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January 2023

## **RenoVations**

**Transforming Old RVs into Custom Cruisers**

**Plus!**

- **Bathroom Remodel: Shower and Toilet Upgrades**
- **Installing PullRite's SuperLite Fifth-Wheel Hitch**
- **Tapping Onboard Propane for Outdoor Appliances**





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#### Fads Fade — But Style is Forever

Alice Zealy channeled her sense of aesthetics and design into a growing RV renovation business. We took a look at a few of her recent transformations — from stock RVs to custom cruisers — and convinced her to offer up a number of tips she's learned along the way for the do-it-yourselfer considering adding more personal touches than can be purchased on the Internet.



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#### Throne Room Remodel: Curtain Call

Garden-type showers really spiff up any bathroom, so removing the curved glass shower enclosure may seem like a step backward to some. We were tired of endless water spots and stuck tracks, though, and found a designer shower curtain not only makes cleanup a snap but improved spaciousness. It was also a great time to deal with cracks in the shower pan.



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We first installed a Dometic 320 toilet within days of taking delivery of our fifth wheel, replacing a smaller and less-comfortable model. Full-time use pushed its limits, though, especially when it came to valve seal integrity. In its place, we recently opted for a Thetford Aria Deluxe II for its forceful flushing cycles. And because we like to push buttons.



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#### Throne Room Remodel: Close Encounters

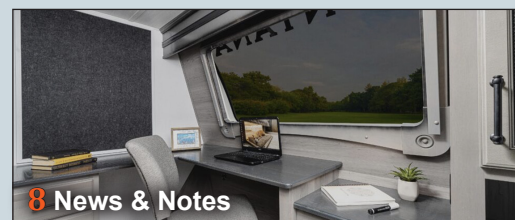
Living in an RV full-time with a small bathroom sink and little counter space takes a good sense of humor. Still, it was tough to laugh off the way we had to route power cords (also known as dirt magnets) when using things like hairdryers and electric toothbrushes. Fortunately, concealing them wasn't a big job, though it makes a vastly improved appearance.

## DEPARTMENTS



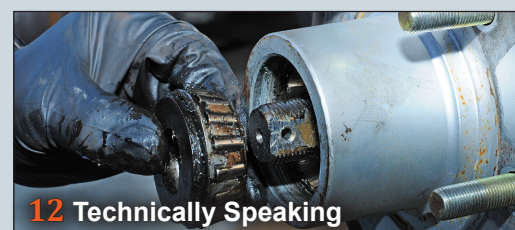
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As RVs evolve, OEMS need to step up and mitigate some common problems that tend to impact most RVers. The most common issues center on the water system, electrical components, awning damage and the sewer system — and don't get me started on those 15-inch tires and wheels.



### 8 News & Notes

From Keystone RV's latest Montana iteration to Garmin's new RV-centric navigator, there's plenty of news to know this month. Here's where you can pick up a really vintage RV, learn of top campgrounds and discover which days the NPS has designated "free" for 2023.



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Should you leave the slideouts extended when storing an RV for the winter? Should it be covered? How do you deal with condensation — or errant leveling jacks? How often should wheel bearings be repacked? The answers to these and other questions are addressed this month.



### On The Cover

Alice Zealy, owner of Rain 2 Shine Ventures, with the Chevy conversion van she transformed into a custom cruiser. Photo by Mary-Knox Zealy, When Life Knox LLC

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## Parts House

Anyone who's ever suffered through an earthquake knows full well what happens: things break. It shouldn't come as a surprise, then, when a component finally fails on an RV. The only problem lies in tracking down a replacement — or, better still, an upgraded replacement. Want to know what's available? Here's a look at nearly three dozen of the top new products you'll want this year for your RV.



## A Lightweight Powerhouse

Most fifth-wheel hitches are heavy and bulky, which makes removal impractical between trips unless you have a forklift, hoist or neighbor willing to help. Pullrite's 50-pound SuperLite hitch not only streamlines the process but also makes hooking up a breeze. Did we tell you it allows for hitch height to be set at three levels — or that it has a whopping 20,000-pound weight rating?



## Painless Propane

If you use propane to fuel your grill and fire pit, you're probably tired of lugging around those disposable canisters. In fact, you probably longed for an exterior propane connection that allows you to use gas from the RV's main supply. Well, stop wishing. If your RV didn't come so equipped from the factory, you can install an exterior connection yourself in a few minutes with the right parts and a few simple hand tools.

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# As RVs Evolve, OEMs Need to Mitigate Common Problems

Traveling in an RV throughout the peak summer months is always an eye-opener. Spending time among RV owners puts the lifestyle into prospective and, frankly, it's a great learning experience. There is no doubt that times are changing and the dynamics of RVing are evolving with new owners — including many younger people — offering a fresh viewpoint on social interactions and enthusiasm for the rigs themselves.

To us RV veterans with, well, a “few decades” under our belts, it's fun to compare how RVers participated in the lifestyle in the early days versus those of today. Although clothing trends, hair styles and the RVs are dramatically different, not much has changed when it comes to sitting under a patio awning, enjoying a plate of potluck offerings and schmoozing with fellow RVers.

But that is where any similarity ends.

Who could have predicted, for example, the reality of pulling travel trailers with electric tow vehicles — or communicating via satellites circling the planet? When the phone rings while sitting around the propane-fueled fire, I simply raise my arm and talk into my watch. (I can see the smile on Dick Tracy's face.) During one of my stays in an RV park in the Pacific Northwest, I ran into a fellow camper who was towing his 30-foot Airstream with a shiny new Rivian all-electric truck. It was quite the combo, offering a lot of pizzazz to RV ownership; going for a test ride was certainly exhilarating.

Interestingly, the RV park prohibited electric vehicle charging at the sites, a restriction reinforced by warning stickers attached to each utility box. Charging the Rivian at that juncture required going into town and hanging around while the batteries were re-energized at a charging station. Fortunately, the latest quick-charging features limit down time, and undoubtedly, this function will even get faster

as technology evolves. Still, it seems like adding charging infrastructure to RV parks will be a logical revenue generator as electric vehicles become more popular and capable.

When asked, of course, about driving range while towing the trailer, the owner was unsure since he hadn't towed very much at the time of our meeting, but he emphasized that he was in no rush. Good thing, because based upon news reports of late that have tested various EV pickups with a trailer on their tail, it's likely that he won't get too far between recharging sessions. But he's still a happy camper — and this type of patience is contagious within the RVing community. I've always said that the RV lifestyle is so compelling that enthusiasts are willing to endure higher levels of inconvenience to stay engaged.

I've heard a lot of sniveling about things that go wrong with an RV — and the difficulty associated with getting things fixed — but very few of these people were eager to throw in the towel. Most owners don't use their RVs for more than long weekends and a few extended vacations, which keep

the repair gremlins at bay for most of the warranty period. Refreshingly, however, manufacturers are delving into solutions that promote owner satisfaction — and are cognizant of the more common problems plaguing RV ownership.

That said, there are steps that can and ought to be taken to mitigate the discontent expressed openly on the Internet and in camp. The most common issues focus on the water system, tires, electrical components, awning damage and the sewer system. Fortunately, reinforcing these systems/components can be done easily at the factory level — with, of course, some monetary considerations.

Beyond making sure all the crimp connections on the water lines are perfect (which only requires a few more moments of time and assurance that the tools are adjusted properly), I would think twice about those elaborate utility manifolds with multiple water valves. True, they look sexy and high tech, but I'm still a fan of simplicity. How I miss my gravity water fill! I would assume the economics of providing only a city water connection, a gravity fill and winterizing bypass valves on the back of the water heater could be justified.

All holding tanks should be fitted with a flushing device — or at least offer an option for the gray tank. Keeping these tanks clean prevents many headaches. And making the dump valves accessible without having to cut the underbelly will reduce repair time and costs.

Considering all the electrical grid turmoil these days, protecting the boatload of sensitive electronic components found in most RVs these days should be paramount. Why not make internal surge protection part of a mandatory option (doublespeak for “standard equipment” though it lets OEMs and dealers tack on a few more bucks)? My portable surge protector cut power to our fifth wheel three times last

summer — twice because of faulty hookup wiring.

It also seems like power awnings are more susceptible to wind damage than the old manual models, maybe because we no longer tie down the arms. Insurance claims for awning damage are common; adding an auto-retract feature to all power awnings will certainly prevent most problems, which can be severe enough to result in collateral damage.

I prefer not to rehash the issues with tires on towables, but maybe it's time to use at least 16-inch wheels and tires on all medium-size (and larger) trailers and fifth wheels.

There are numerous other pathways manufacturers can take to reduce discontent and down times, but one big method is to improve education at the time of delivery. Many problems are owner-induced because they just don't know what to do. Encourage those taking delivery to video the walk-through. Last summer, for example, most new owners I observed didn't even use a pressure reducer when hooking up to water. That's a problem waiting to happen.

Patience is a virtue — but let's not push it. **RVE**



*Making the dump valves accessible without having to cut the underbelly will reduce repair time and costs.*





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## Keystone Debuts ‘Front Office’ in Montana Line



Working remotely took on a whole new meaning during the pandemic — and it fueled a huge surge in popularity of RVs as people discovered they could maintain their workload while parked in some of America’s most beautiful locations.

At late January’s RV SuperShow in Tampa, Florida, Keystone RV was set to debut a new floorplan in its popular Montana fifth wheel brand that’s sure to resonate with anyone who needs to juggle work commitments with play. The Montana 3941FO (for Front Office) combines the best of both worlds, placing a well-equipped office space in the upper deck — right behind the Montana’s huge panoramic window.

Keystone has built the Montana in a number of iterations — including the popular front kitchen — and this one should find a ready audience, as well. Plus, the office is “insulated” from the rest of the coach to allow users a quiet environment to get work done. The office, which includes an L-shaped desk, storage, filing cabinets, space for a printer, a corkboard and an opening side window, is separated by a solid wall and solid sliding door.

According to a report by Jim Mac at [rvbusiness.com](http://rvbusiness.com), the team’s goal with this new model was to create a comfortable, inviting front office without sacrificing the living areas. This floorplan measures about 43 feet in length, at the top of the Montana line, but offers

the same front living room as other Montana models. To accommodate the front office *and* the living room, Montana Product Manager Nick Ebenroth told Mac they shaved a few feet off the kitchen area. “One of the things we did was to remove the kitchen island. Although this eliminated some countertop areas, we made up for it by including two large pullout drawers opposite each other, adding more counter space back in. So in effect, you have the same prep space, storage, and a more open kitchen area.” For more information, visit [keystonerv.com](http://keystonerv.com).

## VanLeigh RV Shuts its Doors



It’s never a good time when a company elects to cease operations. It’s worse when the company is a highly regarded one. That, though, is the upshot of an announcement made Jan. 9 by Tiffin Group — a more than 50-year-old family-run operation acquired by THOR Industries in 2020 — to discontinue operations of its VanLeigh RV subsidiary

in order to focus the firm’s attentions solely on the motorized market.

VanLeigh RV was founded in 2014 by Leigh Tiffin, current president of Tiffin Group and a son of Tiffin Motorhome founder Bob Tiffin. VanLeigh RV was known for its luxury fifth wheel lines Beacon, Ambition and Vilano.

The move — which becomes effective in March — apparently provides Tiffin Group with the additional resources necessary to further its intent to be a full-line motorized manufacturer. Long known for its quality and customer service as a luxury Class A coachbuilder, the company has in recent years entered the Class B and Class C markets.

## Infusion Design ‘Redefines’ Teardrop Profile



Lightweight “teardrop” travel trailers tend to be smoothly aerodynamic — in keeping with the teardrop moniker — but it’s a look that isn’t for everyone. “Adventure trailers, on the other hand, tend to convey an image of rugged independence. Infusion Design has brought the two dissimilar styles together.

Setting out to design a small camping trailer that would appeal to all types of modern adventurers, Infusion Design sidestepped the basic teardrop and box shapes and moved in a different direction, slapping contrasting shapes and angles all over its trailer’s vaguely teardrop-like form, [according to a report at NewAtlas.com](http://accordingtoareportatNewAtlas.com).

Its CampINawe trailer arrives like a piece of geometric abstract art meant to tow and live in. A pop-open panoramic window reveals a flexible space with a proper queen-size bed and a light, portable equipment set that includes a toilet, Yeti cooler bench, mobile power bank and outdoor bathroom tent.

With a portfolio of design work that included Learjet interiors and custom Airstream conversions, [infusion-design.com](http://infusion-design.com) set out to design the “ultimate camping trailer” for any and all adventures, from hunting and fishing, to kayaking and mountain biking, to basic off-grid living and escape. The trailer



needed a comfortable living space, plenty of room for carrying gear, tools and accessories — and a rugged build for all weather and terrain.

Infusion put an emphasis on creativity in penning something vaguely reminiscent of a flat-sided polygonal teardrop and cladding it over with oddly shaped panels that create an artistically disjointed look. Even in today's world of small trailers in every odd shape and style, the CampINawe trailer tends to stand out as one of a kind.

## More All-Female RV Technicians Classes Available



After a successful pilot class in August of 2022, the RV Women's Alliance and the [RV Technical Institute](#) (RVTI) are taking their [All-Female Technical Class](#) nationwide in 2023. Through the partnership, five classes will be offered across the United States, including classes in Texas, Oregon, Pennsylvania, Florida and Indiana.

In the week-long class, students will gain competencies on seven RV systems, including propane, plumbing, electrical, appliances, generators, body, and chassis, providing the working knowledge necessary to perform pre-delivery inspections.

Starting in mid-March and continuing through October, there will be five classes around the United States including Dallas, Texas; Tualatin, Oregon; Elkhart, Indiana; Jacksonville, Florida; and Camp Hill, Pennsylvania. Each class will be open to 12 women who are either looking to become RV technicians or women already in the industry looking to enhance their skills. Interested? Apply [here](#).

## Newmar's '2023 RV Resorts Guide' Available



Newmar has long been known for the build quality of its luxury Class A motorcoaches, so it stands to reason that the company — now a part of Winnebago — would have folks around who know a thing or two about the best camping resorts, as well.

And they do. More importantly, they are sharing them in their all-new 2023 RV Resorts Guide.

"With 55 traveler-favorite places across the United States, the 2023 *RV Resorts Guide* from Newmar offers a variety of places to stay — whether it's along the way or your final destination. This year, you'll find several that are brand new to the guide, as well as a new map that makes searching for resorts along your route even easier," noted a Newmar representative.

Among other things, the 2023 guide features interactive map functionality; highlights, contact info and must-know details for each location; and full-color photos of the resorts and their properties. [The guide can be downloaded by clicking here.](#)

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# How to Own a Vintage Ride



*Photos by bringatrailer.com*

America's RV history is rife with unusual vintage rigs — especially when it comes to motorhomes. Who can forget the Flxible Starliners from the 1950s, the Corvair-powered Ultra Van of the '60s, even the one-piece fiberglass-bodied Dodge Glastron M300 and aluminum-shelled Argosy (painted) and Airstream (polished) motorhomes of the 1970s. And if you've never seen a 1917 Model T with 1916 Telescoping Apartment or a 1937 Hunt Housecar, visit the RV/MH Hall of Fame & Museum the next time you're in Elkhart, Indiana.

Until now, though, we've never set our eyes on a '60s-style Mercedes-Benz motorhome. Okay, so we weren't able to actually track down a real MB motorhome built a half-century ago (though we did find vehicles like a 1988 M-B T1 Auto Trail). What prompted our search? This unique 1961 Mercedes-Benz 0321H "motorhome" that was up for grabs at [bringatrailer.com](http://bringatrailer.com).

Finished in tan with red accents and powered by a 5.7-liter diesel inline-six paired to a five-speed manual transmission, this coach started life as a 30-foot bus (rumored to once be the team bus for a hockey team in Switzerland). An older renovation, it retains the panoramic windows and skylights of its former life and is fitted with seven bucket seats, a forward bunk, two fold-down sofas, rear sleeping quarters, A/C, kitchenette with sink and 20-inch steel wheels.

The M-B 0321H ultimately sold for \$75,321. That, however, is well off its prior sale (\$99,000, including auction premium) by Bonhams Auction in 2013, the year it was reputed to have been shipped stateside. It was acquired by the seller in 2020.

If you missed out, don't despair — [bringatrailer.com](http://bringatrailer.com) frequently offers an array of interesting vehicles, including RVs. In fact, as this issue of *RV Enthusiast* was going to press, there were no

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Photos by bringatrailer.com

less than four live auctions in process, including a 2019 Airstream Flying Cloud 30FB being sold at “no reserve” and a green-on-green 1974 Ford C-750 truck and Gerstenlager trailer outfitted as a Camelot Cruiser motorhome by Edler & Co. of Illinois. Note the extreme storage space below decks — big enough to carry matching vintage Polaron snowmobiles (which were included in the sale)!

## Garmin Debuts RV-Specific Navigators

Trying to get from Point A to Point B can sometimes be a lesson in futility — especially when you are driving or towing an RV. Garmin in early January launched a line of large, tablet-like



8- and 10-inch [RV 895](#) and [RV 1095](#) navigators tailored specifically to the RV and camping lifestyle.

The series boasts a reimagined feature set to help RV drivers maneuver in larger vehicles, offering recommended routes based on the size and weight of their RVs or towable trailers. In addition to custom vehicle routing and preloaded traveler content, the navigators can simplify arrival with BirdsEye satellite imagery which shows vivid aerial views for most addresses and locations — including campgrounds and RV parks. The new navigators also incorporate a split-view map option that shows an ac-

tive route on one side with an overview of the remaining route and impending weather conditions on the other.

Recreational drivers can utilize custom routing based on the size and weight of their vehicle or trailer and drive with increased awareness of the road ahead with alerts for upcoming bridge heights, weight limits, sharp curves, school zones, steep grades and more.

