 5,000 pound towing capacity was confirmed to be in compliance. The test is an internal test conducted to the exacting specifications of J2807. If we had not tested the Highlander we could not state it in our brochures and advertising without being liable for false advertising. Truth in towing is a safety issue, and we would not put our customers or our company at risk by inaccurately stating towing capacity. The Highlander only comes with a 4-pin. You would need to add 7-pin wiring and an after-market trailer brake controller.”

I wrote back to the rep explaining I was following-up to my initial request about the questions I had concerning the tow ratings assigned to the Toyota Highlander. I said I felt legitimate concerns were raised about the Highlander trailer weight rating, especially with the various models, and I would appreciate a response from Toyota.

He responded thanking me for my patience and said he was still gathering information to respond to the questions, and would get back to me as soon as possible.

Meanwhile the vehicle owner sent me

an interesting email. He said he received a call from the Executive Analyst for Toyota's CEO. She informed him that because he already sold the travel trailer it is impossible for Toyota to examine the set-up to see if they could have offered suggestions that may have improved the towability of the Highlander/trailer combination. She said she was sorry, but there was nothing Toyota could do to help them.

My thoughts on this statement are, if Toyota was truly concerned it would be easy (not impossible) to replicate the vehicle/trailer combination.

The vehicle owner told her that he knew through personal experience the Highlander could not pull a 4,053 pound empty trailer, using a Blue Ox Sway Pro weight distributing hitch, over a level highway without revving the RPMS very high and straining the engine. He explained that a professional hitch representative inspected the unit and said they should only camp locally and tow on flat ground because towing over mountains would most likely burn up the engine and/or transmission. He told her if the Highlander could safely tow 5,000 pounds they would not have sold the travel trailer and lost thousands of dollars on the deal.

The owner asked if she could answer his original question; "Will you send me the documented results of the SAE J2807 testing on the Highlander XLE front-wheel-drive?" She said Toyota does not

give that type of internal information to the public, but she reassured him Toyota would not risk their credibility as a company by advertising a 5,000 pound towing capacity if it did not pass the test. This was basically the end of the discussion.

The vehicle owner asked if she actually saw the documented results of the test herself and she said no. He talked to her a while longer, restating their concerns about everything, especially safety. He asked if he should write the CEO, or contact the President of Toyota directly. Her response was; all such correspondence will come back through her office, so the answer will be the same.

I wrote back to the Toyota National Manager explaining the owner was contacted by Toyota's CEO Executive Analyst, (which I am sure he was already aware of) and that it did not resolve the issue at hand. I asked him to please explain why Toyota won't release the SAE J2807 results and simply resolve the problem.

I did not hear from him.

I waited nearly two weeks and wrote again, asking if he was still planning to provide information from Toyota on this matter? I also asked if this was Toyota's final response to the matter.

He did not respond.

I think I gave Toyota every opportunity

to respond, and to answer what I feel are all legitimate questions. In my opinion it makes Toyota look as though they are concealing something by not responding to my requests for information, and eventually stop acknowledging me.

Moving forward I had little choice but to draw my own conclusions regarding the advertised towing capacity of a Highlander XLE front-wheel-drive vehicle.

- If the vehicle was tested using the SAE J2807 towing standard and assigned a 5,000 pound tow rating why is Toyota hesitant to verify the test results and put an end to the question?
- If a company boasts "Toyota is the only manufacturer with SAE J2807 certified tow ratings for its entire pickup truck, SUV, XUV, and minivan line-up" why aren't they transparent in proving it?
- And if a Toyota Highlander XLE front-wheel-drive vehicle was tested and rated to safely tow a 5,000 pound trailer with a 500 pound tongue load why couldn't the vehicle tow a 4,053 pound trailer with 468 pound tongue weight using a weight distributing hitch on a level road surface?

This brings me to the weight distribution hitch. When you have a properly set-up weight distributing hitch it distributes a portion of the trailer's tongue weight to the axles on the tow vehicle and the axles on the travel trailer. If the front-wheel-drive Highlander is capable of safely towing a 5,000 pound trailer with 500 pound tongue weight the front

wheels would not come off the ground towing a 4,053 pound travel trailer with 468 pounds of tongue weight; especially with a weight distributing hitch. And there is no reasonable explanation for the mileage to drop to 8 mpg with the engine revving to 7,000 RPMs if the vehicle was capable of safely towing 5,000 pounds. And the hitch set-up was personally inspected and adjusted by a Blue Ox representative.

