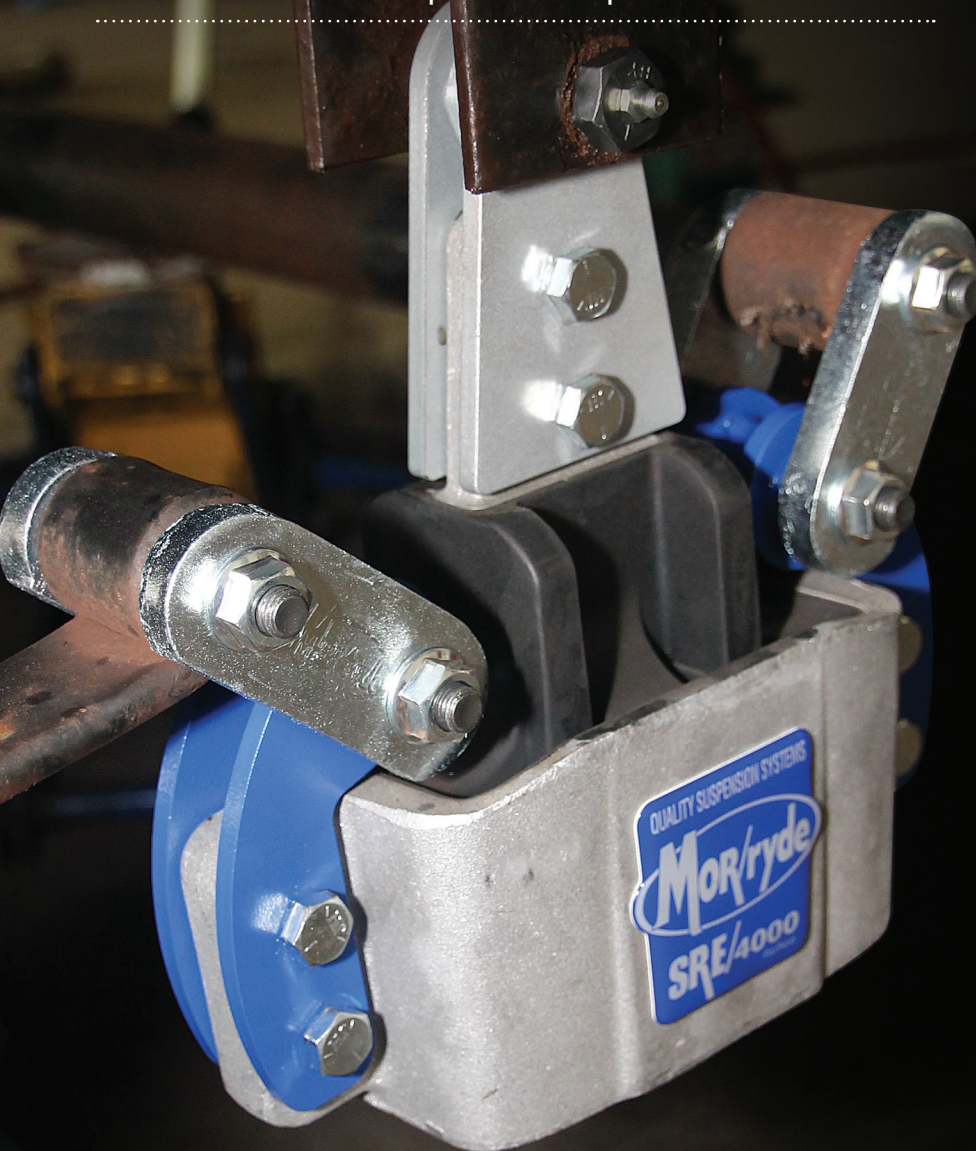


SMOOTH SAILING

MORryde's SRE4000 suspension system levels the playing field when towing a trailer or fifth-wheel and extends the lifespan of components



One thing about towing a trailer is that it's easy to ignore what the suspension is doing to the structure and components. Most owners don't realize that the typical trailer chassis suspension is an antiquated and, in many cases, unforgiving system. In fact, the suspension installed on most towables not only gives a harsh ride, but if not properly monitored, can lead to tire wear and failure, and in rare cases, even to suspension separation from the chassis.