The new navigators also come pre-loaded with traveler information and map updates are included. When coupled with the Garmin Drive app, it also

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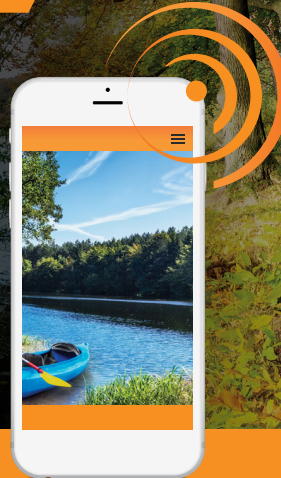
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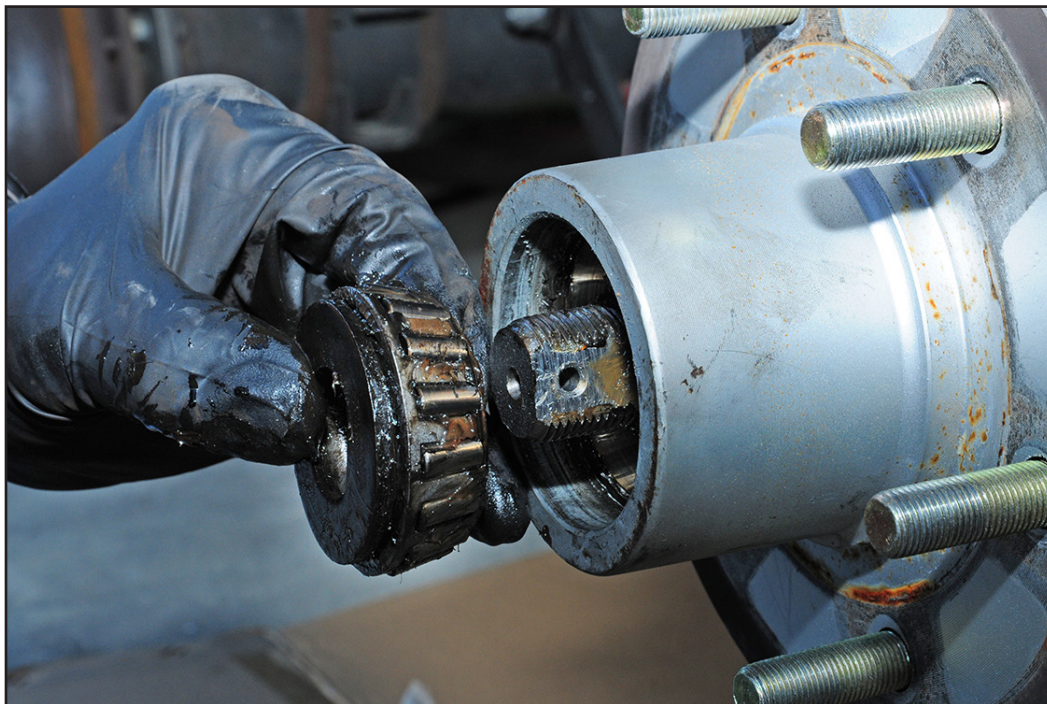
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## Check Your Bearings



I've been told that the wheel bearing in my trailer axles should be checked annually or after 12,000 miles of travel. My trailer has Nev-R-Lube bearings, which are supposed to be sealed and not needing inspections. What would you do?

— **Maryann Fisher**

*The Nev-R-Lube bearings from Dexter are sealed and do not need to be repacked with grease. Still, you should pull the wheels and inspect the spindles/bearings for adverse wear every year or 12,000 miles, as stated by Dexter. You'll be looking for endplay, adverse wear and possible leaking*

grease. Although these bearings are sealed, they are not infallible and can leak. If that happens, you'll need to replace them. Annual inspections also allow you to check for adverse brake wear and any wiring problems.

If you have standard bearings, it's imperative that they are inspected and repacked yearly (or 12,000 miles, whichever comes first). Unfortunately, most bearings are made overseas and tend to wear quickly or even fail. You don't want to be stuck on the road with a bearing failure, which can result in expensive repairs and collateral damage. Make it a habit to pull the bearings yearly and check for worn splines, which can become loose and even sloppy. When repacking, use high-quality, disc brake grease and always replace the grease seals.

A few years back, I was doing a routine bearing service for a friend and discovered that one of the disc brake pads had dislodged from the backing plate and destroyed the rotor. He didn't even know there was a problem with the brakes.

Annual inspections will help ensure safe and trouble-free trips and, quite frankly, are not that difficult. Even if you don't have the proper tools (like a bearing packer and a bearing race and seal driver), it might be possible to borrow them from a local auto parts stores that offer this service.

## Sopping Wet Windows



Adding another layer of insulation to windows results in a vapor barrier, which combats condensation. Frost King is a popular product and can be installed by shrinking the clear plastic film to the window frame using a hair dryer.

We recently became full-timers living in our Grand Design fifth wheel and we've noticed that there is a heavy buildup of condensation on the windows — and it's running down the inside walls of our RV. This always happens when the weather is cold. We've been

told to leave a window or two cracked open a bit or even run the power ceiling vents. Wouldn't either of those options call for the furnace to work overtime, either because of cold air entering our rig or warm air exiting? Would a dehumidifier be a better choice even though we will have to frequently empty the bucket?

— **Trina Lawsen**

*Trina, I know what you're going through since at one time I owned a fifth wheel with single-pane windows, which I'm assuming is how your rig is equipped. Single-pane windows are the most susceptible to condensation, which is why full timers prefer dual-pane windows to go along with a three- or four-season insulation package.*

*There are a few things to try. You'll likely have good success using a 120-volt AC dehumidifier, but you will need to get one large enough to handle the amount of square feet in your trailer — and it will need to run 24 hours. Just keep an eye on the collection tray and*

*empty it before it's full. You can also try to treat the inside of the windows with Rain-X, which should control some of the moisture. Unfortunately, you still may have to use towels at the bottom of the windows to stop the condensation from running down the walls.*

*Dri-Z-Air is a popular product that uses special moisture-absorbing crystals to remove water; it requires no power, so it's practical when in a primitive setting. You can find Dri-Z-Air devices and refills at most RV supply stores and online; you will probably need two or three, placed around the inside of the RV. There are also other options, like DampRid moisture absorption buckets, which are available in most home improvement stores and Walmart. This type of desiccant collects condensation effectively but you'll likely need several buckets throughout the RV, which is not very practical.*

*Another option is to create a vapor barrier between the window and inside of the RV. Storm windows are the best for this application, but not very easy to*



retrofit to your window frames. Rather, you can use Frost King plastic film to cover the windows and probably eliminate up to 90% of the condensation. You'll have to remove the film in the summertime and re-apply at the onset of winter. Personally, I found that the dehumidifier did the best job.

## To Slide or Not to Slide — and Cover



Photo courtesy of Fonzier

Bill, my wife and I have been avid RVers for many years, but it's always been in smaller travel trailers without slide-out rooms. This year we stepped up and purchased a Ram 2500 pickup and a Keystone Montana fifth wheel. What a difference! Now that the season is over, we're getting ready for storage — which is the subject of my question. Do we leave the slideouts extended or should we retract them during winter storage? Also, while I'm thinking about it, do you recommend covering the fifth wheel? I've read pros and cons whether a cover makes sense. Some people believe the cover will just create a buildup of a mildew beneath it. We live in an area that tends to get quite a bit of snow.

—Robert Peters

Personally, I would retract the slide-out rooms anytime the RV is stored. Melting snow that has piled up on the roof of an open slide has the propensity to work its way into the interior through the seals, especially if the rig is not level while in storage and the water puddles toward the sidewall.

There are some challenges to covering a fifth wheel in the winter, but you can mitigate many of the problems with the purchase of a good cover that fits properly. The best covers are made of Sunbrella material, which is a strong acrylic that will last a long time. Before installing the cover, make sure any sharp edges/corners are protected from the cover material. For example, most experienced owners will cover the air-conditioner shrouds, roof vents and other accessories with moving

blankets and hold them in place with sandbags; just make sure only to use cotton blankets (no synthetic materials, which can melt in hot weather). Many owners also cover the rain gutters with old tennis balls. Just make sure that the cover is tied down properly; left to sail in the wind, the edges can fray and lead to rips in the material. Make it a point to check on the RV on a regular basis.

The better covers are breathable, so there is little risk of mildew. Also, don't even think about covering the RV with a plastic tarp — that's just a disaster waiting to happen.

## Leveling Jacks Fail to Retract

Bill, recently after hooking up to my fifth wheel I was able to retract the front jacks but the other four were unresponsive both automatically and manually. I contacted Lippert after I discovered it was the manufacturer of the leveling jacks, but all it did was email me a troubleshooting manual. I finally managed to get a technician out to my site who rewired the system so he could retract the other jacks using the switch for those in the front. However, even subsequent visits to my local dealership service department have not resulted in a resolution to my problem.

—Rick Anders

Rick, normally these jacks are reliable — but as you found out, sometimes things go haywire. I'm not sure if I have enough information to really diagnose this problem, but I would start with a system reset, which can be accomplished via the control panel. It's also probable that there's a glitch in the control panel or circuit board. It's not likely that the problem is in the jacks since they function manually after the technician rewired the system.

## How High Can You Go?



Photo courtesy Bridgestone Tire

I read your article about the gentleman with tires blowing out, which leads me to my potential problem. I have a 2020 Class C motorhome with a tire pressure monitoring system. I've noticed that the temperature goes up from 90 to 95 degrees F at startup and after several miles the temperature goes up to 105. Tire pressure also goes from 80 to 90 or 95 psi. Is this all normal? All of the tires are reaching close to the same temperatures and pressures.

—Joseph Darmofalski

Joseph, the rising temperatures and pressures are normal when tires get rolling down the highway. Tire manufacturers consider these increases when specifying pressure limits; that's why pressure is always checked when the tires are cold. If you were to check the pressure at different places along the route after traveling and let air out because it looks like the tires are over-inflated, you'll end up underinflating the tires and risking failure.

For example, tires that are normally inflated to 80 psi cold can reach more than 90 psi when hot; temperatures can easily hover around 100 degrees and should not be considered a problem until they reach around 135 degrees. Good job keeping an eye on this.

### Bill Gehr

Bill started his 50-year career in the RV industry when he



went to work for an Airstream dealership. After the gas shortages in the 1970s, Bill decided to start his own business and opened up Bill's RV Service in Ventura, California. After several years in business, he met Bob Livingston, and together they worked on hundreds of technical editorial projects at his shop while becoming great friends. Bill eventually joined Bob on the TV show "RVtoday," filming a number of hands-on projects. After retiring, Bill headed out full-time in his fifth wheel and toured 39 states while writing technical articles for *Trailer Life* and *MotorHome* magazines. He now is Technical Director for *RV Enthusiast*.

Are you stymied by a technical problem with your RV? Write to RV Enthusiast Technical Director Bill Gehr at [bgehr@rvemediagroup.com](mailto:bgehr@rvemediagroup.com). Bill will answer inquiries as space permits. **RVE**



# Fads Fade



*But Style is Eternal*

Rain 2 Shine Ventures owner Alice Zealy mounts picture frames along the upper wall of "Gidget," a Chevy conversion van she transformed recently into a moderately equipped — and wonderfully colorful — RV for the retired owners.

## *Alice Zealy channeled her sense of aesthetics and design into a growing RV renovation business — and shares many of the lessons she learned along the way*

By Bruce Hampson / Photos by Mary-Knox Zealy, When Life Knox LLC

If you've somehow missed it, RV interior design is all the rage these days. Virtually every major RV manufacturer has an interior designer or two on staff — and for those that don't, suppliers such as Lippert and Patrick Industries have founded design studios to assist builders in the fabrication of a more custom "look" to RV living quarters. These designers go to the same home shows, subscribe to the same magazines and speak to the same trend-setters and product suppliers as the people responsible for the extraordinary rooms photographed for the covers of those magazines.

Their task is at once both seemingly simple and arduous — identifying upcoming trends in brick-and-mortar homes and adapting them to a mobile lifestyle.

It's not easy to do when you're only

working with about 400 square feet of living space, but their limited success — underscored to an extent, perhaps, by the popularity of current "farmhouse" interiors which jettison "traditional" wood tones for light colors — is evident on every RV dealership lot across North America. "Residential style" has, in fits and starts, been a years-long cor-



*Painting an RV, said Zealy, "is nothing like painting a house. It's so much more work, and people don't realize that even though it's a small space, the amount of prep you have to do to ensure the paint will last is incredible. I usually put a week into just prepping an RV before we ever add color."*





*The work done to Alice's personal fifth wheel is representative of what she often encounters. The Holiday Rambler Presidential was taken down to bare studs before she began transforming it.*

nerstone of RV interior designers when choosing everything from colors and fabrics to backsplashes and faucets.

That said, there remain literally millions of outdated RVs traveling the highways — narrow cocoons of dark wood, dark carpeted flooring and sometimes aesthetically questionable accessories that embraced then-current trends which have weathered the years about as well as a leaking roof.

There's a reason for that: trends have an expiration date. The only problem is, no one knows when it is. Or, as Alice Zealy puts it, "fads fade — but style is eternal." And the "style" she's referring to can't be found on an assembly line. It's personal. And it's what attracted her to the RV lifestyle.

Like a lot of RVers, Zealy is painfully aware of the shortcomings of older RVs. She owns one, a 2003 Holiday

Rambler Presidential fifth wheel bought well-used and, at the time, unlivable.

"The guy that had it before me had started to 'renovate' it," she said, "but he really didn't know what he was doing. For instance, he started painting the cabinets, but hadn't sanded or primed them first — just threw paint up. They looked terrible and started peeling. So, I was basically starting from scratch."

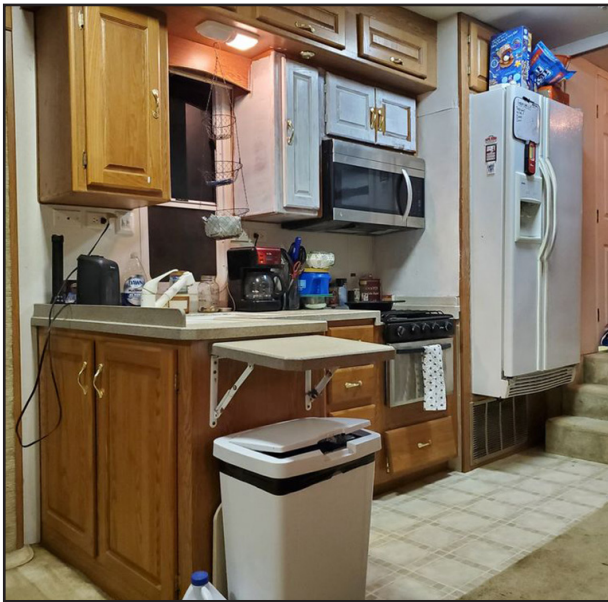
In this case, "starting from scratch" is an apt description. The North Carolina resident essentially gutted the fifth wheel down to the studs, retaining little of the original interior except the cabinets "because they were solid wood." Over the next few months, plans were laid and sandpaper, primer and paint was ordered in bulk. But she wasn't just renovating the Holiday Rambler — she was transforming it. And that took a lot more than discarding nearly two-decades-old carpeting and linoleum in favor of plank-style floors and tile, or new colors and backsplashes and window treatments.

For example, the entertainment center fitted into one small slideout was eliminated and the area turned into a nook for her two dogs, while the rear of the fifth wheel was recreated into a sitting room with much of the walls replaced with windows. And Zealy didn't just refinish the bathroom cabinets — she cut them down a bit for better aesthetics before adding a vessel sink, a new angled bathtub and,



*The "before" and "after" looks of Zealy's "Wander Woman" fifth wheel show the extent of the changes effected, from the rear "sitting room"-styled area to the huge farmhouse sink. Zealy also includes information — and links — to virtually everything she's done on her website, from paint to throw pillows.*





Looking in the other direction of Zealy's fifth wheel, the galley showcases not only her abilities but an innate sense of style.

finally, integrating the bath into the forward bedroom to create a true master suite. In the galley, the bottom cabinets were built out to accommodate a huge farmhouse sink, while the countertops were fitted with extensions to create a breakfast bar.

And everywhere, the predominantly white interior is splashed with blue accents and an eclectic array of wall

décor reflecting her personality.

Then, after moving the Holiday Rambler to a nearby Thousand Trails resort as her residence, Zealy did what most of us would do: she showcased her efforts on social media. And the feedback, she said, was "incredible." More to the point, viewers began asking her if she'd be interested in taking on their RVs, "and I said 'sure — why not?'"

It wasn't hard to find a location.

Zealy's partner, Eric Ellington, is a well-known builder of high-end street rods and customs in High Point, North Carolina, and his shop, Ellington Rod & Custom, had room for her new enterprise — Rain 2 Shine Ventures. But while the Internet is filled with people effecting homegrown RV renovations — with some, buoyed and infatuated by

## Paint & Prep



our conversations with Alice, she frequently made mention of RV renovations that didn't turn out well simply because not enough time was spent on the interior to get surfaces ready for a new look.

"This really is one area where you can't cut corners," she said. "Put some time and muscle into it — and wear a mask when sanding and gloves when using chemicals and paint."

Here, then,

are Alice's recommendations on surface preparation, paint and her tools of the trade:

- Remove all cabinet doors and drawers.
- Use a DA orbital sander with 220-

grit sandpaper to sand every inch of surface you intend to paint.

- Use TSP (Trisodium Phosphate) all-purpose heavy-duty cleaner mixed with warm water (per the instructions on the box) to wipe down with a wet sponge everything you sanded (and wear gloves).

- Go back over the same areas and wipe it down a second time with plain warm water and sponge.

- When painting, Alice recommends an industrial spray gun. She uses a Graco Magnum 262805 X7 Cart Airless Paint Sprayer to prime and paint, which offers adjustable spray speeds and pressure — but unless you're going to use it more than once a year, it's costly (about \$479 at home-improvement stores). Less-expensive options are available — and also consider renting the spray gun. And yes, you can also use a brush and roller — carefully, to prevent brush strokes remaining on the surface.

- If using a sprayer, cover all windows with kraft paper (or plastic) and Frog-Tape (multi-surface painter's tape, \$9.98 at Amazon). If using a roller, tape the window frames completely. "If you're not the best at taping, use a razor blade or X-acto knife to trim the

There is, said Zealy, no shortcut to paint prep — it's sanding and more sanding. She relies on DA orbital sander with 220-grit sandpaper and preps every inch of surface destined for paint.

There's an old adage known as the "6 P's" that are intended to remind people that proper planning is critical to success. We're going to alter it just a bit here: Proper Prep (and) Paint Prevents Poor Performance. During





Zealy's first commission was a typically dark 1999 Shasta Class C motorhome. While water damage extended the renovation, it also gave the interior designer more of a free rein — with anything but typical results.

the response, also hanging out shingles — Zealy brought a lot more to the table than an eye for aesthetics. She'd been interested in architecture from an early age and admitted that "When other girls were subscribing to *17 Magazine*, I was subscribing to *Architectural Digest*. I used to design my own floorplans and houses as a kid — and I still have some

of those designs tucked away." She attended "design camp" at North Carolina State University while in high school before attending the university. Back in Greensboro, North Carolina, she added more classes at University of North Carolina Greensboro in its interior design program.

For a time, Zealy put that education

and talent to work, renovating homes for her father's property management company, but when he passed away suddenly, the need for a paycheck pushed her in different directions for a number of years. Selling shoes, creating store window displays and designing custom jewelry — even jewelry included in gift bags handed out at



When she started, Zealy used an inexpensive \$70 paint gun — which kept clogging. Her first major purchase was Graco Magnum 262805 X7 Cart Airless Paint Sprayer. Depending upon the size of the task at hand, however, she still pulls out a paint roller on occasion.

tape to the exact edge of the window frame," she advised. Kraft paper, by the way, is a strong unbleached brown paper available at Amazon and home-im-

provement stores in a variety of widths and lengths.

- Apply primer.
- Wait 24 hours, then tape off the section you want to paint. "I typically do the walls first," she said, "so I tape off the ceiling and cabinets. If you're using a sprayer, you'll need to cover the ceiling 18 inches in from the wall(s) with kraft paper or plastic, and FrogTape — and if you aren't replacing the floor, be sure to cover it entirely and tape along the edges by the wall.

"If you're using a roller," she continued, "you will only need to tape off the ceiling — but I recommend taping 18 inches of kraft paper along the edges of the floor to catch any paint drips or splatter from the roller." A paint sprayer, she noted, will usually lay down the color in one coat; multiple coats are usually needed when using a roller.

- Remove the FrogTape immediately after finishing painting and let the area dry for a few days before taping off for the next location. Note: Paint typically takes up to 14 days to fully cure, so be careful to not scratch or bump it for two weeks.

- Repeat the process as the job requires until it's completed.