There are other factors that come into play in this towing scenario. In the Toyota Highlander owner's manual for the vehicle in question it states, if the gross trailer weight is over 2,000 pounds a sway control device with sufficient capacity is required. The manual also states, if the gross trailer weight is over 5,000 pounds a weight distributing hitch with sufficient capacity is required. If you search some of the Toyota Highlander and towing forums on the Internet you will quickly gather the confusion among other Toyota Highlander owners attempting to sort out Highlander towing issues. Many of these owners wrote to Toyota directly in an effort to get straight answers. Responses to these owners, allegedly from Toyota representatives, include everything from "Most hitch manufacturers only recommend weight distribution when towing over 5,000 pounds" to "Weight distribution hitches put a great deal of strain on the structure of the vehicle to achieve the

distribution of the weight. Unibody vehicles are not built for this type of strain; the Highlander is a unibody vehicle that does not have a full frame."

In reality if a trailer's tongue load lowers the rear of a tow vehicle significantly you need a weight distributing hitch to safely and properly tow the trailer. When there is too much trailer tongue weight on the rear of the tow vehicle it directly affects the steering, handling and braking characteristics of the vehicle. I take issue with manufacturers stating you only need a weight distributing hitch if the trailer weight exceeds 5,000 pounds.

An important factor in controlling trailer sway is the amount of tongue weight and how that weight is distributed to the axles on the tow vehicle and the trailer. A general rule is trailer tongue weight should be 10% to 15% of the fully loaded trailer weight, for trailer's weighing over 2,000 pounds. The Toyota Highlander owner's manual addresses the need for a sway control device on trailers exceeding 2,000 pounds. Where I get confused is the statement in the Highlander owner's manual that implies, at least to me, a gross trailer weight under 5,000 pounds does not require a weight distributing hitch. Remember what I said a moment ago about too much tongue weight contributing to poor steering, handling and braking. This would be especially true on a front-wheel-drive vehicle. The bottom line is chances are very good that a vehicle rated to tow 5,000 pounds with a 500

pound tongue weight will indeed need a weight distributing hitch to safely tow a trailer approaching 2 ½ tons. The owner of the vehicle in question stated even with a Blue Ox Sway Pro hitch that incorporates weight distribution and sway control the front wheels (drive wheels in this situation) were nearly off the ground and the engine RPMs revved to 7,000 while towing a 4,053 pound trailer.

The Highlander is a unibody constructed vehicle, meaning the frame and body is one integrated unit. I am not an engineer, and I do not profess to know how a weight distributing hitch affects a front-wheel-drive unibody constructed vehicle, but if Toyota tested the Highlander according to SAE J2807 and assigned a 5,000 pound rating the vehicle needs to be capable of safely towing a trailer with a weight distributing hitch. *This brings to question whether Toyota used a weight distributing hitch during the J2807 testing they claim was completed on the Highlander models.*

My understanding is when you use a weight distributing hitch on a unibody constructed vehicle there could be issues, but in my opinion a 4,000 or 5,000 pound trailer should not be towed without one. Can a unibody constructed vehicle handle the stress and strain caused by distributing trailer tongue weight to the axles on the vehicle? Did Toyota use a weight distribution hitch during the alleged

J2807 testing? If not, is it possible the front-wheel-drive Highlander model would lose traction with 468 pounds of tongue weight? I say yes! And if Toyota did use a weight distribution hitch for testing why does the Highlander owner's manual state it is not needed unless the trailer exceeds 5,000 pounds?

More interesting information:

I receive press releases from most of the major automobile manufacturers on a daily basis, including Toyota. I received a release about the 2017 Highlander debuting at an upcoming International Auto Show. The interesting thing is, in every Toyota release I read about the Highlander it mentions the 5,000 pound tow capacity for V6 models equipped with the towing package. But in the 2017 Highlander release, *since this was brought to their attention*, Toyota makes no mention of the 2017 Highlander towing capacity whatsoever. Here is a link to the release

<http://www.toyotanewsroom.com/release/s/toyota-2017-highlander-march14.htm>

As a last ditch effort to obtain a response from Toyota I contacted the National Manager of Toyota Product Communications again. This time I informed him I was publishing the article and if anybody at Toyota would like to comment this would be a good time to do it. Here is his reply:

“Thank you for giving us the opportunity to address the inquiry regarding the towing capacity of the 2015 Highlander.