In the old days, a standard trailer suspension was an all-metal affair. Spring shackles and shackle bolts were greaseable and consisted of thick steel plates and bolts with bronze bushings that would last for a long time. Most of these components have been replaced with thinner plates and inferior nylon bushings that barely last beyond the common one-year warranty on towable RVs. The result is that, after a couple of years and only a few thousand miles with inadequate lubrication, the bushings are destroyed, the shackle plates are severely worn, and the bolt holes are elongated, throwing the suspension out of alignment. Eventually, bolt-hole elongation can wear all the way through the thin shackle plates, resulting in a separation of the springs from the hangers and/or the shackle plates.

If you have a new RV that has an upgraded suspension, you're one of the lucky ones, and you probably paid a premium. If not, you're still in luck, because upgrading a trailer's suspension is a relatively simple and inexpensive affair. I say relatively, because the labor to change the parts is almost the same as replacing the defective shackles and bolts, which can fail every few thousand miles and need to be replaced, and the upgraded components aren't as expensive as you

Available as an aftermarket upgrade or original equipment on some new models, the MORryde SRE4000 with added wet-bolt shackles gives trailers and fifth-wheels a smoother ride and better towing experience.

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might think. Providing adequate lubrication will prolong the life of the stock shackle parts, but they can still wear prematurely.

Trailer Life has covered MORryde suspensions before, including the August 2010 installation of an SRE system on a fifth-wheel. This time, we installed the SRE4000 on a 2013 travel trailer. For a thorough back-to-back test, we towed the trailer from Massachusetts to Indiana on the old suspension, then installed the new suspension and reversed the route.

MORryde offers different suspension systems based on the size of the trailer and the customer's goals, but the basic tenet of the systems is the same: improving the ride to help preserve the trailer structure and prevent the contents from shifting inside, and replacing worn, inferior components with heavier-duty, more serviceable counterparts.

The test trailer for this installation was a 33-foot Dutchmen Coleman CTS330RL with a gross vehicle weight rating (GVWR) of 11,000 pounds, built on a Lippert Components standard chassis. While less than four years old, the trailer had made trips to Indiana and Pennsylvania and taken a few outings around New England. While we didn't keep exact track of the mileage, we estimate it probably had 8,000 to 10,000 miles on it.

The trip to Indiana was a hair-raising mix of bouncing, swaying and even a tire blowout. New tires on the truck had raised the front of the trailer to such an extent that handling was affected. The bouncing was normal, but the blowout remains unexplained, as the trailer was not heavily loaded. So, before we even attempted the

suspension switch, the tires were replaced with new Westlake ST tires, upgraded to load range E and a 75-MPH speed rating, and a new SwayPro hitch system from Blue Ox was installed. This settled the trailer from a sway standpoint, although the suspension was still noisy with a lot of bounce.

Suspension Systems

For this project, we took advantage of the installation and repair facility at the MORryde plant in Elkhart where the company designs and builds its CRE and SRE suspension systems. This state-of-the-art facility provides several concrete-paved RV sites with hookups for service customers to use the night before their scheduled appointment. In typical Indiana "RV country" fashion, the plant opens around 5:30 a.m. and the trailer rolled into the bay before 6.

The selection of the suspension system is somewhat complex, but MORryde's technical-assistance folks are available to ensure that the best one is installed on the trailer. The company has a qualification guide on its website to help determine if a system will work on a specific trailer.

The CRE3000 (\$225 to \$250 MSRP, depending on the application) is MORryde's simpler system that replaces the 3-inch equalizer that comes standard on most trailers but uses rubber to help cushion shock and increases the equalizer travel to 3 inches. This system is ideal for trailers with a 3,500 to 8,000 gross axle weight rating (GAWR). While the CRE3000 can easily be bolted on as a direct replacement for the original equalizer, it is better to replace all the shackles and bolts with a new wet-bolt kit, or heavy-duty shackle kit, which is not included with the system. The CRE3000 comes with a two-year

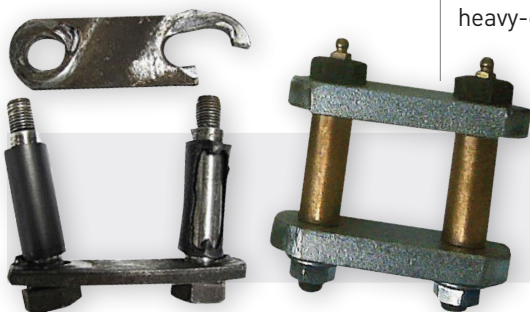
warranty.