Oh, yeah — those cabinet doors and

drawers you removed? "I typically prime and paint them outside or in my shop, depending upon the weather," Alice said. "It's a good idea to use some sort of 'riser' to keep them off the ground while painting — red Solo cups work great!

"I also wait to reinstall the cabinet doors and drawers until the renovation is essentially finished," she added. "That prevents them from inadvertently getting banged up during the remodel. Just store them securely away someplace."

### Product Recommendations

Primer — Kilz Adhesion water-based for interior/exterior

Walls — Sherwin-Williams Superpaint Satin (an interior acrylic latex paint)

Cabinets — Sherwin-Williams ProClassic Semi-Gloss







*Changes to a client's "Maisie Moon" fifth wheel included a wealth of new furniture and accessories to play off of the much lighter interior. The angled entertainment center also was removed, adding to the spacious feel.*

the Emmys and the Golden Globes — wasn't the stuff of architectural dreams, so for Alice, Rain 2 Shine was, in a lot of ways, returning to her roots. To say she's made the most of it would be an understatement. Since establishing the company in January 2021, Rain 2 Shine has affected more than a dozen RV transformations. And while she didn't receive her first commission for three months, there's now a waiting list for her services. Not surprisingly, she's also added a pair of technicians and asked her sister, Mary-Knox Zealy, owner of When Life Knox, to join her.

While the company specializes in interior renovations, nothing is off the table. Zealy's first job, a 1999 Shasta Class C motorhome its owners had named "Stella," included repainting the exterior with a mountain range motif. Ironically, that first appointment was also her most extensive to date. While much of the effort went into completely customizing the motorhome — from scratch-built kitchen cabinetry to powder-coating the shower frame and having new glass cut for it — the job was all the more difficult when Zealy discovered extensive water damage. "We ended up completely rebuilding about three-fourths of their camper," she said. "But they wanted it built, and I think they'll hold onto it forever."

Among her other efforts:

- "Gidget" is a GMC conversion van owned by an elderly retired gentleman who, with his wife, enjoys attending music festivals. "They had just removed the back seat and installed a blow-up mattress," said Zealy. "But their dream was to have it turned into a real camper van."

As Zealy discovered, there's a difference between building a conversion van and updating an RV.

"With an RV, you already have the electrical and plumbing in place, you've got the walls and ceiling already in," she said. "We took this down to the bare shell, then had to design and route all the internal systems and put in the walls and ceiling and floor." Fortunately, Eric lent a hand on the plumbing ("I'm getting pretty good with electrical," Zealy added) and the conversion was made a bit simpler by the owner's requirements, which only included a bench, sink, cabinetry, microwave, a place to store a generator (under the

bed) and a flip-down TV.

"I picked out the paint color for him, and he loved it," Zealy said. "But I never told him about what I planned for the countertop — I cut the tile for a custom counter, cut the countertop and tiled the whole thing."

- "Maisie Moon" is a fifth wheel owned by full-timers with a 2-year-old (Maisie) and two dogs. Along with a host of furniture changes, new paint and cabinetry hardware — which goes a long way to changing the appearance in an RV all by itself — Zealy and her crew replaced all carpeting with linoleum and tile. Two changes stand out: the cabinets forward of the refrigerator

## The Most Bang for Your Buck

*As Alice Zealy pointed out, RVs are a lot like brick-and-mortar homes in that a limited budget doesn't necessarily translate into settling for much less than you want in a renovation — all that really changes is where to focus your efforts. While most people understand that limited funds are best spent on kitchens and bathrooms in a traditional home, there's only so much you can do with an RV galley or "throne room." Instead, she made the following recommendations, in this order:*

### Top 5 Recommended Changes

*1—PAINT (yes, it's intentionally capitalized — it's that important)*

- 2—Flooring*
- 3—Countertops*
- 4—Backsplash*
- 5—Window Treatments*

*"Lighting is an easy and somewhat inexpensive way to update your RV," she told RV Enthusiast. "You can use any kind of lighting (RV or residential) as long as it will take a 12-volt bulb. You can buy 6-packs of 12-volt bulbs on Amazon in different color spectrums, from warm white to daylight. Make sure, though, that you check the measurements before you buy a new fixture so it covers any holes when removing the old lighting," she added.*

*For anyone on a budget, Zealy recommends making a list of priorities — and start with the top two. "You can take it from there — adding a backsplash, replacing a sink — but I always tell people, 'knock out the two biggest jobs first and go from there.'"*





Alice found a ready location for her new enterprise using space at High Point, North Carolina-based Ellington Rod & Custom owned by her partner, Eric Ellington.

were removed and the walls restored, which truly open up the space, and the bathroom earned a new sink, wallpaper and lighting.

"It actually looks more involved than it was," Zealy said. "We didn't really 'move' anything, other than just a bit with the sink for the new faucet. We also removed the original shower liner and rebuilt it as we would a residential shower. The panels are huge and look great — I was a little leery of them at first, but they worked out really well and went a lot easier than most of my tile jobs."

By the way: another refreshing aspect of Zealy's designwork is her willingness to share what she's done. Visitors to the company's website — [rain2shineventures.com](http://rain2shineventures.com) — will not only see before-and-after photos of a number of RVs transformed by the company, but Zealy also includes information on virtually everything used to transform the rig. Want to know what brand and color of paint she used for the kitchen and bathroom cabinets in Maisie Moon? Wonder where she acquired the Boho braided pillow cover or the curtains seen in the bedroom of Stella? It's all there — with links that take you directly to the supplier.

While Zealy likes to start with a "blank canvas" — an unmolested RV — it's not unusual for her to be approached by someone who attempted the job first only to discover they are in over their

heads.

"The No. 1 complaint I hear of or see on the different social media sites is about paint," she said. "They'll say 'we're four weeks in and I'm crying every day.' It's a huge job — the biggest part of a renovation that we do."

A paint job, she noted, can usually take between two and three weeks when including the requisite sanding and taping. "Prep, by itself, usually takes me an entire week," she pointed out.

Not surprisingly, prep and paint also tend to account for the lion's share of the cost of a Rain 2 Shine renovation, which begin with far-reaching discussions between Zealy and the client.

"When I sit down with a customer, one of the first things I ask is if there's anything they've seen in photos that they like, whether it's on Pinterest or Google or any other site. I ask them to send them to me so I know what their style is," she said. "I want to be sure what we do is functional for their needs and their lifestyle. You have to find a balance between being aesthetically pleasing and functionality."

And, while Zealy will give a prospective client an estimate for labor, she doesn't give estimates on materials.

"Prices fluctuate, sometimes from one day to the next," she said. "But I always give them three options; more than three can be overwhelming. So whether it's paint or a light fixture or a

sink, I pick what I think will fit the 'look' and then they can choose what they like and what they want to spend."

Costs can also vary with the intricacy of the transformation, she added. "Do they want the ceiling one color, and their walls another? Some people also want their upper cabinets a different color than the bottom cabinets. If you're taping off four or five different times, it's time-consuming and labor-intensive."

And, because transforming an RV into a "personal space" often means changing the actual floorplan — from turning a bedroom into an office or moving the bathroom to the other side of the camper — there's a cost involved in that, as well, especially if it requires modifying the electrical and/or plumbing systems.

At the end of the day, though, it all comes down to style. "The No. 1 reason people want to have their RV renovated is, they want it to feel like home," said Alice Zealy. "They don't want it to feel like a camper. And to be a home, it has to reflect who they are."

## Source:

**Rain 2 Shine Ventures**

(336) 754-9567

[rain2shineventures.com](http://rain2shineventures.com)



# Graphic Attack



When RV Enthusiast visited the BGS facility in Elkhart, Indiana, installation specialists were putting the finishing touches on a host of Forest River products wrapped in various themes for a company-wide Halloween event. The printing capabilities of BGS are amazing, as is the fine detail of finished vinyl.

While Alice Zealy's recommendations will go far to helping anyone get off the bench and begin to tackle that long-considered interior renovation — or she will work with you to make those dreams a reality — it still doesn't solve one big problem for RVers: the exterior.

Exteriors present sometimes seemingly insurmountable hurdles to restoring an RV's former appearance. When you consider the harsh environment the outside of your RV is forced to endure, it's understandable — and we haven't even touched on the toll taken on exteriors by everything from bug splatter to road debris.

Unfortunately, you can't just restore an exterior in phases unless you want to stand out in the campground for



Old, weathered graphics can't be brought back from the grave — but BGS now makes it possible to acquire new vinyl for out-of-production RVs.

all the wrong reasons. If the weathering isn't extreme, exterior surfaces can sometimes be restored by anyone knowledgeable about cleaners, cutting compounds and waxes — but even then, the original factory graphics usually can't be brought back from the grave. That's when RV owners usually discover that their dealership — and their manufacturer — don't normally stock older replacements.

But Burlington Graphic Systems (BGS) does. In a manner of speaking, anyway. The premier supplier of graphics to the RV industry, the Racine, Wisconsin-based supplier has archived all of the graphics it has designed for use by RV manufacturers and recently opted to offer its services — including wraps and replacement graphics — to the public.

"We've been in business almost 40 years, and I could get you designs dating back 40 years ago," said Doug Graham Jr., BGS vice president and general manager of the company's Elkhart, Indiana, facility. "Our library of designs and parts and shapes and sizes for the RV and marine industries is extremely large. There's a good possibility that for any retail consumer who calls, we have what they need. We will have instant access to that design."

Further to that, BGS is also making its team of expert installers and designers available for RV owners who want either partial or full wraps in-

stead of attempting to restore the original exterior appearance. "The world of vinyl is growing tremendously," Graham added. "The technology's gotten incredible — to where it truly can take the place of paint, in most instances. In fact, in some cases it provides superior protection to paint. And with the surge in the RV market of painted towables and motorhomes, there's really not enough capacity to get RVs painted. That's why we started looking at pre-

sending wrap designs and graphics to the market — and with our ability to design, print and now install the product, we've opened this up to consumers who want their vehicle wrapped."

Customers also can work with BGS designers to update or personalize existing graphics, along with selecting a color change or even creating a custom design. "You can freshen up the entire look of an RV just by wrapping the front cap," Graham said. "Typically, that's where RVs suffer the most damage — and it can be difficult to get paint repaired out in the field. But beyond that, maybe someone bought a new tow vehicle and they have a blue graphic on their coach that doesn't match their new truck. In less than a day, they can refresh the entire look of the coach and match it to whatever they might be towing it with."

Interested in wrapping your RV, or needing replacement or new graphics? Contact:

**Burlington Graphic Systems**  
[burlingtongraphics.com](http://burlingtongraphics.com)

**Ellen Damron**  
 (262) 554-8808  
[Ellen.damron@bgsink.com](mailto:Ellen.damron@bgsink.com)

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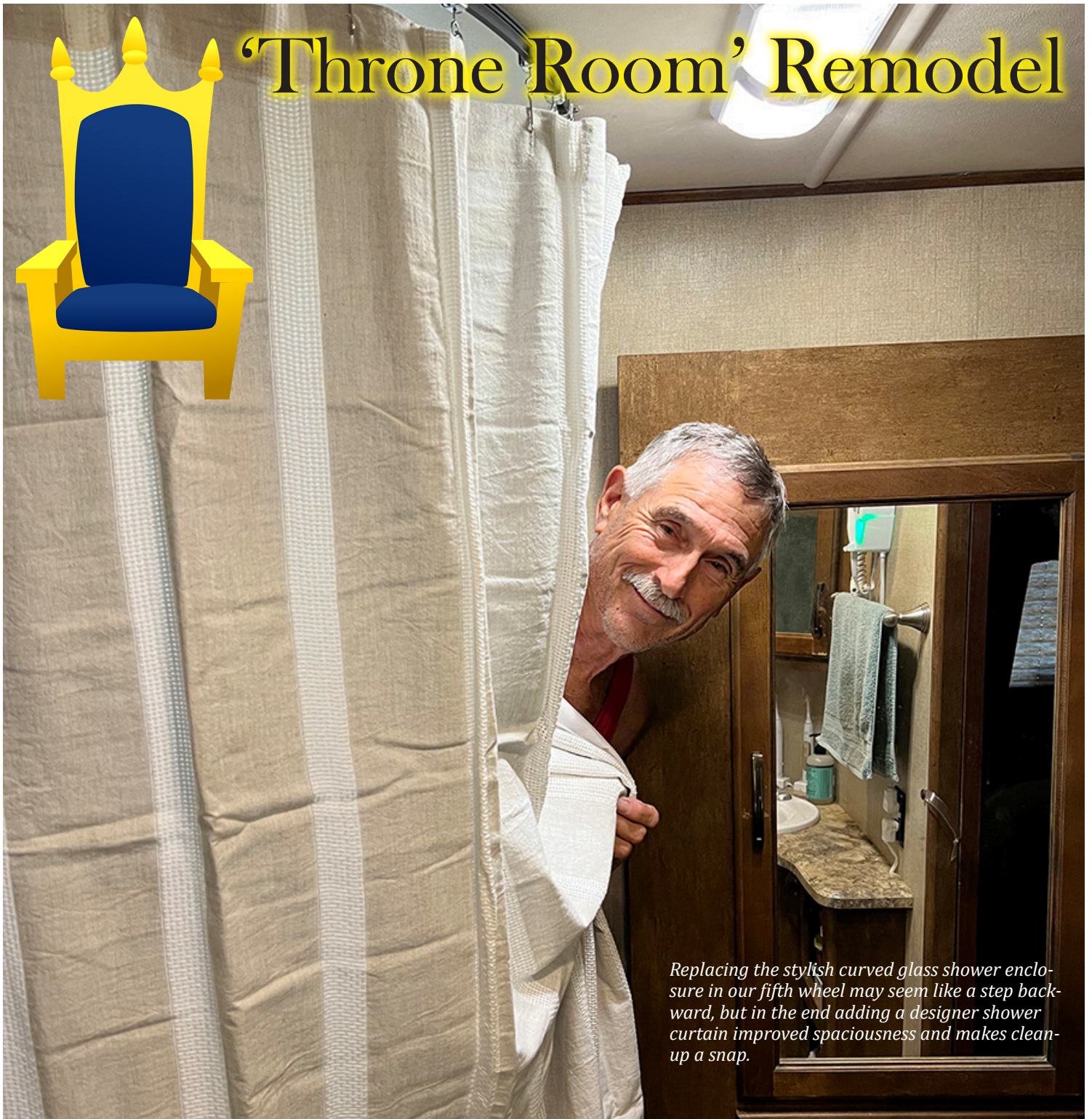
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# 'Throne Room' Remodel



*Replacing the stylish curved glass shower enclosure in our fifth wheel may seem like a step backward, but in the end adding a designer shower curtain improved spaciousness and makes clean-up a snap.*

*Personalizing an RV is a big part of ownership. After years of full-time living, renovating the shower stall was the impetus for moving forward with a larger weekend project that reaped big rewards.*

By Bob Livingston / Photos by the author

**R**V renovation is all the rage these days and many people are transforming older rigs, looking to restore or upgrade the vintage experience — but it's not just about older rigs. There are two ways to look at RV

renovation: re-working the interior or a portion thereof for a new look or making changes to improve livability and function. That old adage about putting money into the kitchen and bathroom of a brick-and-mortar home to reap the best

bang for the bucks holds just as true for mobile living. In my case, the bathroom in the fifth wheel my wife, Lynne, and I live in full time just wasn't cutting it any longer — and it was difficult to clean and maintain. It was time for a make-





*While the original toilet in our fifth wheel was swapped within days for a Dometic 320, we elected to replace that worn “throne” with a Thetford Aria Deluxe II for its forceful — and complete — flushing cycles.*

over to improve function — and the new look and feel were just icing on the cake.

Initially, the main target was the curvy garden-type shower stall with glass doors. This type of shower stall is stylish, but cleaning is a nightmare. Copious amounts of crud built up around and under the shower-door track and its wheels barely moved because of corrosion from hard water. We cleaned the bottom portion of the enclosure regularly but doing so required back-breaking scrubbing while getting into all the nooks and crannies around the wheels and track; a thorough cleaning was almost impossible. The decision was made to chuck the original enclosure and replace it with a shower curtain.

Making matters worse were the cracks in the shower pan that had developed over the years and slowly began allowing water to leak into the basement. Left unchecked, this would lead to dry rot and its collateral damage to the structure. Rather than searching for a new shower pan — which was difficult to find during supply chain shortages and required removal of the shower stall wall panels to replace — we opted to seal the pan with Flex Seal, a relatively new product that we wanted to try.

We’d also grown tired of replacing the valve seal in the toilet, which had a propensity to leak after a few months

of service. To be fair, the water, even though filtered, is horrible where we winter in the desert, which contributed heavily to the valve seal’s early demise. We liked the Dometic 320 toilet for the most part — especially the size and comfort of the residential-type seat — but under full-time service it was getting a little long in the tooth. It was replaced with a Thetford Aria Deluxe II, which operates on 12-volt DC power and provides a prodigious flush.

Earlier, we added a Moen faucet for the sink specifically designed to replace the plastic model that came from the factory. To wrap up this project, we cleaned up the wiring for the wall-hung hair dryer and electric toothbrushes that were on the countertop, which was not only ugly but also a “magnet” for dirt.

Overall, we couldn’t be happier with the results. While installing a shower curtain may seem old school, the entire bathroom took on a different look, visually and physically — and we were the beneficiaries of a few unexpected benefits. The entire project was do-it-yourself friendly; here’s how it went.



*While we were at it, we cleaned up the wiring near the sink countertop. It looked nasty and was a dirt magnet.*



# Curtain Call



*Although the bathroom was quite compact, the Dometic 320 toilet and original shower stall seemed to co-exist in the limited footprint. The new shower curtain actually extends a little closer to the new Thetford Aria Deluxe II toilet (which was next on our “to-do” list), but when it’s pulled open there’s much more elbowroom.*

*Removing the curved glass shower enclosure may seem like a step backward, but in the end adding a designer shower curtain improved spaciousness — and makes clean-up a snap.*

**G**arden-type showers really spiff up any bathroom, adding an element of luxury to an otherwise nondescript room in an RV (unless, of course, you have a high-end rig). The curved doors provide additional elbowroom and keep stray water from the showerhead and splashing off your body under control. While everything seemed copasetic, cleaning was difficult, the door track wheels were sticking and the ugly build-up of crud that was impossible to reach grated on my psyche. Still, I was almost traumatized with the thought of yanking out the shower-door panels and replacing them with a shower curtain. How uncool to go

back to a shower curtain, right?

It was a great decision.

Complicating the project were the cracks that developed over the years (my rig is a 2015 model) in the shower pan through which water was leaking into the storage compartment and on the ground. Leaking water is evil, leading to expensive damage via rotting wood if not dealt with.

An extensive search for a new shower pan with the identical dimensions was complicated by supply chain problems at the time. Additionally, proper fit was not guaranteed — and we were not excited about removing the faucet/diverter, drain and wall panels to

gain access to the shower pan. However, simply fixing cracks on a surface that were in constant flux from people moving in the shower would be only temporary, if not futile. Our solution was to cover the pan with a rubberized product, which we only speculated at the time would work.