The 2015 Highlander XLE with a V6 engine, 6 speed automatic transmission, and front wheel drive has a 5,000 lb. towing capacity. This was disclosed in the vehicle's Monroney label and Owner's Manual at the time of sale, and we have confirmed the accuracy of that information. We have also confirmed that the vehicle (as equipped) meets the standards set forth in SAE J2807. We understand that the customer who contacted you used his 2015 Highlander to tow a trailer, and apparently experienced some difficulty. Unfortunately, we have no specific information regarding the events described, including the type and actual weight of the trailer, how it was attached to the vehicle, the payload, or the conditions/terrain driven. As a consequence, we are unable to comment directly on this specific towing experience. Detailed information regarding the requirements for trailer towing is set forth in section 4.1 of the 2015 Toyota Highlander Owner's Manual. Additional information regarding the vehicle specifications for towing can be found in Section 9.1 of the Owner's Manual. We have no reason to believe that the vehicle will not tow the stated weight if the applicable requirements are met. Thank you again for providing us with the opportunity to comment."

I strongly disagree with the section in his statement saying Toyota had no specific information regarding the

events described, including the type and actual weight of the trailer, how it was attached to the vehicle, the payload, or the conditions/terrain driven. This information was readily available. *Toyota never asked for any information and never answered any of my questions.*

When I contacted the vehicle owner to inform him I was publishing an article on this topic he told me he received a letter from the Executive Analyst for Toyota's CEO. He highlighted her main points:

"The vehicle, as equipped, has a 5,000-pound tow capacity. We have also confirmed your vehicle (as equipped) meets the standards set forth in SAE J2807. Unfortunately, we have no specific information regarding the events you described, including the type and actual weight of the trailer, how it was attached to the subject vehicle, the payload, the conditions/terrain driven, etc. As a consequence, we are unable to comment on your specific towing experience." She referred the owner to Sections 4.1 and 9.1 of the Owner's Manual. She closed by saying, "We have no reason to believe your vehicle will not tow the stated weight if the applicable requirements are met." She thanked the owner and said that all further communications to Toyota Motor Sales, U.S.A., Inc., on this subject should be directed to herself.

I find it interesting how similar her response to the owner was, to the response I received from the National

Manager of Toyota Product Communications. What I also find interesting is the section in both responses that reads, “We have also confirmed your vehicle (as equipped) meets the standards set forth in SAE J2807.” *Does the statement “meets the standard set forth in SAE J2807” mean the vehicle was actually tested according to the SAE J2807 standard?*

After the final response from Toyota I guess we are left to draw our own conclusions. I have two thoughts about this.

➤ Toyota should be transparent in offering proof the Toyota Highlander was in fact tested by the SAE J2807 standard and assigned the 5,000 pound tow capacity. Just saying it was does not cut it in my opinion.

➤ Locate a travel trailer close to the dry weight and tongue weight of the trailer in question and hitch it to a 2015 Highlander equipped the same as the Highlander in question. See how low it squats to determine the need for a weight distributing hitch, and then have somebody from Toyota take it for a ride down the road. The proof of the pudding, as the old saying goes. *In other words if you really want to test something you need to experience it for yourself!*

I do not advocate pushing a vehicle’s towing capacity to the limit, but when a manufacturer tests and assigns a tow rating (in compliance with SAE J2807)

to a vehicle it should be capable of safely towing that amount of weight, with no questions asked.

The bottom line is this could be a safety issue for many vehicle owners. We asked Toyota to simply provide documentation, other than a sales brochure, showing the Highlander was tested and compliant with the SAE J2807 towing standard. In my opinion it does not reflect well on Toyota when they refuse to cooperate to a simple request, and to answer relative questions concerning this issue. Without a response to my questions I guess you need to be the judge on what the actual trailer weight rating of a Toyota Highlander is. ~RV101



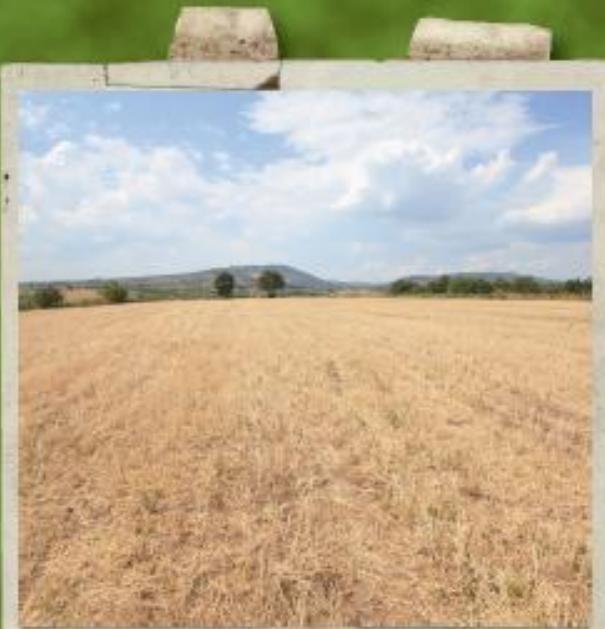
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*Cook's Field, the week after we
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*The guy from Ed's Towing.
Spent three hours with him.*