The SRE4000 (\$500 to \$590 MSRP) is the company's premium suspension upgrade for trailers with a GAWR from 5,200 to 7,000 pounds, and it has been showing up as standard equipment on a growing number of new trailers and fifth-wheels. The SRE4000 increases suspension to 4 inches of travel, provided by rubber shear springs, resulting in improved road-shock absorption and greater equalization, according to the company.

In addition to the equalizer kit, the SRE4000 includes a proprietary X-Factor cross member, which is installed across the chassis between the equalizers and spring hangers. This cross member provides additional lateral strength, reducing frame stresses common when a trailer makes a tight turn. By stabilizing the interconnection between the two spring systems, there is a minor benefit of reduced sway, although the company doesn't market that point. Up to three of the cross members can be installed on a two-axle setup.

MORryde's heavy-duty shackle kit (\$100 to \$120 MSRP) was also installed on all points of the suspension. The kit, or something similar, should come standard on every trailer. As we mentioned, suspension wear manifests in destroyed bushings and bolt wear through the thin shackle plates, which can't be lubed, and the fixed original equalizer plate. The shackle kit provides hardened ½-inch-thick shackle plates, bronze bushings instead of nylon and, most importantly, zerk fittings on each bolt, allowing them to be greased, which substantially reduces wear.

Both the CRE3000 and SRE4000 systems are available for tandem- and triple-axle applications with 33- and 35-inch wheelbase separations.



Thin shackle plates and nylon bushings can deteriorate over time, allowing the bolt holes to elongate and eventually wear all the way through (far left). MORryde's heavy-duty upgrade (left) includes thicker plates, bronze bushings and zerk fittings. The kit, or similar components, should be standard equipment.

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Installation

Installing the SRE4000 is a straightforward process that took the professionals about five hours, partly because we had to go hunting for replacement wheel lug nuts, which had been destroyed by the tire dealer while changing the tires. (Note: If you have aluminum wheels, keep a thin-walled, deep-well socket of the appropriate size in your trailer for use when removing or torquing the lug nuts to prevent damage.)

Most of the installation could be handled by one person, but two people are required for a portion of it. The entire trailer needs to be lifted off the ground and supported for this installation, and safety is always key. MORryde has a four-point pneumatic lift system with safety locks to elevate the trailer, but if you're doing the installation without the benefit of a lift, heavy-duty jack stands rated for the weight of the trailer will work. Do not use any of the trailer's jacks to raise or support the trailer for this job. To prevent damage, jack the trailer only by the frame and not by the axles. However, it is OK to use a jack to help lift the disconnected axle into place to install bolts and bushings.

Removal of the wheels is the first step and exposes the suspension system. (If you haven't serviced the brakes and bearings in a while, this would be a good time to get that chore done.) Double check the parts and make sure you have the tools necessary to complete the job before proceeding. You will need a couple of additional floor jacks to help support and adjust the axles during the installation.

This is a bolt-on job, but as we found out, even a less-than-four-year-old RV can have some seriously rusted and degraded parts, and some of the bolts were even seized in place and took some convincing to break loose. PB B'laster penetrant is an excellent product for breaking loose these parts. The pros at MORryde also used a drill-mounted wire bore to clean up the spring-mounting holes and score the bronze bushings for better grease flow later.



1) All work at MORryde's service facility in Elkhart, Indiana, begins at 6 a.m. **2)** Not only does rust attack the suspension, it can also corrode the equalizer and shackles. The top shackle bolt has moved here, and there is a gap at the top because the plastic bushing has disintegrated. The drilled-out holes in the thinner plates have rounded out, causing the entire suspension to become loose. This wear represents four years and about 8,000 to 10,000 miles of mostly light travel with the trailer loaded for weekends. **3)** MORryde's SRE4000 equalizer (right) and heavy-duty greaseable parts replace the worn and rusted original equalizer, bolts and shackles (left). Note that installing the new system will result in a slightly higher suspension profile, so hitch adjustments will be needed after the job is complete. **4)** Jacks are used to manipulate the axles to remove and install the new hardware, not to support the weight of the trailer. The frame of the trailer should be raised and supported with the correct size jack stands prior to this point. **5)** Removing the old hardware, even on this relatively new trailer, took a lot of effort, even after soaking it with PB B'laster penetrant. Some of the bolts were seized in place. **6)** Wet bolts, as they're called, include a bolt with a zerk fitting and a bronze bushing that allows for a stronger connection that is properly lubricated, as long as grease is added regularly.