I’m not a big fan of “as seen on TV” products, tagging most as novelty items, but Flex Seal caught my eye. What the heck, if a guy can patch the bottom of a boat with this stuff and float on water without sinking, there should be some validity to the company’s claim. Flex Seal is available as a tape, adhesive glue, Flex Shot (an aero-





*The original garden-type shower stall was stylish, but under the mounting track lurked dirt and grime, which was hard to clean. Over time, the doors were hard to slide open because of the corrosion that built up on the wheels.*

sol-propelled sealant), paste, liquid and even super glue. We bought a quart of Flex Seal Liquid Rubber Sealant Coating (the liquid version of the product) for \$34.98 on Amazon and a couple of throw-away paint brushes at the local home improvement store and figured we'd give it a shot.

After measuring the glass door enclosure, we wrestled with a method of hanging a shower-curtain rod. Technical Editor Bill Gehr began his career as an RV technician working on Airstream trailers and he remembered how well a curtain track mounted to the ceiling worked. Searching the Internet revealed a lot of inferior products, and this fifth wheel is lived in full time, so better quality components are critical. We stumbled on [curtain-tracks.com](http://curtain-tracks.com), a company that specializes in drapery- and curtain-track systems, and found various lengths of aluminum track that could be bent by hand to the same curvature as the original enclosure. Bingo.

Installing the I-beam curtain track was simple once it was cut to size; we purchased an 8-foot length (RECMAR 4108 Bendable I-Beam Curtain Track, \$20.75). One side was attached to the wall near the termination point for the left wall panel and secured with a ceiling bracket (RECMAR 4126; \$12.75 for 10) while the other side was bent free-hand to attach to the end point of the other wall panel. We actually moved the track out a bit from the original pathway of the glass enclosure to provide a little

extra space for the new shower curtain. Stainless-steel screws for mounting the brackets were purchased at a local hardware store.

Before permanently attaching the ceiling track, 12 metal block carriers with nylon wheels; (6018 Metal Block Carriers; \$32.20) were slid onto the track. Most standard 72-inch by 72-inch shower curtains and waterproof liners require 12 hooks (RECMAR 7142 stainless steel curtain hooks; 14 for \$7.70), so we ended up with two extra hooks. The price for all the parts came to \$73.40, but the shipping/handling was \$43.15 because the one-piece length of curtain track required special packaging. The quality of the parts is superb, and the customer service is exemplary.

Once the shower curtain and liner were hung onto the flush-mounted I-beam track attached to the ceiling, any light from the adjacent LED fixture outside the stall was blocked — the previous enclosure left a big enough gap for enough light to filter into the shower stall. Even though a skylight provides decent lighting during the day, a new light fixture was necessary. We found a waterproof LED porch light on Amazon for \$26.29 ("Partsam 2-Pcs 8-inch 12V RV LED Porch Awning Light") that tucked in nicely on the recessed skylight trim. Installing required tapping into the nearby LED fixture on the ceiling after drilling a hole in the trim and snaking new wires into position for connecting to the existing 12-volt DC power. The new 30-LED fixture provided plenty of light inside the shower stall and looked as if it was made for this purpose.

The final phase of this project took some head scratching. We were not familiar with Flex Seal, other than what we have seen on TV, and we had no idea how the thick rubberized liquid was going to react. After sealing the cracks by drilling holes at each end to stop the spread, the area was sealed with hot glue and allowed to dry. The thought was that the hot glue would keep the crack under control when the pan flexes. From here, the pan was masked with painter's tape and the drain covered before roughing up the surface with sandpaper and cleaning with alcohol.

The white-color Flex Seal was poured onto the shower pan directly from the can and spread with the throwaway brushes; there was just enough to provide a thick layer on the entire shower pan. At first, the liquid seemed to be self-leveling, but as it took on a life of its own there were a few ripples in the surface, which were puzzling. The masking

tape was removed after the material skinned over to make sure it would lift off (allowing the rubber material to dry over the tape would require cutting it off with a sharp blade and even then, remnant pieces of tape would be hard to trim). The Flex Seal was allowed to dry for more than 48 hours before the rubber material formed a strong bond on the shower pan. Most of the surface ended up being smooth, leaving only a few imperfections that we could live with.

Finally, a foot-scrubbing mat, bought at Bed, Bath and Beyond, was cut down to fit the pan without overlapping the sides. There are several mats on the market, but we liked the idea of messaging our feet, while getting them clean with less effort, so the scrubbing feature was appealing and worked like a champ.

It's hard to predict whether any project will meet expectations, especially if it requires a teardown that will be expensive to fix if things go sideways. In this case, the shower renovation improved usability while adding visual and physical spaciousness, especially when the shower curtain is left open. There's now more room in the shower, the pan is now very comfortable on our feet — and it's eerily silent when running water from the showerhead since the noise is no longer bouncing off a glass enclosure. More to the point, cleaning is now a snap — and we love the simplicity of a shower curtain, which can be changed on a whim when new décor is desired.



*Once we removed the glass panels and doors, the extra spaciousness in the bathroom was evident.*





**1a** **1b**  
 Cleaning the tight spaces around the original shower enclosure was always difficult. The build-up of crud stuck like “glue” in the shower door track and on the pan itself. Here, the crud was allowed to build up longer than desired for illustration purposes, but even smaller amounts required scraping. It was impossible to clean properly, especially around the wheels where corrosion was most problematic.



**2a** **2b**  
 Before the old shower enclosure was removed, measurements were taken for the new shower curtain track.



**3**  
 There were only a few screws holding the shower enclosure frame in place, which were removed without resistance.

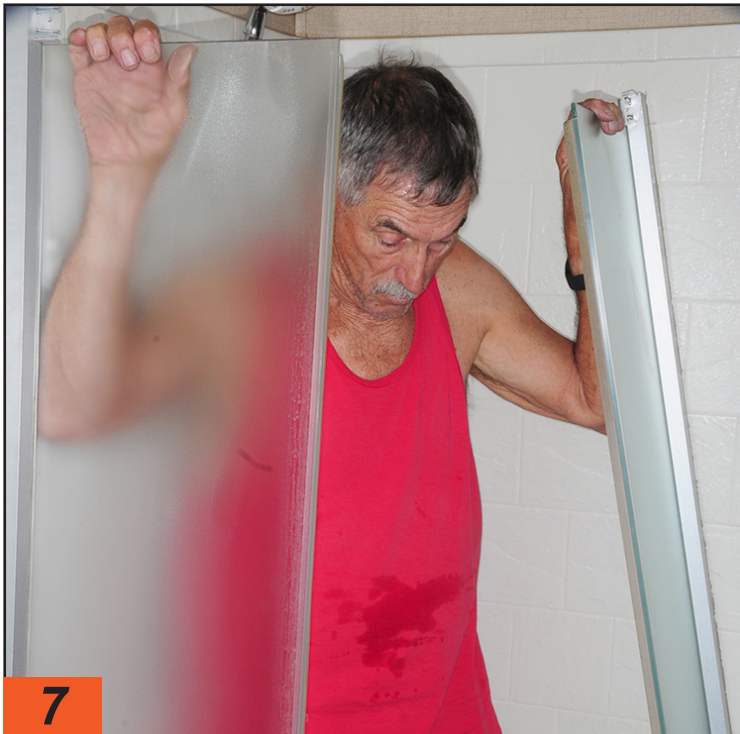
**4**  
 Once the screws were removed, the panels popped out easily. Fortunately, the panels came out in big sections.





**5**

The top rail popped right off with little effort. A second person was needed to guide the panels out of the stall.

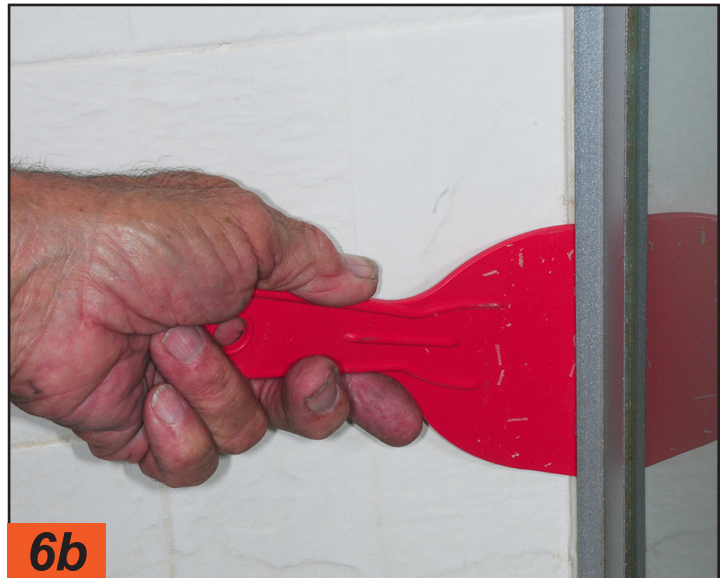


**7**

Once the support frame was released, the remaining panels were removed from the stall and sent to the dumpster.



**6a**



**6b**

It took a little prodding to convince the frame against the shower stall panels to break loose. A metal putty knife worked great, but a plastic tool will prevent scratching if you're not proficient with this type of process.



**8a**



**8b**

Removing the original enclosure revealed dirt and grime that was not accessible without lifting the frame off the pan, which was not practical. The grime that had built up on the pan was difficult to clean off. We used Oil Eater Cleaner Degreaser, which broke up most of the caked-on crud, while metal and plastic putty knives were used to scrap off the grime that had hardened over time. We also removed the remnant bead of silicone, which didn't do a good job of prevent moisture from finding its way under the frame.





9

After removing the bulk of the buildup of crud on the pan, a Dremel Versa power cleaning tool and Lime-A-Way were used to finish the job. Finally, the pan was sanitized with Lysol Pro All Purpose Cleaner.



10

The 8-foot length RECMAR Bendable I-Beam Curtain Track was cut to size with a hack saw. This aluminum material is easy to cut, but remember, measure twice and cut once.



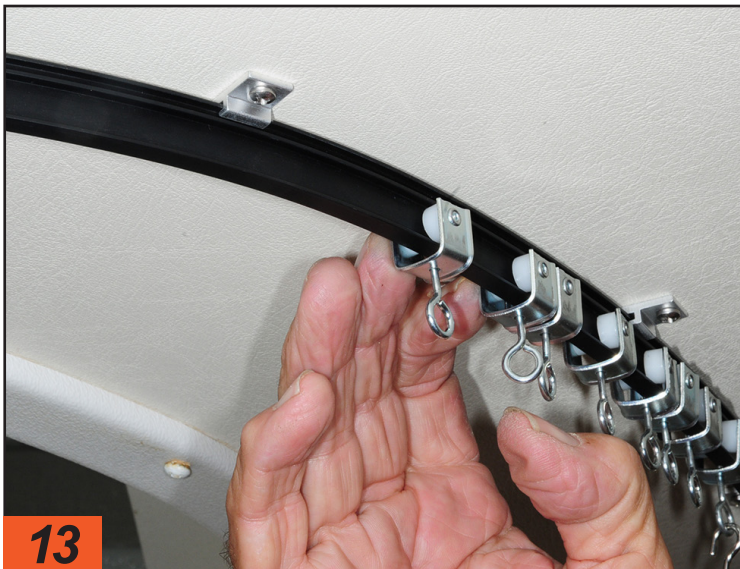
11

After cutting the I-beam track to size, the ends were filed to remove any sharp edges and/or burrs.



12

Bending the I-beam track into position was pretty simple. The one end was first attached to the wall, adjacent to the shower stall wall panel, with one of the ceiling brackets. A curvature was formed while locating the other end for mounting on the other wall. You only get one shot at bending, so go slow.



13

Before the I-beam was permanently attached to the wall, 12 metal block carriers were slid on to the track. These carriers have nylon wheels, which make for a very smooth operation. All the track components were purchased from [curtain-tracks.com](http://curtain-tracks.com).





**14a**



**14b**

*Stainless steel hooks were attached to the carriers. The hooks go through the holes in the shower curtain and waterproof liner. Most standard-size, 72- x 72-inch shower curtains and liners have 12 holes. The standard size shower curtain and liner fit perfectly.*



**15**

*Since the light from an adjacent LED fixture was obstructed by the shower curtain (which is attached near the ceiling), the decision was made to mount another light in the shower stall. The nearby existing fixture was removed to access the 12-volt DC power leads.*



**16**

*A waterproof LED porch light was found on Amazon for \$26.29 ("Partsam 2-Pcs 8-inch 12V RV LED Porch Awning Light") that fit perfectly in the skylight trim.*



**17a**



**17b**

*A hole was drilled, using an extra-long bit, through the skylight trim to reach the 12-volt DC leads at the LED fixture. A length of two wires was routed through the hole with a metal snake and connected to the leads for the existing light fixture. Butt connectors secured the wires.*





**18**

The new LED "porch light" was a perfect fit on the skylight trim, looking as if it was made for this purpose. This fixture is waterproof and the 30 LEDs project a ton of light inside the shower stall.



**19a**

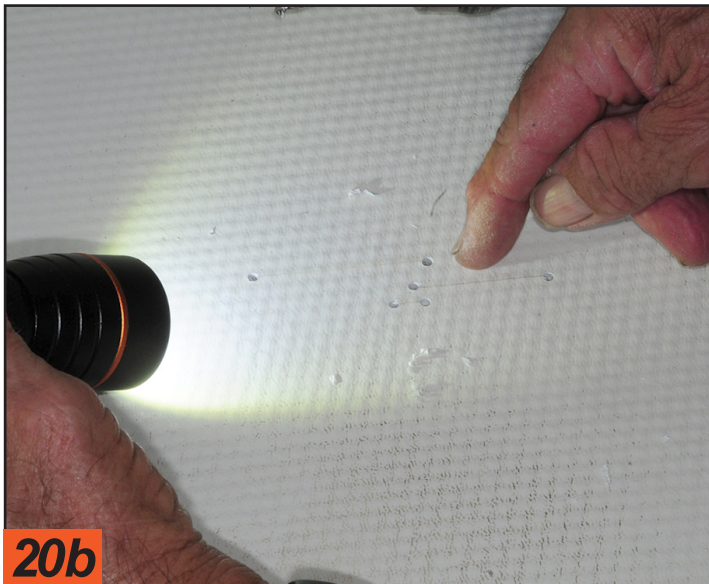


**20a**



**19b**

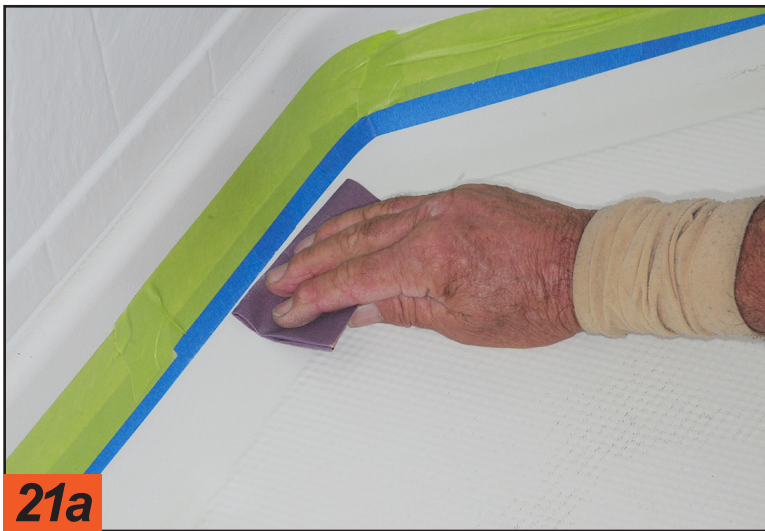
Getting the shower pan ready for the coating of Flex Seal took quite a bit of time. A natural ridge in the pan looked like the perfect place for the liquid rubber to settle, so the upper sections were protected with masking tape used for painting. It was imperative that the shower pan drain be protected and not filled with rubber. Extra layers of masking tape were cut into position with a razor knife.



**20b**

Over the years, the shower pan had developed hairline cracks that eventually widened and allowed water to leak into the under-floor structure. Allowing water to leak will lead to dry rot and structural damage. Before coating the pan with the Flex Seal, holes were drilled at both ends of each crack and filled with hot glue. The idea was that the glue would help prevent the cracks from opening as the pan flexes.





**21a**



**21b**

The last step in the preparation process was to rough up the pan surface with a fine grit sandpaper or pad and wipe off any residue with alcohol.



**22**

We guessed that one quart of the Flex Seal rubberized liquid would do the trick, and, fortunately, was just enough. Before pouring onto the pan surface, the liquid was mixed thoroughly.



**23a**



**24**

It took more than 48 hours for the Flex Seal to completely dry and once it did, there were a few ripples that had popped up for no particular reason. In the end, we were pleased with the results and any inconsistencies in the finish were minor.



**23b**

After pouring the Flex Seal liquid on the pan, throwaway paint brushes were used to direct the material for complete coverage. The liquid seemed to be self-leveling, which made it less difficult to distribute the material evenly.





25

All the masking tape was removed once the Flex Seal skinned over, otherwise it would be permanently "sealed" and require precise trimming. Fortunately, we thought of that in advance.



27

Once the masking tape was removed from the drain, the edges were sealed with silicone. **RVE**



26a



26b

Figuring the new rubber surface might be on the slick side while in the shower, we opted for a foot-scrubbing bathmat, which was purchased at a local Bed, Bath and Beyond store. It was cut to fit the odd shape of the pan. While mat type is a personal decision, we found the foot-scrubbing feature to feel good on our feet and offer additional cleaning without bending over.



# Royal Flush



*When it comes to toilets, Thetford's Aria Deluxe II with an electrically powered flushing mechanism raises the bar a big notch.*

No RV can be considered self-contained without a bathroom — and, of course, a toilet. Unless you're into potty humor, a toilet is one of those "things" that most owners take for granted; they only serve one purpose and are usually not top of mind until they break. The trend is to have a toilet that emulates those found in stationary homes, with preferences for porcelain and residential-type seats. These days, there are myriad toilets on the market for RVs, including those with electric-and/or vacuum-flushing mechanisms and Americans with Disabilities Act (ADA) height compliance. For the most part, the majority of RV toilets have

foot pedals for flushing and are made of plastic or porcelain. Nothing terribly exotic.

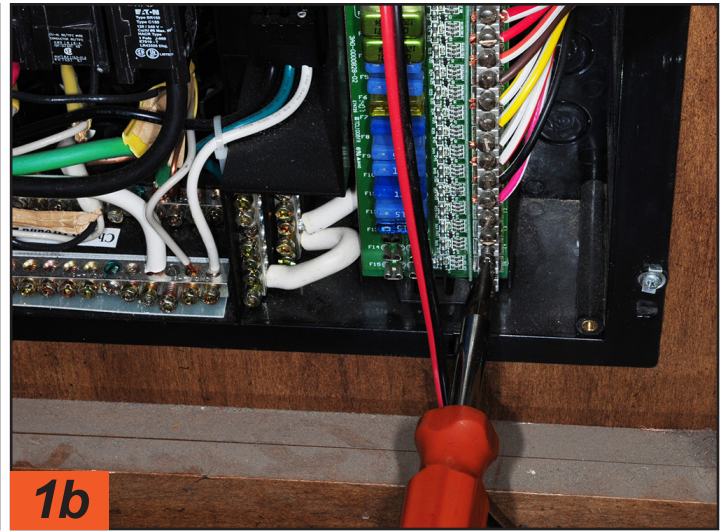
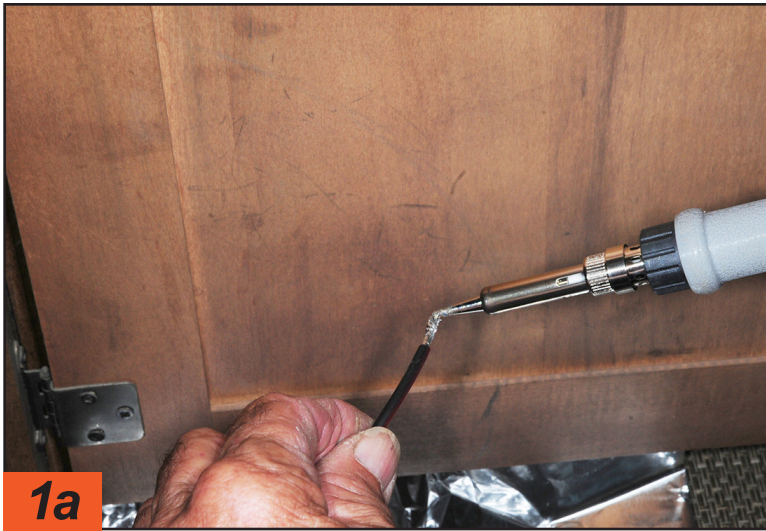
We first installed a Dometic 320 in our fifth wheel only days after delivery, replacing a smaller model that was less comfortable. It's a good toilet, albeit the flushing stream a little anemic, but that wood seat was a game changer. While it provided decent service, full-time use pushed its limits, especially when it came to valve seal integrity. It was time for an upgrade.