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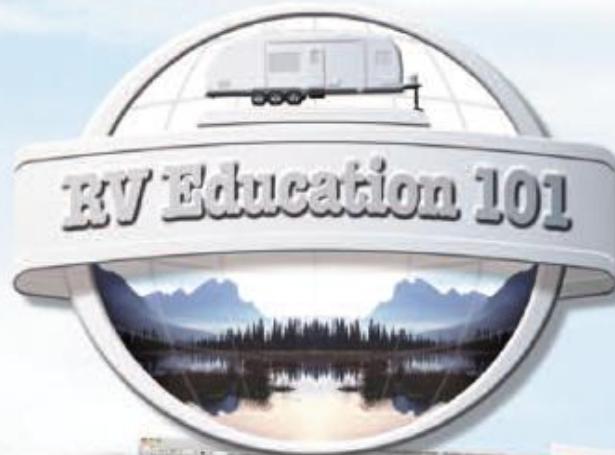
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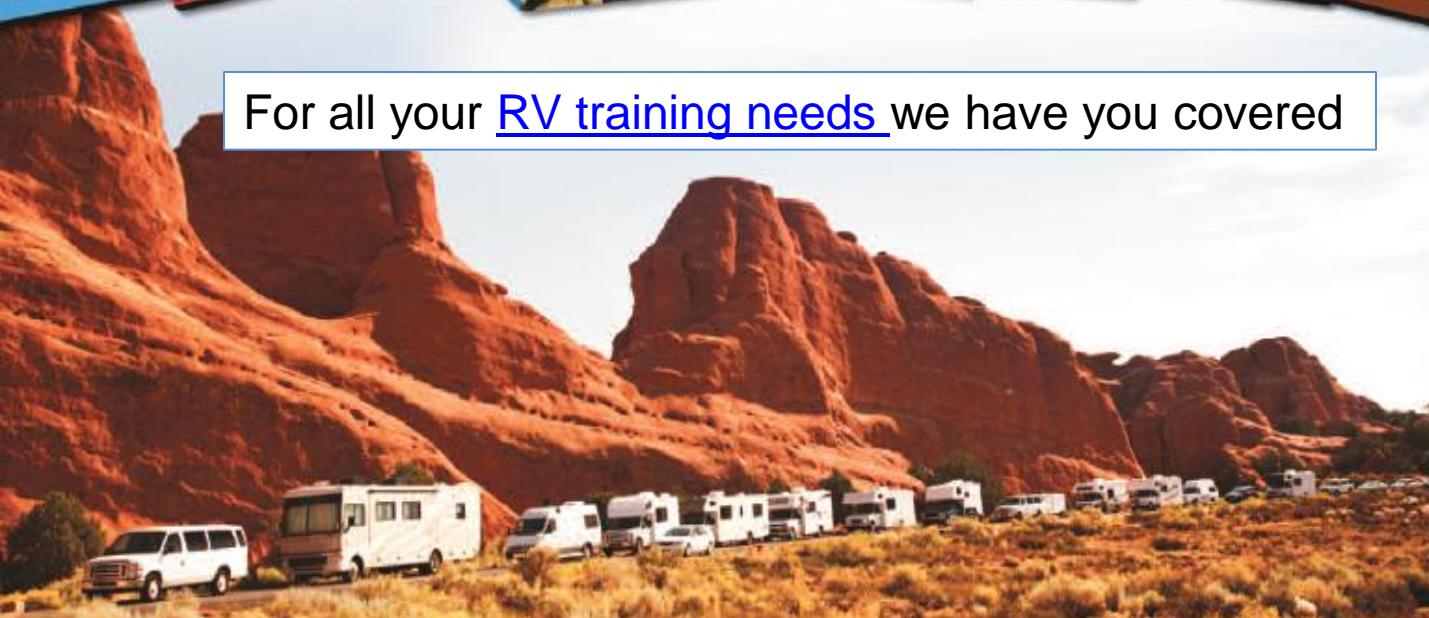
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