The next step involves removing and replacing the stock equalizer with the SRE4000; the kit comes with replacement wet bolts for this step. For the SRE4000 shoulder bolt, the zerk fitting points out. However, for the remaining bolts, the zerk fittings need to point in to the underside of the trailer so they can be accessed for lubrication without removing the wheels and tires.

Before securing the equalizer, the X-Factor cross member is installed. The cross member bolts to the top bolt of

the equalizer, which is why it's installed at this point. This is a complete bolt-on part, with no welding required, but installing it requires close attention and a bit of patience so the bolts go in the right holes. In all circumstances, make certain to torque all bolts to the required specs.

Once the entire system is installed, be sure to grease the new wet bolts. MORryde's technicians use Master GreaseMaster Moly Grease, but they say any equivalent extreme-pressure lithium-based grease will work. The wet

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7) Once the old hardware is off, the new hardware can be installed. Here, the bronze bushings are carefully seated in the spring eyelets using a hammer. **8)** To aid in grease flow, the insides of the bushings are lightly scored using a drill bore. **9)** The X-Factor cross member helps minimize torsional stress and movement on the suspension, which assists with handling and, to a lesser degree, trailer sway. Up to three can be installed on a tandem-axle trailer, one per spring mount.

bolts should be inspected every 8,000 miles, and grease should be added until some of it starts to ooze out.

The MORryde suspension system is also compatible with Lippert's Correct Track alignment system.

Results

When comparing the two systems,

Jack Enfield, MORryde's sales and marketing manager, claims the CRE3000 will provide about a 30 percent improvement in trailer ride, which may not be noticeable to the driver but will help stabilize the trailer. Enfield says the SRE4000 will provide a noticeable difference all the way up to the driver's seat.

Our comparison drive was nearly 800 miles each way, and we could sense the difference within a mile of the MORryde plant. Before the change, the trailer was bouncy and prone to sway, and made cacophonous noises from the suspension on turns and any time the suspension moved.

Right out of the plant, it was clear that the ride had improved with a quieter suspension on turns. Traveling over bumpy roads and several sets of railroad tracks, the trailer virtually floated, instead of bouncing. We set a few items out on the counters in the trailer as a test, including a pump

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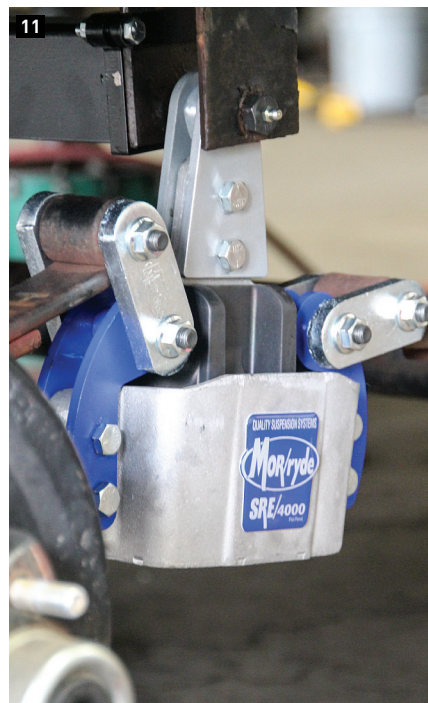
bottle of hand soap and a paper-towel roll, and neither moved or fell on the drive through Elkhart. Items in the rear cabinets also shifted less than before the installation.

That is not to say that bouncing was eliminated entirely. When driving on roads where the pavement hits both sides of the axle at the same time, the trailer will still bounce some, but the 4-inch travel and rubber bumper, in addition to the springs, soften the ride substantially. You could also add shock absorbers to further civilize the trailer's ride, but the MORryde components are a huge step in the right direction.

All in all, the MORryde SRE4000 made driving the 800 miles back to Massachusetts much more enjoyable. Installing this system on any trailer, or buying a new trailer with the system already installed, is well worth the investment. 🚚

MORryde International

574-293-1581, www.morryde.com



10) The X-Factor cross member is mounted to the spring hanger, and the equalizer is fully mounted with the thicker shackles. **11)** The SRE4000 system is completely installed. Note that the only zerk fitting facing out is the one at the top of the equalizer. The other fittings face in, so they can be accessed and greased without removing the tires and wheels.



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