We chose the Thetford Aria Deluxe II for its forceful — and complete — flushing cycles and because pushing a button has a certain appeal for those who

enjoy automatic features and, frankly, like pushing buttons. The company's big selling point is the ability to push the button and walk away, allowing the mechanism to complete the flushing cycle. And it works fabulously.

Thetford's Aria was mounted in the same space formerly occupied by the Dometic 320, using the standard 11 inches on-center dimension to assure it will fit over the hole in the floor and clear a back wall. The high-profile model (which was ordered in white) perched 17 ½ inches from the floor to the toilet seat for a comfortable seating position and easily cleared the sidewall. It sits on the existing closet flange as long as





**1a** A length of black and red primary wire was located in our parts box for connecting the Aria toilet to 12-volt DC power. The ends were tinned with solder to make them rigid enough to fit into the distribution panel. The power wires were connected to an open, fused location in the power distribution panel on the other side of the bathroom wall.

there is a provided 7/16-inch clearance from the floor. In this case, the toilet did not bolt to the slots in the flange, instead requiring that lag bolts are driven into the wood floor — a much better way to go.

Obviously, the installation process is more complicated than simply replacing one toilet with a similar product because 12-volt DC power must be routed to the back of the Thetford toilet and plumbing modifications are necessary (there's no such thing as a universal installation). The procedure is not difficult, but it does take a little time to sort out the installation instructions.

The first step was to figure out a source for 12-volt DC power, which is needed to operate the flushing mechanism. Fortunately, the rig's power distribution panel was on the other side the bathroom wall near the toilet location. A hole was drilled through the wall and wires snaked to the distribution box where they were connected to an open, fused 12-volt DC circuit. Before the toilet was installed, a new harness was connected to the existing wires in the back of the toilet using a two-prong connector.

While the toilet was propped up on the tow vehicle tailgate for wiring and plumbing, we oriented ourselves with the controls/override integrated into the back of the housing. An included manual override valve can be used to flush the toilet in the event of a power outage, but it takes some alacrity to get your hand in there to turn the knob once it's installed. Nevertheless, it's there and will get you out of a jam, if necessary. The other control allows you to switch from automatic flush — with a previously set level of water usage when hookups are available — to one

that lets you control the amount of water manually when in a primitive environment.

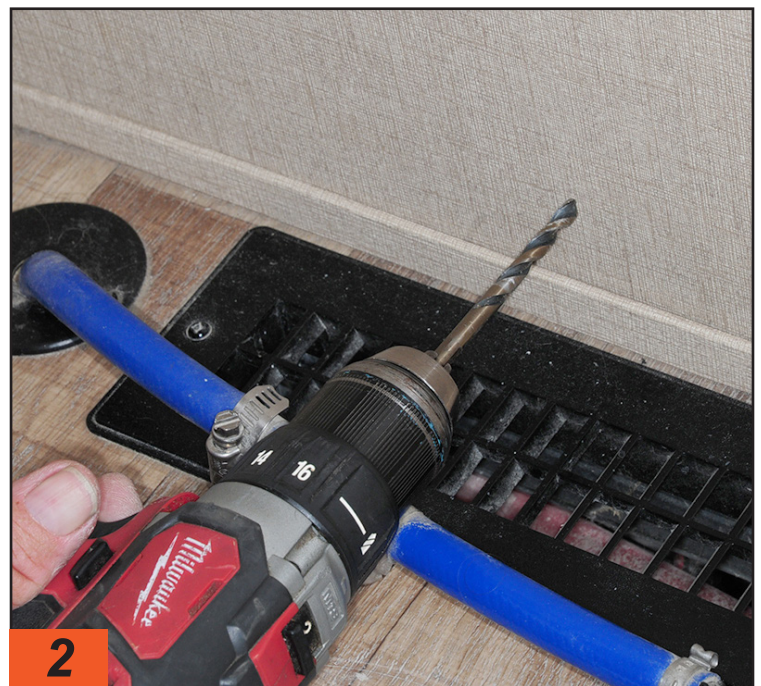
The next step was mounting the toilet to the floor. Once the toilet was centered over the closet flange and the seal was in place, pilot holes were drilled and the bolts driven into the floor. Mounting the toilet directly to the floor provided much more support than bolting to the slots in the flange collar (which had a tendency to break over time under the weight of a heavier toilet).

Configuring the plumbing took some planning, but in the end, we employed Watts AquaLock Push-to-Connect fittings ([watts.com](http://watts.com)) and a few inches of Pex tubing to make the connection. A barb-to-Pex adapter was hose-clamped to the existing water pipe to attach the fittings. Make sure you use high-quality, wide hose clamps — otherwise the connection will likely leak.

Some owners might consider the electric-flush mechanism to be somewhat of a novelty, but a controlled amount of water through the flushing cycle keeps the bowl cleaner with less risk of getting paper caught in the valve seal.

It's all about timing; there's just the right amount of pulsating water to move the contents through the valve before it closes. Manual operation via a foot pedal, for example, requires the user leave the water running long enough, which can be problematic when guests not familiar with RV toilets use the facilities. Also, kids tend to close a manual valve too soon.

Water can be added to the bowl, when necessary, by pushing the smaller of the two buttons on the left side of the toilet. Be prepared to use more water when flushing in residential mode. This is not a problem when hooked up and, as a matter of fact, the extra amount of water assures that the holding tank contents will be diluted enough to help



**2** A hole was drilled through the wall behind the toilet location to allow for the power wires to be snaked to the distribution panel.



with a more forceful flow when dumping. This will help prevent the dreaded build-up when not enough water is used during traditional, foot-pedal flushing. Consequently, the time it takes to flush the holding tank was reduced substan-

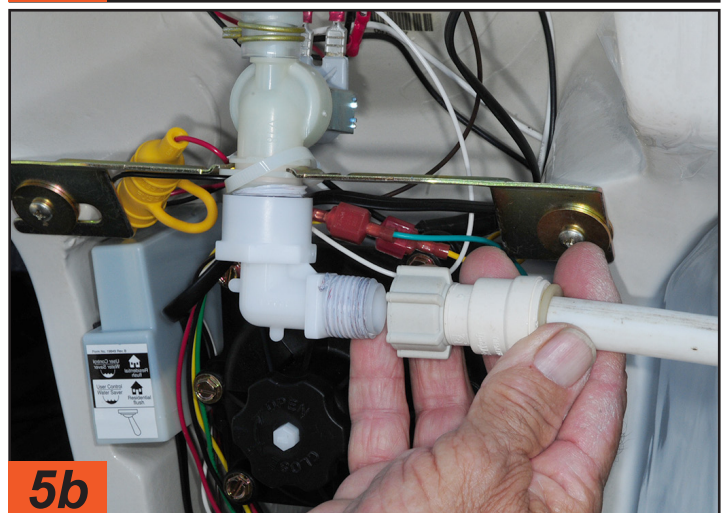
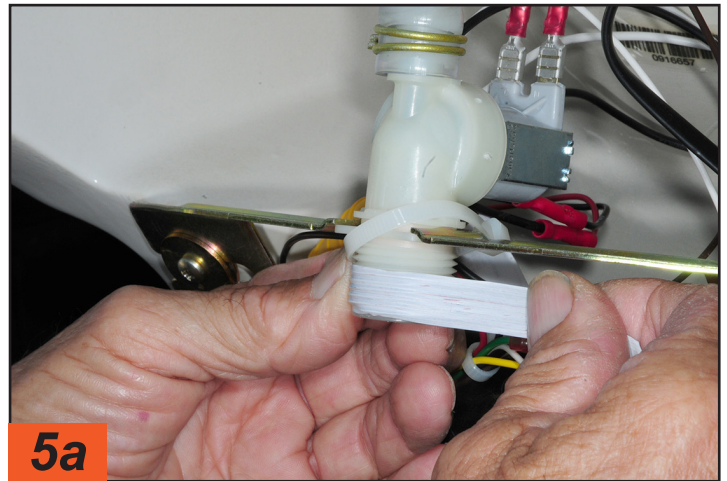
tially — a nice side benefit of having controlled water flow during flushing. There's little doubt the Thetford Aria is worth the money (\$670-750 street prices). It takes a little time to get used to the sound of the "flushing monster"

when the mechanism is activated, but that's part of the interaction of the gurgling water and motor noise when the valve opens and closed.

It's hard to believe that flushing a toilet could be this much fun.



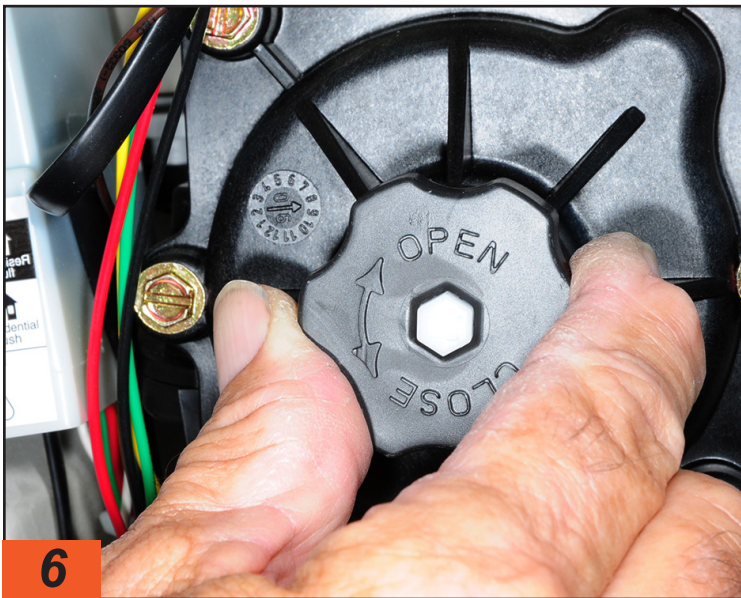
*The existing plug on the end of the power leads in back of the toilet was cut to make way for the two-prong connector we located in our spare parts box. The toilet did not come with a wiring pigtail. The other end of the connector was attached to the wires leading to the distribution panel.*



*Hooking up the water source to the Aria toilet takes some planning because there is no such thing as a universal fit. The toilet was set on the tow vehicle tailgate and a box of fittings was dumped out to find the right ones for the job.*

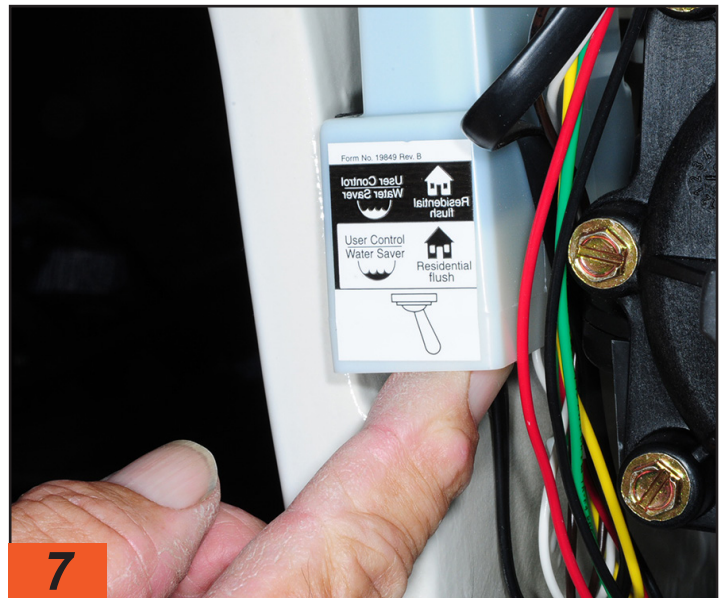
*The water inlet threads on the toilet were wrapped with Teflon tape before the AquaLock fitting was installed. Using Push-To-Connect fittings makes the job much easier.*





**6**

A knob on the backside of the toilet can be turned to open or close the toilet valve manually, should power be lost. Access to this knob is restricted once the toilet is mounted, but you can still get your hand on the knob.



**7**

When in the residential mode, the toilet flushes with a prescribed amount of water, which is fine when hookups are available. A manual flushing mode can be selected when in a primitive camp area where water is limited.



**8a**

The first step for removal of the old toilet is to shut off the water supply (or turn off the demand pump) and remove the existing water line. Regardless, water will drain out of the pipe, so be prepared to catch the water in a paper bowl or wipe it up with a towel.



**8b**



**9**

Existing hold-down nuts were removed from the old toilet. Normally, studs are mounted through the floor flange slots, but this system will not be utilized for the Aria toilet.



**10**

Before positioning the Aria toilet on the floor flange, the seal must be in place. A new seal comes with the installation kit.





Once the toilet is centered on the floor flange, 3/16-inch pilot holes were drilled through the base of the toilet and into the floor. The surrounding porcelain was masked with painter's tape to prevent scratching while drilling. The holes must be drilled at an angle, which can be a little tricky. If the existing floor flange provides a 7/16-inch clearance from the floor, it can be reused; otherwise, there is a new flange with the installation kit. It's best to drive the hold-down bolts with a ratcheting, closed end wrench. Do no overtighten; the bolts are torqued to 20-23 in.-lb.



Routing the water source to the toilet took a little time to figure out. Here the original supply hose was cut and an adapter was attached with a wide hose clamp for a connection into the AquaLock fitting.



This would be a good time to add an inline valve to turn off the water when needed. This one is an AquaLock Push-To-Connect valve, which only takes a few seconds to install. Unfortunately, this one leaked, so it was pulled from the installation. This is a rare occurrence with these fittings.



AquaLock fittings and a few inches of Pex tubing facilitated the water hook up to the new Aria toilet. These fittings are readily available on Amazon.





15

The Aria Deluxe II toilet fit nicely in the allocated space. There was plenty of room between the sidewall and toilet for users to get their hands on the buttons to operate the flushing mechanism.



16

Thetford's flushing mechanism is the best in the business. It moves the contents with enough force to keep the bowl clean.



17

While we were not enamored with the plastic toilet seat, it's comfortable. The plastic hinge bolts have a tendency to loosen but can be reached from the sides for tightening.



18

The buttons are easy to learn, but just in case, operational instructions can be attached to a nearby wall for guests who are not familiar with this toilet. **RVE**



# Close En-Counters



*A few improvements around the sink area in the bathroom resulted in bigger and better space utilization*

Living in a fifth wheel full time with a small sink and little counter space takes a good sense of humor. Fortunately, the designers of this model were pretty clever, providing a huge storage cabinet and adjacent shelves to house most of the toiletries without being disheveled. Add in the large wood medicine cabinet above the sink — with a mirror, of course — and the facilities are workable with acclimation.

Every square inch of counter space is needed, so placing the charging stands for the cordless toothbrushes behind the sink made the most sense. For years, the power cords were routed along the wall to the power outlet at

the end of the counter; stick-on covers were used to “conceal” the wires, but they just collected dirt and were terribly unsightly. A simple fix was to drill a hole near the charging bases and route the wires under the counter and up through another hole near the 120-volt AC power outlet. The wires were ganged and connected to a new plug for connection to one side of the outlet.

At the same time, a power cord for the wall-mounted hair dryer was cut to size and fitted with a new plug. We’ve used the same wall-mounted hair dryer in the last three RVs and it works great, but it’s no longer available. There are others on the market; the models

with the built-in night light help with after-dark visits to the bathroom. The plugs for the hair dryer and toothbrushes are pushed into the outlets; one is removed if other accessories are needed. This is admittedly a simple fix — but it made a huge difference in cleaning up the look of the diminutive countertop.

By the way: When you have a sink that barely fits two hands, having a faucet that provides good water coverage is important — and the stock faucet was not exactly up to full-time-living standards. Finding a replacement can be confusing since there are so many models on the market. The sink in these photos received a replacement



Moen faucet a few years ago that we have really come to appreciate — and it was a direct retrofit for RV applications. Plus, installing it is a piece of cake; the only caveat is converting the fittings to compression if 1/2-inch pipe connectors were originally provided from the RV factory. Obtaining these adapters from a local hardware or home improvement store is usually easy. Look for an RV supply line adapter, 1/2-inch pipe thread to 3/8-inch compression.

Moen is a major provider of quality faucets to the housing industry and it's Dura Faucet with a brushed satin finish (DF-NML210 SN-RV; \$70.90 on Amazon) is designed specifically for RVs. My only complaint is how quickly the aerator plugs up from hard water, but that usually can be rectified via a few minutes of soaking with Lime-A-Way or similar product (it's best to keep an extra one handy if the corrosion build-up is too heavy).

These few changes to the bathroom sink area resulted in a big improvement in livability, and the effort and cost were minimal.



*The original routing for the hair dryer and electric toothbrush wiring was an object failure. It made sense at the time, but a fix was certainly in the wings. The biggest problem was the accumulation of dirt on the wire cover that was two-face taped to the wall—and the constant releasing of the double-sided tape.*



*Originally, an adapter was connected to the existing power outlet so the hair dryer and toothbrush could be plugged into 120-volt AC power and leave one receptacle open. It was always a mess — and bulky.*



*Once the wire covers were removed from the wall, the area was cleaned thoroughly and any corrosion around the faucet base was neutralized with Lime-A-Way and a nylon brush.*





**4**

One hole, large enough to accommodate both toothbrush charging base wires, was drilled into the sink counter.



**6**

Wires from the toothbrush charging bases were routed in the cabinet below the sink and exited through the counter near the existing power receptacle. Both plugs were cut off for wire routing.



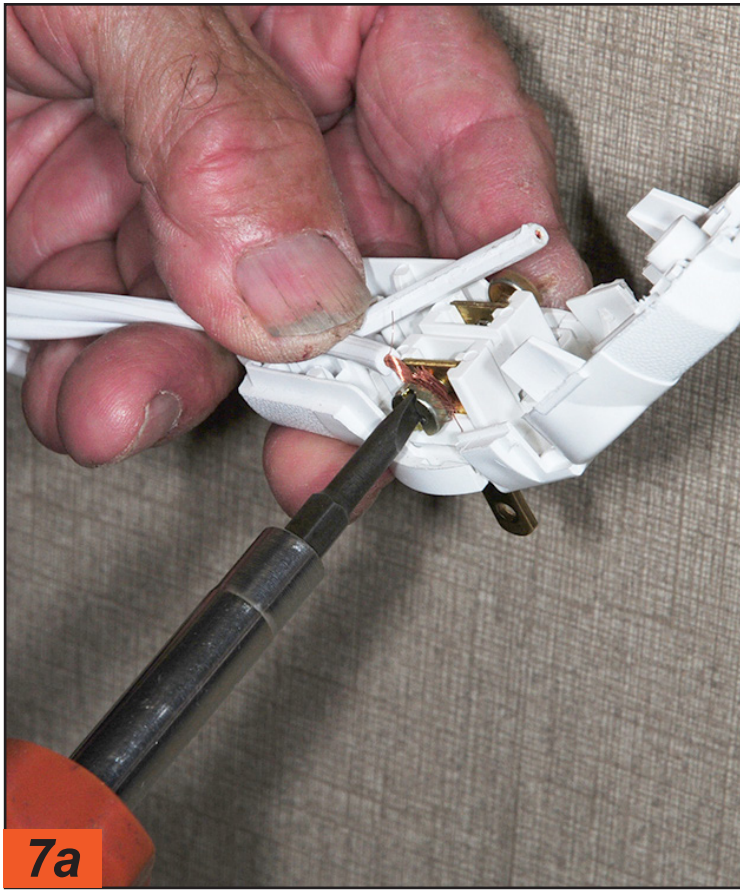
**5a**



**5b**

Both toothbrush charging bases stand neatly behind the sink and faucet. The bases are freestanding, and the brushes are removed when traveling. A dab of silicone sealer was squeezed into the hole drilled in the counter to prevent moisture intrusion into the cabinet.





**7a** The wires from the toothbrushes were ganged together for connection in a single plug; solderless connectors were used to manage the wires in the plug. After shortening the wires from the wall-mounted hair dryer, another plug was installed.



**8** Flush-fitting plugs and cable-management tabs keep the wires neatly routed to the power outlet. Hand towels draped over the bar above the outlet (not shown) conceal the wiring for the most part.



**9** Cleaning up the wiring made a big difference in space utilization and cleanliness. The Moen faucet (DF-NML210 SN-RV; \$70.90 on Amazon) is a direct replacement designed specifically for RVs. The single-handle mixer allows better control of water temperature. **RVE**





# PARTS HOUSE



The Northern Indiana Event Center hosted nearly 185 RV suppliers during the Elkhart RV Open House, many introducing new components for the first time.

*The Northern Indiana Event Center transformed into a parts-and-accessories showcase — and we tracked down nearly three dozen of the top new products you'll want this year for your RV*

By Ron Barger / Photos by Shawn Spence

Anyone who has ever suffered through an earthquake knows full well what happens to a home when the ground shakes. Things break.

It shouldn't come as a surprise, then, when a component on an RV ultimately breaks down. While RV equipment tends to be more robust than its land-

locked counterpart, such parts and accessories aren't infallible — especially when subjected to the earthquake-like shaking created by untold miles of rutted, cracked and potholed roadways.

Fortunately, replacements exist for virtually anything RV-related — and, even better, the past few years has seen a huge increase in new-and-

improved components as technology continues to bridge the gap between products used in brick-and-mortar houses and those integrated into traveling homes.

Many of these, in fact, were introduced for the first time during the recent Elkhart RV Open House. While this event continues to be the RV industry's premier trade show, RV suppliers have made inroads in the program in recent years by staging new product displays around Elkhart, Indiana. And, while the area is home to many of the industry's top suppliers — with these companies opening their doors to visiting dealers — others have found a temporary home at the Northern Indiana Event Center, part of the RV/MH Hall of Fame & Museum complex. In fact, the RV Hall Supplier Show was so large this year that several of the museum's RV displays were temporarily moved to accommodate the program — some 232 available displays inside and outside the facility were manned by supplier personnel from nearly 185 companies showcasing new components.

Unfortunately, like the Open House program itself, the supplier show was off-limits to the public — but we spent several days among the suppliers and displays to chase down the top products you'll find at your local RV dealership and parts houses this year. The following pages highlight nearly three dozen of these components, a group that's sure to nudge you into replacing or updating certain components before you hit the road this summer.



Displays inside and outside the facility included such companies as WFCO, a manufacturer of power products, and Blackstone griddles.



## Hughes Autoformers SafeView Power Inlet



Safe View is a universal power inlet replacement for shore power that offers an easy-to-understand readout. The front of the patent-pending power inlet features a white "halo" light and green indicator LEDs. If all lights on the device are green, then the power is correctly hooked up. If either the G, L or N lights are red, then there is a problem with an open ground, reverse polarity or missing neutral that must be corrected. Hughes has had the product under development since 2021 and has applied for a patent for the leading-edge technology that further protects RVs and RV owners from short-circuit risk or electric shock.

[hughesautoformers.com/](https://hughesautoformers.com/)

## Torklift International Cat Guard



With catalytic converter theft on the rise and a replacement costing up to \$3,000, Torklift has introduced its Cat Guard protection system into the RV OEM and after-market to avoid the expense of adding extra security. Made as a custom fit for each coach, the custom guard application for the catalytic converter becomes a permanent fixture — many, in fact, can be as long as 10 feet to fit diesel converters. MSRP ranges from \$200 to \$600, depending on the size and complexity. Torklift makes them for both tow vehicles and motorhomes.

[torklift.com](https://torklift.com)

## Equal-i-zer Hitch OnTarget



Equal-i-zer has introduced a new towing tool called the OnTarget. The handheld sensor calculates weight distribution percentage to allow the user to adjust for a more comfortable, safer tow. Even small changes in trailer cargo weights (like full or empty water tanks) can improve weight distribution and reduce tow vehicle instability. OnTarget is the easiest way to know the hitch is set up correctly. The user measures the uncoupled tow vehicle, the weight and then the weight distribution arms for the third measurement and it calculates the weight setup and distribution. MSRP is \$90. [equalizerhitch.com](https://equalizerhitch.com)

## MORryde Latch Extender



The new MORryde Latch Extender solves the awkward problem of standing on the top step of the RV stairs while unlocking or locking the door, and then backing off to the second step to swing the door out and enter. MORryde developed a way to extend the latch so whether an RV has a four-step or three-step entry, owners can grab the latch extender and open the door without having to retreat down the steps. The new system installs easily as it clamps onto the paddle and bolts to the lower door. MSRP \$85.

[morryde.com](https://morryde.com)



## Xantrex Freedom EX 4K Power Inverter



The Xantrex Freedom EX 4K is a true sine wave power solution packing a powerful 48-volt DC, 4000-watt (8000W) inverter, 80-amp 48-volt DC battery charger, 50-amp transfer relay and a 48VDC-to-12VDC, 45-amp converter inside one box. Designed for mobile applications that utilize 48-volt DC battery systems, the Freedom EX is designed to work as a standalone AC and DC power solution or supplement an existing generator to create a hybrid system. The Freedom EX also features the most widely used RV-C communication protocols with one of the benefits being lighter wiring to decrease cost and weight. The system is designed for large motorhomes and fifth-wheels. MSRP starts at \$3,800. [xantrex.com](http://xantrex.com)

## Thetford Aqua Magic VI Toilet



Thetford developed its new Aqua Magic VI toilet with a new space-saving design and a foot flush. The space-saving design allows for the closest possible mounting to the wall, while the foot flush is positioned for minimal floor space interference. It also features improved mounting-bolt slots for easy installation and a standard residential-sized SloClose seat and cover. It's available in high- or low-profile applications to fit specific space requirements with an ADA-compliant 18-inch seat height and offers the deepest toilet bowl available for RVs. MSRP is \$300 to \$500. [thetford.com](http://thetford.com)

## Roadmaster Inc. Exact Center Suspension



The Exact Center is a steering stabilizer designed specifically for motorhomes, trucks, SUVs and Jeeps. It connects to the frame and the drag link of the vehicle and is engineered to keep the steering wheel at center while encountering winds, passing semis or traveling across ruts in the road. Unique in the RV industry, it also allows straighter reversing with the tow vehicle, eliminating wheel flop — and helps prevent "Death Wobble," the harmonic oscillation resulting in the front tires racking side to side. MSRP is in the \$500 range for tow vehicles and Jeeps and about \$650 for motorhomes. [roadmasterinc.com](http://roadmasterinc.com)

## Blu Technology MRX Plus



The new Blu Technology MRX Plus is currently being integrated into OEM equipment lists and is the first 5-inch, NSF-certified filtration system on the market. The Blu Technology MRX Plus features a two-stage 0.2-micron filtration system with an onboard pump rated for three gallons per minute. This system comes with a 12-volt battery and a solar-compatible charger. The battery will provide about 90 gallons per charge, or a thousand-plus gallons per day with the 3 GPM pump included. The Blu Tech MRX system offers all of the above without the battery and charger and comes with a cigarette lighter adapter and quick-connects. MSRP \$799.99 (Blu Tech MRX). [www.goblutech.com](http://www.goblutech.com)



### Blue Ox BXR2100



For 2023, the Blue Ox BXR2100 attaches to a standard gooseneck ball or puck system. The unique element is the 360-degree kingpin connector: Once on top of the hitch target, it lowers and connects to encapsulate the kingpin 360 degrees. Unlike other fifth-wheel hitches, it avoids any chance of the false-connection nightmare. Just pull the handle, hook up and it pops on and locks. An added advantage is that it can be hitched up at various angles, saving time. The MSRP is around \$1,400. [blueox.com](http://blueox.com)

### GoPower! 400-watt Roof Solar Panel Package



GoPower! has a new 400-watt solar panel system for mounting on the roof of an RV. A newly designed cable entry port from the company has just been patented, as well. The new system also has a 30-amp MPPT controller, which operates off the solar panel to GoPower! lithium Sun Cycle batteries with a choice of either 100-amp or 300-amp hour capacities. The batteries are RVC capable (rapid voltage change). The IC 2000 and 3000-watt inverters are also RVC compatible. MSRP TBD. [gpelectric.com](http://gpelectric.com)

### Icon Direct Modular Shower System



ICON DIRECT Inc. showcased a new modular shower surround kit that comes with corners and panels that fit together to avoid problems with large, awkward, one-piece shower surrounds for dealer retrofit shower replacements. It's easier for an installer because instead of buying the specific form, shape and size needed, the panels can be trimmed down to size and then fit it into a tight space. There are four different formats for square or rectangle showers and baths as well as neo-angle tubs and showers. New shower pans are also available. [icondirectinc.com](http://icondirectinc.com)

### Winegard Gateway 5G



Made available in November 2022, the Winegard Gateway 5G allows access to the highest speed internet for connectivity on the road. This connectivity hub connects only to the Winegard Air 360 PLUS 5G for hassle-free set-up. It's Winegard's solution for an all-in-one Internet, TV, AM/FM signal needs and powerful 5G LTE and WiFi for the RV. High-performance 5G LTE antennas provide reliable Internet access parked or down the road. It supports multiple carriers with flexible data plan options including Winegard FreedomGO no-contract 30-day plans, AT&T and T-Mobile. MSRP \$999 [winegard.com](http://winegard.com)



## PullRite 3200 SuperGlide for Half-Ton Trucks



Slated for release in 2023, the 3200 is PullRite's latest SuperGlide fifth-wheel hitch for half-ton trucks and answers the demand for more half-ton options to match lighter weight fifth-wheels. It accommodates shorter beds found on half-tons with a slide mechanism extending beyond the 14-inch limit found on the previous model — the new 3200 extends to 23 inches. And, as RV owners know, the further the hitch is in the back of the bed, the better turning angles. A handy caster allows easy movement of the hitch. MSRP TBD. [pullrite.com](http://pullrite.com)

## Bauer Products NE Bluetooth Lock



The new NE Bluetooth lock system from Bauer Products provides campers several methods for keyless entry. The touch technology is sophisticated and can be paired with multiple devices with bank-level encryption. It also tracks locking and unlocking history. The Bluetooth also pairs with the user's phone to allow access from distances (depending on the signal strength). Close-field technology can unlock the door like newer automobile fobs when the user simply walks up with the phone and touches it once. MSRP starting around \$300. [bauerproducts.com](http://bauerproducts.com)

## GE Appliances GE Profile RV Suite



The new year will bring an entire suite of GE Profile appliances designed for the RV lifestyle. The full line includes the company's familiar Profile brand for refrigerators, ranges with oven and range hood, microwaves and even an espresso machine. The new Profile range is available in a 21-inch or 17-inch drop-in design as well as a new 24-inch free-standing unit (all 120-volt AC-powered). Also of note is a 9.6-cubic-foot refrigerator to fit in a 10-cubic-foot cutout, with a freezer that makes opal nugget ice. The suite comes in stainless-steel and black with MSRPs currently being determined. [geappliances.com](http://geappliances.com)

## Magnadyne Corp. RV Link System



The new Magnadyne RV Link System brings a campers' home WIFI system to the RV, allowing any internet network in the field. Like a home router that allows up to 20 different people to connect, stream or communicate, it will not get bogged down at a campsite with overloaded traffic. The system will literally allow the user to adjust speeds at the level preferred and set up personal security for a faster and secure solution. It can be set up secure for guests. A mobile app allows control from all devices. MSRP is \$199. [magnadyne.com](http://magnadyne.com)



## Dometic Outdoors CCFT Cooler/Freezer Truck Insert



The new Dometic Outdoors CCFT for Ford F-150 and GMC Sierra model trucks (2015 and newer) drops into the existing center console compartment to keep cool up to nine beverage cans or keep frozen a small bag of ice. It fits into your center console and is powered by a DC plug in the interior of the truck. "It's great for anyone that's traveling with children, anyone with medicine that needs to keep cold or just tailgating," said Jamie Williams, sales specialist. It also features a USB charging port. MSRP is \$599. [dometic.com](http://dometic.com)

## Horizon Global Reese Sidewinder and Goose Box



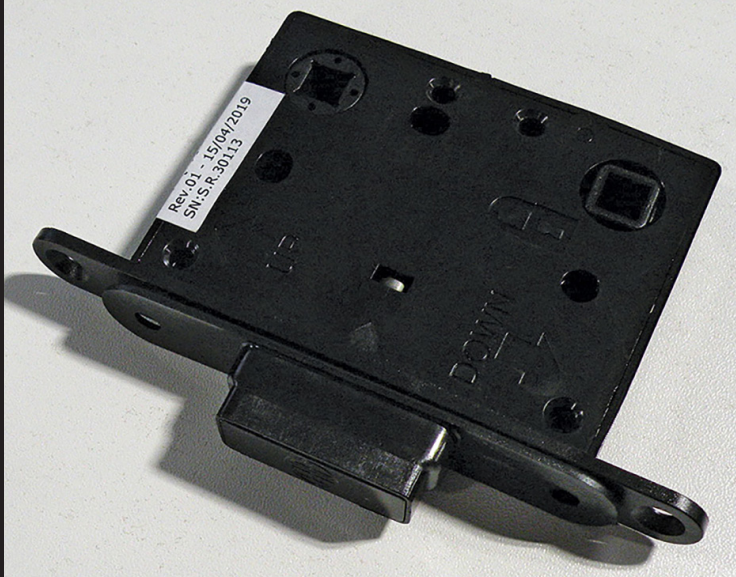
The Reese Goose Box hitch will fit all fifth-wheel configurations including the Rhino frame, with 20K and 16K versions due out later this year. The Goose Box has air ride with a pin box that doesn't void the Lippert warranty; Reese claims a smoother ride easier on the RV frames and tow vehicles with the unit. 2023 also brings a new version of the Sidewinder hitch for short-bed (5.5 foot) trucks. It's an alternative to slider hitches with the benefit of turning up to 90 degrees forward and backwards. MSRP for the Goose Box is around \$3,000 (for the 20K unit) with MSRP for the sidewinder at \$2,100. [horizonglobal.com](http://horizonglobal.com)

## Pace International TravlFi JourneyXTR 4G/LTE Router & Wi-Fi Extender



The JourneyXTR 4G/LTE Router and Wi-Fi Extender is the latest connectivity product to launch under the TravlFi brand, which is owned and operated by Pace International. The product helps RV travelers solve next-level connectivity needs by offering a multi-carrier plug-and-play 4G/LTE hotspot with award-winning data plans or connect to a near-by public or private Wi-Fi network, all in a single device. [Paceintl.com/mobile/travlf](http://Paceintl.com/mobile/travlf)

## S. Sterling Company Interior Magnetic Door Latches



The S. Sterling Company has a new series of silent, magnetic door latches designed to be used on interior cabinetry, access and pocket doors. The handle and interface of the European-made handles come in different colors. The handle can be pulled up or pushed down, which releases the magnet to unlatch the cabinet or door. It can be used in very thin doors of as little as 3/4-inch thick and the striker is magnetic so it does not protrude from the jam. MSRPs are \$8.00 to \$12.00 per set. [ssterlingco.com](http://ssterlingco.com)



## NSA RV Products New Zeus Hitch



The new Zeus Hitch has 22,500-pound towing capacity — and is the only steel fifth-wheel hitch on the market that comes with a lifetime guarantee. Made in southeast Kansas, the Zeus is 100% steel front to back and was crush-rated at 95,000 pounds. A latching mechanism inside is spring activated. The Zeus has 22- or 24-inches of ball movement to move the ball forward or backward to configure to short or long bed trucks and can turn a complete 90 degrees. [nsarvproducts.com](http://nsarvproducts.com)

## Vitrifrigo Slim Line Refrigerators



The new Vitrifrigo Slim Line and Slim Line 2 RV refrigerators were adapted from the Italian company's European RV market. Designed to be lower profile and space-saving, the new Slim 90 (90-liter/3-cubic-feet) refrigerator is the ideal size for vans and smaller vehicles or teardrops, truck campers and smaller trailers. It has a night-time mode for small spaces and a turbo mode that brings the cooling down in half the time. It offers 120-volt AC units as well as those powered by 12-volt DC and propane. MSRP will be around \$1,400 for the Slim 90. [vitrifrigo.com](http://vitrifrigo.com)

## Red Wagon Distribution Eco-LED Lighting and Wireless Wall Switch



Red Wagon Distribution has new Eco-LED Brand lighting systems for 2023. The company supplies both RV OEMs and aftermarket with bulbs, strip lights and work lights — but its claim to fame is its new patented wireless wall switch that eliminates switch wiring in the RV. The wireless wall switch, when paired with either a radio frequency or Bluetooth, can be controlled with mobile devices. It can turn On and Off a single light or a bank of 12 lights and has seven-step dimming. MSRP starts at \$25 per switch. [redwagondist.com](http://redwagondist.com)

## OZX Corp. DCX Power Package



Australian-based OZX Corp. has partnered with Dave Carter & Associates to introduce its "plug and power" DCX all-in-one power package to the U.S. market. Engineered to simplify the off-the-grid electrification of RVs, the complete turnkey power system consists of seven batteries forming a 14-kilowatt battery bank ready to bolt into the frame. It includes an inverter charger rated at 6,000 watts for a 50-amp capacity. The solar charger is 8,000-watts capable, about a 13.1-volt supply at 100 amps. MSRP TBD. [ozxcorp.com](http://ozxcorp.com)



## Auto-Motion Shade Elite Entry Door Insect Screen Systems



These new screens from Auto-Motion are designed to keep insects out of Class B motorhomes while allowing fresh air in through the main entry. In case of damage, the screen can easily be snapped out and a replacement snapped in place without removing the frame from inside the door. The width of the screen cannot exceed 50% of the total height minus 2½ inches.

[automotionshade.com/English/Index.aspx](http://automotionshade.com/English/Index.aspx)

## Dayton Air Suspension Adjustable Linkage Kit



Dayton Air Suspension, makers of King of the Road products, has a new Kwick Link adjustable linkage kit for air suspensions. After a tire blowout on the road, many times the linkage is damaged. This emergency adjustable linkage allows a repair on the road without any special tools or cutting required. The linkage is actually heavier-duty than most OE equipment to last longer under harsh conditions.

[daytonairsuspension.com](http://daytonairsuspension.com)

## Bio-Kleen Products Clean Lube



Clean Lube is designed to clean and lubricate slideout mechanisms on RVs. This prevents motors and switches burning out from too much friction, a common problem. Bio-Kleen helps to reduce the friction as well as keep the rails or gears clean. The product dries after application to help prevent dust and dirt collecting in the works and can be used on scissor jacks, hinges, automatic steps or anything that has a squeak, pinch point or friction. In fact, the product lubes and cleans so well Bio-Kleen developed a formula to clean guns called Gun Kleen. [biokleen.com](http://biokleen.com)

## Navico 3500 CombiMaster Inverter Charger



The new Vitrifrigo Slim Line and Slim Line 2 RV refrigerators were adapted from the Italian company's European RV market. Designed to be lower profile and space-saving, the new Slim 90 (90-liter/3-cubic-feet) refrigerator is the ideal size for vans and smaller vehicles or teardrops, truck campers and smaller trailers. It has a night-time mode for small spaces and a turbo mode that brings the cooling down in half the time. It offers 120-volt AC/DC units as well as those powered by 12-volt DC and propane. MSRP will be around \$1,400 for the Slim 90. [vitrifigo.com](http://vitrifigo.com)



## RV Lifestyle Omnia Stovetop Oven



RV Lifestyle LLC is breaking into the kitchen-cooking accessory market with its new Omnia stovetop oven. It's a portable stovetop oven that heats, bakes or cooks food when placed on a burner. The Omnia requires no installation and works with a variety of heat sources to provide a convenient, versatile way to prepare foods. The Omnia's simple, robust design features three parts that work together to provide heat from above and below: the pan, base and lid. MSRPs start around \$80 with many accessories available. [rvli.com](http://rvli.com)

## Polymarm Lightweight Marble Shower Surround



The new lightweight, faux marble shower and tub surrounds from Polymarm have all the look of natural marble with a fraction of the weight and cost. The high-definition image of a real marble slab is hot-stamped to a composite core and then UV-coated to maintain the pattern. The easy-to-install advantages for aftermarket replacement or refurbishment are significant. It is also easy to clean and maintain. The company offers pre-cut custom kits with more than a dozen different patterns — all from marble originals. MSRP varies. [polymarm.com](http://polymarm.com)

## Kenyon International 48-Volt DC Electric Grill



The Kenyon 48-Volt DC Electric Grill comes with a collapsible silicone lid that not only allows for better storage but also acts to protect the cook area from grill splatter. Just pull a pin and remove the non-stick, easy-to-clean lid. The unique grill element sits underneath the grate in a track that protects the element from direct drippings for little smoke and no flareups. The grill will heat to 550 degrees in nine minutes. [cookwithkenyon.com](http://cookwithkenyon.com)

## PowerMax AC to DC Converter Charger



The PowerMax PM3 AC to DC Converter/Charger works with lithium batteries and is compatible with BattleBorn 100Ah 12V LiFePO4 batteries. A prominent feature of this charger is the ability to manually adjust the charging voltage. This is key for LiFePO4 batteries because it enables the user to charge to the ideal 14.4 V and get the most life and power. With its three-stage Smart Charging and adjustable power supply modes, the PowerMax AC to DC power converter/battery charger is engineered with environmental conditions in mind — hot or cold. MSRP \$129 to \$299. [powermaxconverters.com](http://powermaxconverters.com) RVE





A metal wand with a hook on the end is used to release the mechanism that locks the ball in the funnel. It's long enough to allow the operator to release the latch while standing at the rear of the truck bed.

*Most fifth-wheel hitches are heavy and bulky, which makes removal impractical between trips unless you have a forklift, hoist or a neighbor willing to help. PullRite's 50-pound SuperLite hitch not only streamlines the process but makes hooking up a breeze.*

By Bill Gehr / Photos by the author

**T**owing fifth-wheel trailers is popular for several reasons — not the least of which is the inherent stability when on the road. Then, too, there's the ease of hooking up without having to handle/store heavy pieces of hitch equipment. To reap the benefits, however, a fifth wheel hitch must be installed in the bed of the truck and usually occupies a big chunk of the bed space. It's also a heavy and bulky piece of equipment, making it difficult to remove when additional bed space is needed.

Fifth wheel hitches typically have a saddle with a latching mechanism that accepts (and locks) the kingpin built into a box mounted on the front of the trailer. While this approach is certainly tried and true, PullRite ([pullrite.com](http://pullrite.com)),

a builder of high-quality conventional saddle-style fifth wheel hitches, also offers an alternative, the SuperLite, which takes the sting out of removing and installing heavy, bulky hardware while focusing a completely different approach to hooking up.

To fully appreciate the system, I assisted during the installation of a PullRite SuperLite (model #2400; \$800 street price) on a 2023 Ford F-250 using the company's proprietary Super-Rail Clean Bed Technology mounting system (\$750-850 street price). This rail kit (part #2332) is comprised of custom frame brackets that are designed to bolt into existing holes in the Ford frame. Custom rails are then pinned to these brackets through the floor of the bed. When the pins are released, the rails

can be removed completely from the bed, leaving the entire surface free to haul stuff; the SuperLite hitch, which only weighs 50 pounds, can be quickly installed and removed from the rails — a simple one-person operation.

Installing the brackets below the truck bed seemed like a straightforward task, based on the clearly presented instructions. Taking accurate measurements and marking hole locations in the bed is paramount, especially considering the new truck rolled off the dealer's lot only a few hours before the installation. The bed was lined with a rubberized material and there was very little room for mistakes when drilling through the aluminum bed. We used blue masking tape to mark where the holes should be drilled through the bed in order to line





1

*An adapter with an inverter hitch ball is bolted to the pin box. The existing kingpin must be butted up against the adapter plate. This is accomplished by adjusting the bolts in the bottom of the plate.*

up with the holes (for the locking pins) in the frame brackets. Following instructions very carefully, we measured three times to make sure that we had the holes in the right locations — there's little room for error as the pins for the rails need to be pushed down into a slot without resistance and allow for a quarter turn to lock them in place. In other words, if the hole was slightly off, the pin was not going to fit properly.

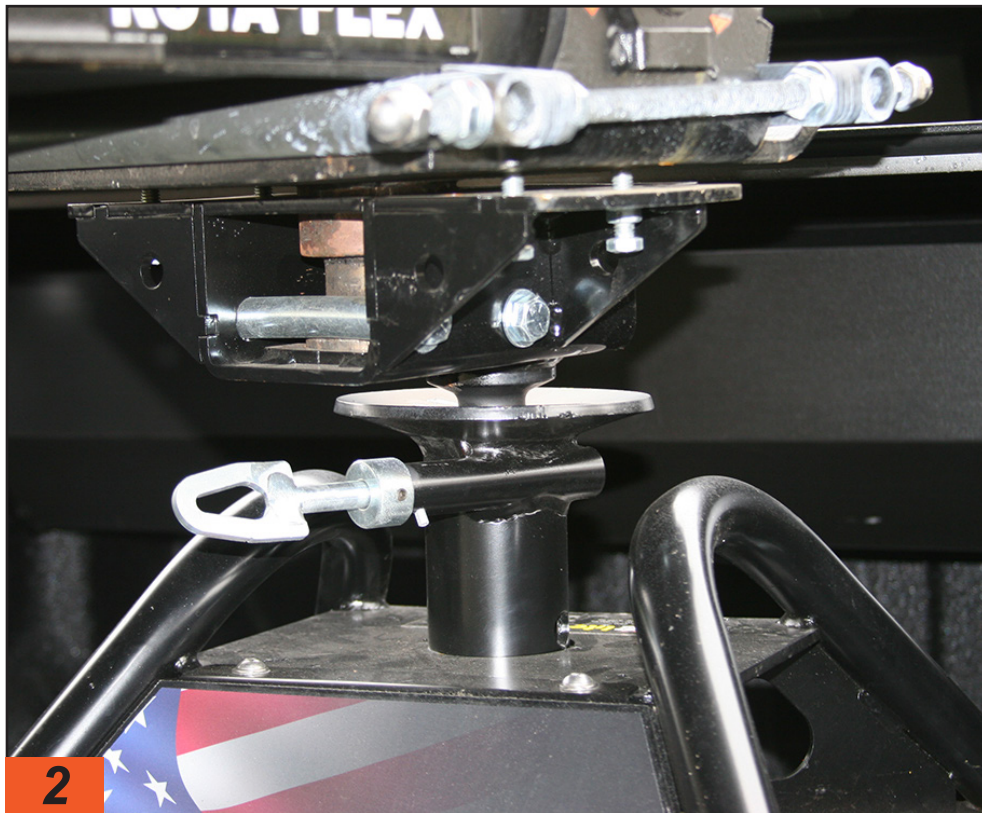
After marking the locations for the holes, I was a little bit leery about drilling the first one — all it takes to squirrel the install is for the bed to be 1/4-inch off one way or the other, which can easily happen during the assembly process. The frame brackets were mounted leaving the bolts finger tight, figuring we had some wiggle room to make sure the hole through the bed of the truck would match. Because the frame bracket was up against the bottom side of the bed, we could not see if the 1/8-inch hole was centered. We then put a piece of blue masking tape across each pin hole in the frame brackets, repositioned frame brackets and drilled the first pilot hole through the top of the bed. At this point we could tell that the small hole did not line up, but we were able to measure from the edge of the hole visible through the masking tape to the center of the hole and transfer those measurements to the inside of the bed. The new holes lined up close enough for us to drill the big 1 5/8-inch holes through the bed without having a

serious problem. (I'd recommend that PullRite consider adding pilot holes in the brackets so that it's possible to simply drill up through the bed of the

truck and then center a hole saw to cut through the bed.)

Once the 1 5/8 holes were drilled through the bed, the rest of the process went without hiccups, torquing the frame bracket bolts to 150 ft.-lb., according to the instructions. With the brackets in place, the pins were inserted through bed and the Super-Rails were secured before setting the SuperLite hitch on the rails and locking in place with four additional pins. Since the hitch is so light, the process to line up its tabs with the rails requires little effort — and goes smoothly without any resistance.

Not only is there a scant 50 pounds of hitch hardware mounted in the bed, but the process for connecting the fifth wheel is also simple and fast. A special adapter is mounted to the kingpin box, to which an inverted ball (like a standard travel trailer hitch ball) is attached. The ball locks into a funnel-shaped coupler to make hitching a fifth wheel about as easy as it can get. Even if the terrain is uneven or the truck is out of alignment when backing up, the funnel target is easy to hit, circumventing any issues related to locking a kingpin in place with a standard saddle and coupler jaws. All you need to do is just back the truck to the fifth wheel while aiming



2

*Once the inverted ball is anywhere near the funnel, it can be lowered into the locking jaws. Hitching the fifth wheel to the truck is really simple, and completely visible from the driver's seat (unless there is an obstruction in the bed). The inverted ball on the adapter plate mounted to the kingpin box will seek the latching mechanism once it's over the funnel area and lowered into position.*



the ball over the funnel; if it's close, it will seat itself.

An adapter must be bolted to the kingpin box which, in effect, moves the bulk of the hardware from the truck bed to the fifth wheel. In this case, the fifth wheel was factory-fitted with a Curt Rota-Flex pin box, requiring the use of a different type of an adapter that can be ordered with the hitch. This adapter (part #4446; \$90) can be installed in about 30 minutes, requiring no modifications. It's designed to isolate movement of the Rota-Flex pin box, which is necessary to allow the SuperLite hitch to function properly. The low-profile design of the adapter functions like a gooseneck hitch — without the additional leverage placed the front of the fifth wheel, which can lead to breaks in the steel infrastructure.

The adapter was simply positioned over the stock kingpin using two bolts to hold it in place. The one on right went in first and was held in place with a 1/2-inch flange nut, which was only

hand tightened at first. The second bolt followed after sliding in a reinforcement tube through a larger hole on the left; the flange nut was then snugged by hand. Four set screws were then adjusted to provide a level attitude for the adapter and to make sure it was positioned tightly against the kingpin box. By the way: The ball can be offset toward the front to allow for additional clearance between the fifth wheel and back of the cab in short-bed trucks. The bolts and setscrews are torqued to specifications to complete the fifth wheel part of the installation.

Hitch height can be set at three levels for proper top-of-bed clearance and PullRite recommends that at least 8 inches be maintained; the funnel coupler height can be adjusted by loosening three jam nuts and backing out the bolts. Once the coupler is loose from the base, the clevis pin is removed and the coupler can be lined up in the base using one of the three holes. The bolts and jam nuts are torqued to 45 ft.-lb.

This is definitely a friendly do-it-yourself project for those who have a moderate to strong mechanical aptitude. The job is much less complicated since the brackets can be bolted through existing holes from the Ford factory; drilling additional holes in a frame with limited clearance is a whole other skillset. Considering the extra caution taken before and while drilling the holes through the bed of the truck, the install time reached roughly three hours, but we did not want to “break in” an expensive new truck. Those who do this job all time can probably reduce the install time to a couple of hours.

The ability to tow fifth wheels up to 20,000 pounds (5,000-pound pin weight limit) with a hitch that weighs only 50 pounds seems incongruent, but PullRite's expertise in creating products with exceptional quality and build tolerances makes it possible to change the paradigm when it comes to the utmost in safe fifth wheel towing.



**3** A special adapter, part #4446, must be ordered with the hitch for fifth wheels fitted with a Rota-Flex pin box. Installing this bracket will isolate the movement of the pin box, which is necessary when using the SuperLite hitch.



**4** PullRite's SuperRail Clean Bed Technology mounting system was ordered with the SuperLite model hitch for the 2023 Ford F-250. The rails bolt into existing holes in the frame and can be removed between trips to free up the truck bed for hauling. One person can usually lift out the 50-pound SuperLite, which is strong enough to tow fifth wheels up to 20,000 pounds.





**5**

To install the frame brackets, first solidly chock the wheels then use a hydraulic jack to lift the rear axle and gain access under the truck. Heavy-duty jack stands were then placed to support the axle. Although a lift would provide more room to move around under the truck, we had no problem working on our backs.



**6**

Rear wheels and tires were removed to provide better access to the frame rails. Existing holes in the truck frame made it easy to line-up the brackets and bolt them in place. No drilling in the frame is required.



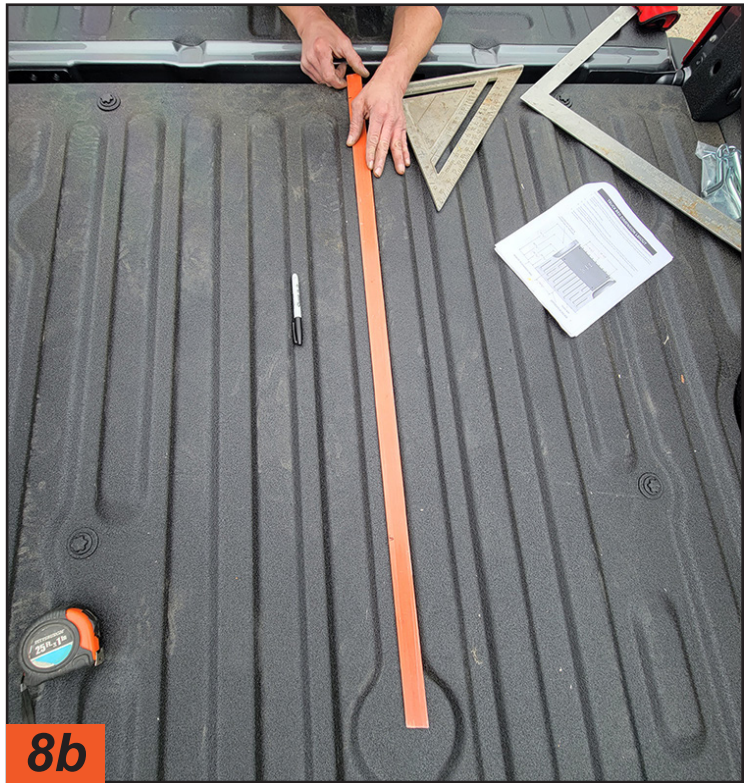
**7**

Start the measurements for locating the holes for the bed rail pins by finding the center of the bed near the tailgate.



**8a**

A Speed Square was positioned against the lip of the bed, which held the larger carpenter's square in place to draw a longer line up the center of the bed. A fiberglass straight edge was used to continue the center line in the bed moving toward the cab.

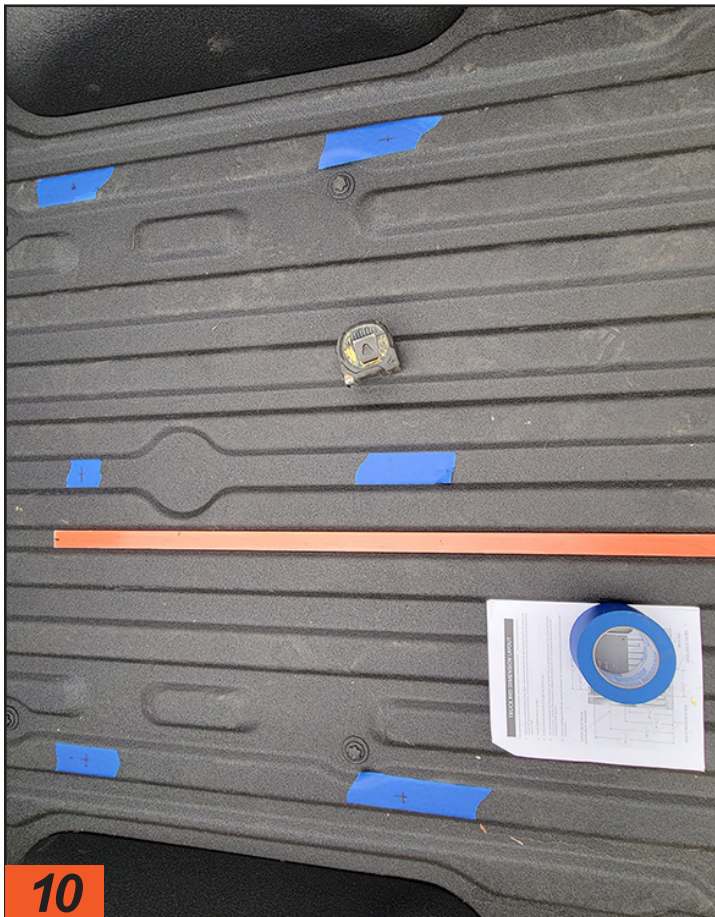


**8b**





A measurement was taken from the back edge of the bed to the location where the forward bed rail will be mounted. The next measurement from the center line toward the side of the bed will determine where the pilot hole will be drilled. A measurement was also taken from the rear of the bed.



The four outside pieces of blue masking tape were marked for drilling the pilot holes. The tape in the middle showed the centerline locations.

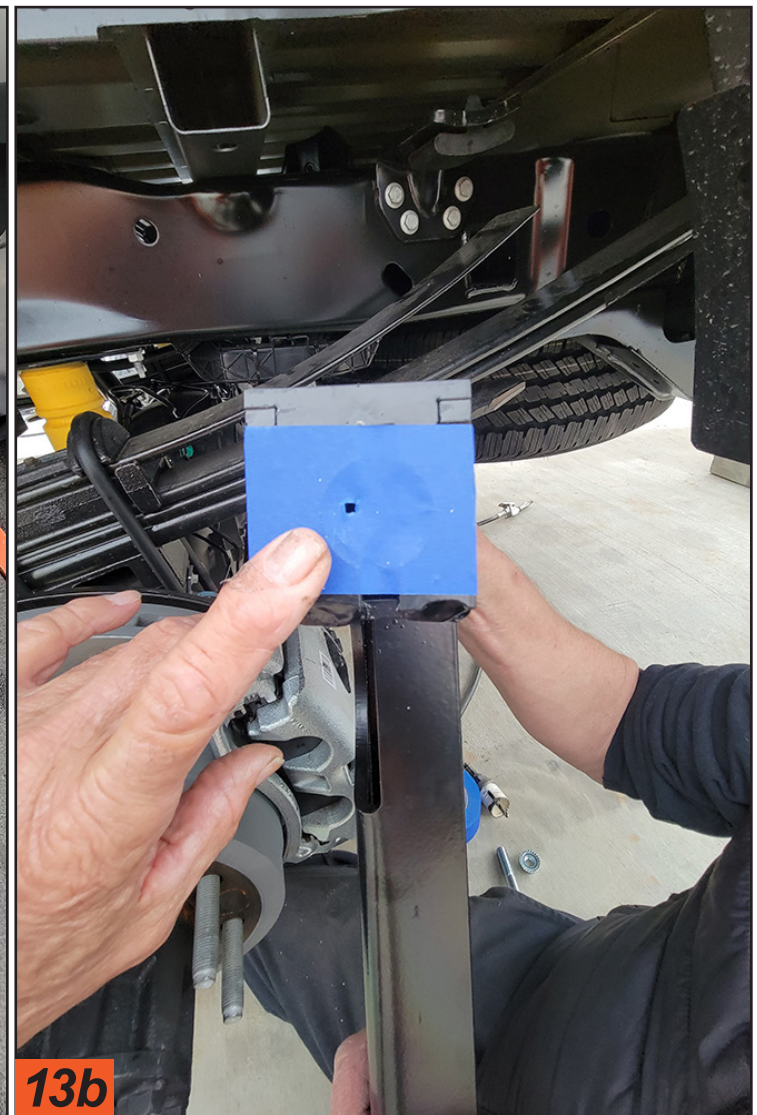


Masking tape was placed over the pin holes in the brackets before mounting to the truck frame. Drilling the pilot holes through the bed and into this tape confirmed whether the holes were centered in the brackets, which they were not. Many times the truck beds can be out of alignment slightly during factory assembly, which can throw off all the measurements.





**12a** Ford provides reinforced holes in the frame's box tubing for installation of its own hitch system. The same holes are utilized for mounting the PullRite frame brackets, so no drilling is required. At first the bolts were just finger-tight so the brackets could be checked against the pilot holes.



**13a** Pilot holes were drilled through the bed using a 1/8-inch bit. It was obvious that the holes in the frame brackets would not line up properly, so adjustments were necessary.





**14**

Once the centering adjustments were made, the 1 5/8-inch holes were drilled through the bed.



**15a**



**16**

The pins that secure the SuperRails in place lock into the specially designed brackets with a quarter turn.



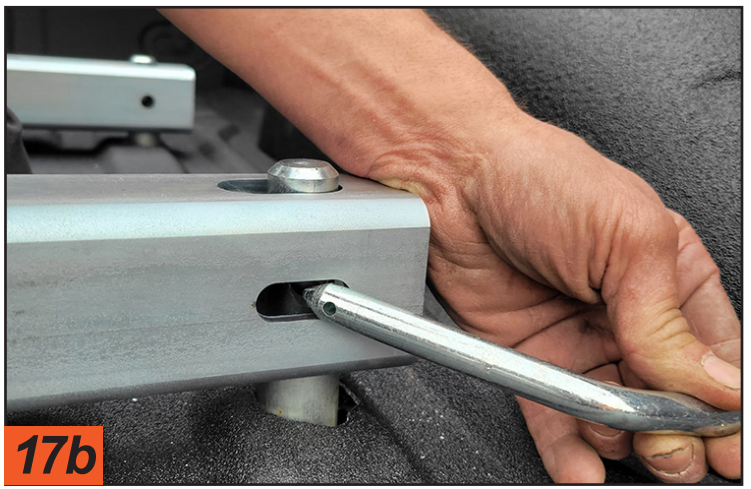
**15b**

Even with all the measuring, the pins would not go through the holes into the bracket smoothly, which made it difficult to lock the pin in place. A grinder was used open the hole enough to allow the pin to move freely and be seated properly.





**17a**



**17b**

Once the pins are in place, the SuperRails are positioned front and back and secured with pins with clips. The process takes only a few minutes, making it easy to remove the rails when the entire bed is needed for hauling.



**18a**



**18b**

Before the frame brackets were tightened the hitch was placed on the rails and pinned in place. The frame bracket bolts were then tightened to 150 ft.-lb. with a torque wrench. The hitch only weighs 50 pounds, making it a one-person job to remove and reinstall. **RVE**

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Part # 50050



# Making the Electrical Connection



The Curt #57008 7-way plug-and-play wiring harness made it possible to install a receptacle for the fifth wheel power cord without splicing multiple wires. This reduced the installation time in half — and a novice can do the job.

## Plug-and-play systems take most of the guesswork and tedium out of wiring up the lights and trailer brakes

All trailers have an umbilical cord that synchs the brake, clearance- and back-up lights and provides power for electric trailer brake actuation in concert with the tow vehicle. Most receptacles for the standard 7-way plugs are integrated into the tow vehicle's rear bumper, but towing a fifth wheel requires that a duplicate receptacle be mounted in the bed wall near the tailgate. If this option is not ordered from the factory, it's necessary to wire another receptacle into the system.

To circumvent cutting and splicing wires on this new Ford pickup, we used a Curt #57008 7-way, plug and play wiring harness (\$109.15 on Amazon) that simply connects to the back of the existing OEM connector, leaving both locations active.

This wiring harness kit literally cuts the installation time in half. The hardest part of the installation is drilling the holes, which is really not that difficult. You'll have to drill a large hole for the receptacle along with four holes for



A large hole saw was used to cut into the bed sidewall to accommodate the new receptacle. It's important to verify proper clearance between the bed's inner and outer walls before cutting the hole. Here the hole was near the floor of the bed to allow for such clearance.

the mounting flange in the bed. Keep in mind that it's not possible to use steel screws in the all-aluminum bed of the Ford truck because of possible electrolysis between the metals; instead, four rubber inserts are designed to isolate the screws.

The directions call for the removal of the spare tire in order to facilitate enough room to plug the wiring harness into the original Ford 7-way connector, but those with smaller hands should be able to work in the area without too much consternation. My cohort in this installation has smaller hands, so he was elected to make the connection. The kit comes with a 7-foot harness, which was long enough to reach the desired location for the receptacle.



The harness is routed from the inside of the bed to the area where the Ford factory receptacle is mounted in the bumper. The 90-degree bend in the wiring harness accounts for limited clearance between the inner and outer bed walls.





**3a**



**3b**

The receptacle was held in position in the bed wall to mark the locations for the screws. Rubber inserts (well nuts) are provided to isolate the machine screws from the aluminum body. Without the inserts electrolysis between dissimilar metals could be an issue.



**4**

Ford's connector for the factory 7-way receptacle was removed and plugged into the Curt harness. The other end of the Curt harness was then plugged into the Ford receptacle; the wiring is done.



**5a**



**5b**

Access to the back of the Ford 7-way receptacle can be tight, so the instructions call for dropping the spare tire. Fortunately, small hands made it possible to complete this step without removing the spare tire. RVE



# RV

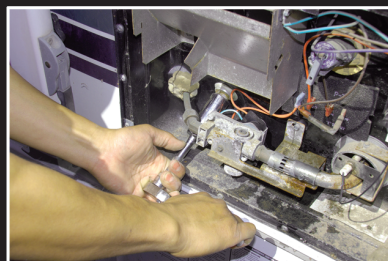
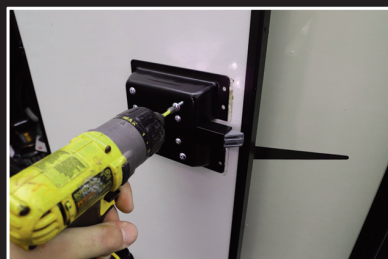
# ENTHUSIAST

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**RV Enthusiast** magazine was developed to take the mystery out of RV maintenance, repairs and upgrades, as well as providing how-to tips to make RVing better. We get it: Things happen as time and untold miles of bad roads will take their toll on your RV. But we also know that you don't have to be a mechanic to be able to confidently deal with problems that may crop up. All you really need is truly accurate information you can rely on — fully illustrated every step of the way and written in a friendly, conversational manner you can understand.

As this issue shows, each monthly edition of **RV Enthusiast** will be filled cover-to-cover with the kind of information and instruction you need to continue to enjoy your RV for years to come. In fact, there are nearly 50 pages of 'how-to' stories in this issue — just imagine the wealth of topics to be covered and the knowledge gained in a year's time!



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## ***Coming in the February issue:***

There are a lot of things that can take the joy out of RVing — but high on our list is an ill-handling ride that's unable to temper the tantrums of bad roads. In the February issue, we'll take a look at many of the top aftermarket RV suspension components — and explain why you just might need one or two. We'll also show step-by-step installations of everything from shocks to MORryde's independent suspension axle conversion, detail how full-timers keep interiors toasty (yup, it's still winter) and, well, for the whole picture, watch for the issue! — **.Available February 15**



continued from page 11

offers real-time traffic, weather and fuel price information. Available now, the RV 895 has an MSRP of \$699, while the RV 1095 has an MSRP of \$899.

## National Park Service Announces Entrance-Free Days



The National Park Service will have five [entrance fee-free days](#) in 2023 that provide free admittance to all national parks for everyone. On these significant days of commemoration or celebration (and throughout the year, for that matter) the National Park Service is committed to increasing access to national parks and promoting the advantages of outdoor recreation for public benefit and enjoyment.

The free entrance dates for 2023 are:

- **January 16** – Martin Luther King Jr. Day
- **April 22** – First Day of National Park Week
- **August 4** – Great American Outdoors Day
- **September 23** – National Public Lands Day
- **November 11** – Veterans Day

In 2021, 297 million people visited national parks. Most national parks are always free to enter — only about 100 of the 400+ national parks have an entrance fee. For parks with an entrance fee, the cost ranges from \$5 to \$35 and the money remains in the National Park Service, with 80-100% staying in the park where collected. The funds are used to enhance the visitor experience by providing programs and services, habitat restoration, and infrastructure maintenance and repair. The fee waiver for the fee-free days applies only to National Park Service entrance fees and does not cover amenity or user fees for camping, boat launches, transportation, special tours, or other activities.

# RV LIFE Trip Wizard List's 2022's Top Campgrounds



Tom Sawyer's RV Park

Looking for a great place to visit next summer during your travels? RV LIFE Pro, a network of websites, discussion forums and digital tools for RVers, recently released its list of the top 10 most-visited parks of 2022. The information came directly from travelers who use the company's [RV LIFE Trip Wizard](#) to plan trips and find great campgrounds.

In order, the campgrounds are:

- Disney's Fort Wilderness Resort & Campground, Lake Buena Vista, Florida
- Tom Sawyer's RV Park, West Mem-

phis, Arkansas

- Gilgal Oasis RV Park, Sequim, Washington
  - Oasis Las Vegas RV Resort, Las Vegas, Nevada
  - Trailer Village RV Park, Grand Canyon National Park, Arizona
  - Big Texan RV Ranch, Amarillo, Texas
  - Yellowstone Grizzly RV Park & Cabins, West Yellowstone, Montana
  - Nashville KOA, Nashville, Tennessee
  - Fort Stockton RV Park, Fort Stockton, Texas
  - USA RV Park, Gallup, New Mexico
- RVE**

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## Connect to the RV's LP-gas supply to fuel your grill, firepit or other device and say goodbye to disposable propane cannisters

By Chris Hemer and Chris Dougherty / Photos by Chris Hemer

**P**ropane, also known as LP-gas, is the fuel of the RV lifestyle. It oftentimes provides us with conveniences like hot water, a stove, a refrigerator and a furnace and also can fuel exterior appliances like grills, barbecues and fire pits. The popularity of factory-installed exterior propane connections and even complete exterior kitchens provide additional convenience for those who enjoy cooking and entertaining outdoors — but what if your RV has neither?

Of course, you can still fuel your outdoor gas appliance(s) with disposable propane cannisters, but these take

up space in the exterior storage compartments — and if you run out, you'll have to take the party back indoors, take a trip to the local store or borrow a cannister from a friendly neighbor.

If any of these scenarios are familiar, you've probably longed for an exterior propane connection that allows you to use gas from the RV's main supply — either the propane tank in a motorhome or the propane cylinders in a travel trailer or fifth wheel. Stop wishing. If your RV didn't come so equipped from the factory, you can install an exterior connection yourself in a few minutes with the right parts and a few simple

hand tools. Cost for this project was a little more than \$100.

But first, a little primer on propane connections. There are two different types: High pressure and low pressure. High-pressure connections are used when you're tapping directly off the tank or cylinder before the regulator. A low-pressure connection is used after the regulator. When using the latter, you can connect directly to a device or appliance without using a regulator on the device itself, because the gas pressure is already regulated to 11 inches of water column. A high-pressure connection comes from the RV's tank or cylinder and goes directly to the regulator on the device or appliance.

On our project motorhome, we installed an MB Sturgis Sturgi-Stay T fitting, model 250, which retails for \$120.82 but is available on [etrailer.com](http://etrailer.com) for just \$52.87. To this we added a quick disconnect 10-foot hose for small appliances (\$30.27) and a 6-foot propane "fill" hose (\$23.90), which is used to feed the RV propane system from a stand-alone cylinder. All of these components are available online, and if you need a longer fill hose, they are available for an additional cost.

The Sturgi-Stay T-fitting is beneficial because it provides you with two high-pressure ports, which can serve as inlets or outlets. For example, if you're operating off the motorhome's tank, both of the hoses can serve as outlets to fuel a barbecue grill and a griddle. If you don't want to use the RV's propane supply or the on-board tank runs empty, you can simply turn off the tank valve and one of the ports on the T-fitting can be routed to an exterior propane cylinder with the aforementioned "fill" hose. It's nice to have options.

We should note that while this installation provides you with a couple of "whips" to connect a propane-fueled device or appliance to the RV's propane tank/cylinder, it does not mimic a factory-installed system that runs beneath the RV with a quick-disconnect on the passenger side. While such an upgrade is possible, you would have to use components and procedures outlined in the National Fire Protection Association (NFPA) 1192 standard for recreational vehicles. It is fairly complex with specific language, so if you would like to have this sort of work done, it is best to seek a RVIA-certified technician to make sure you conform to the 1192 standard. Note also that the "fill" hose is just a gas hose, not a liquid propane hose, and as such, can't be used to pressure fill the onboard tank.





Tapping into the main propane supply in the project motorhome required an MB Sturgis Sturgi-Stay T fitting (model 250). We also selected a 10-foot hose for small appliances and a 6-foot propane “fill” hose to run off an external cylinder.



Propane tanks in motorhomes are different from cylinders in trailers, in that they are horizontal and permanently mounted, like this 5-gallon tank in our project 2014 Class C motorhome. Propane tanks are regulated by the American Society of Mechanical Engineers (ASME), while propane cylinders found on trailers are removable and are regulated by the DOT (Department of Transportation). Though propane tanks are not as accessible as cylinders and cannot be removed, you can still tap into them to fuel stoves, grilles, etc.



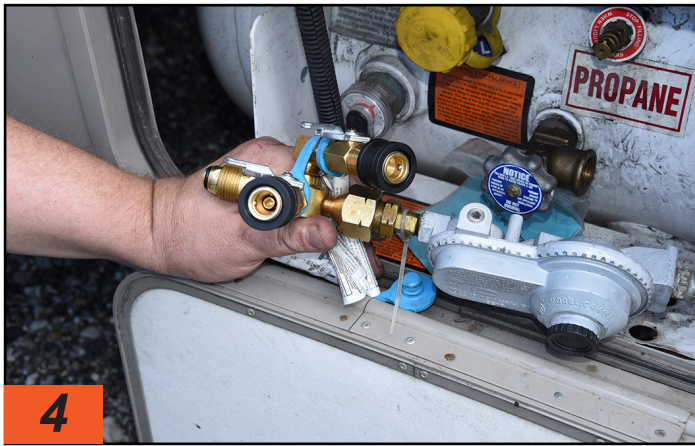
Before work commences, be sure to close the gas supply at the main valve.



The first step is to access the regulator assembly, which is typically protected by a plastic cover secured by one or more plastic fasteners. A tool designed specifically to remove these fasteners (Google “plastic fastener remover”) is used to pry the fastener(s) free, then the cover is removed.

You can use an adjustable wrench to remove the regulator from the tank.





**4** The T-fitting is then threaded into the regulator assembly and the tank, and the fittings tightened. Be careful not to over-tighten; the fittings only need to be snug enough to keep from leaking.



**5** Here, the fittings are in place. It may be necessary to rotate them upwards slightly (as shown) so they clear the door when it is closed.



**6** Once the fittings are tightened, open the supply valve and spray the fittings with a gas leak detector solution. If there are any leaks, the solution will bubble. You can also use a dish-washing detergent/water solution for this purpose, but do not use Windex glass cleaner or a similar product — the soapy water's surface tension is what allows the bubbles to form and Windex doesn't create the surface tension.



**7** When it's time to use an exterior appliance like a gas grill, the collar on the fitting is pulled back and the hose inserted.



**8** The completed installation, with the regulator cover re-installed.



**9b** If needed, the second line can be attached to supply gas to fuel another appliance.





10

When finished using the hoses, always remember to install the protective plugs to prevent dirt from getting into the fittings.



12



11

As a way of comparison, here, an Extend-A-Stay T-fitting has been fitted to a DOT cylinder on a fifth wheel, (which would attach the same way on a truck camper or travel trailer), allowing a high-pressure connection to an outside appliance.

A low pressure quick disconnect can be found on many of today's RVs. Be sure to identify high vs low pressure connections on your RV.  
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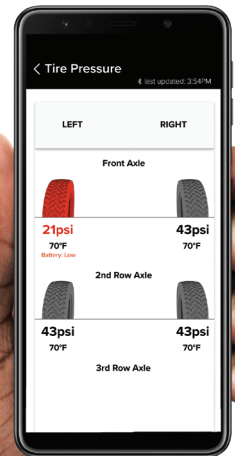
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