

SMOOTHER RIDE, BETTER STOPPING

MOR/RYPDE'S FULLY INDEPENDENT SUSPENSION, KODIAK DISC BRAKES AND A CARLISLE ACTUATOR IMPROVE ON-THE-ROAD PERFORMANCE

by **Bill and Jenn Gehr**

Travel trailers and fifth-wheels offer a lot of livability, and over the years they have been transformed into beautiful homes on wheels. When you look below the frame though, you'll likely see the suspension your grandfather's trailer had. The solid axle and leaf spring — sans shock absorber — suspension is still the mainstay of the trailer industry, and it continues to take its toll on trailer components as the body bounces and bangs freely over the highways.

In an effort to smooth out some of the jarring on a 32-foot fifth-wheel, we installed MOR/ryde's RE Suspension system to the existing springs ("A Smoother Ride," August 2010). The beefy rubber equalizers did a good job of civilizing the fifth-wheel's ride quality, but our next step was to find out what the company's ultimate upgrade, the MOR/ryde Independent Suspension System (IS) could do — along with improving braking using the Disc Brake Upgrade Package.

Created and patented in 1999, the IS system totally redefines smooth towing. It's designed to eliminate bouncing, jerking, broken leaf springs and wear and tear on a trailer or fifth-wheel. MOR/ryde utilizes an independent wheel action that replaces the axles and leaf springs (which can break or fail due to worn out hangers and shackles plates) with a rubber shear spring that allows for more than 5 inches of wheel travel

(typical axles and leaf-spring systems have only 1½-2 inches of wheel travel). Most owners will testify that having limited wheel travel translates into an incredibly harsh ride, which is evidenced by disheveled items that were once neatly stored in cabinets, and prematurely worn-out structural components.

The system also has a high-quality shock absorber at each wheel, damping the up-and-down movement and road shock. The independent action allows each wheel to walk over bumps and curbs. The IS system can also be accurately aligned using built-in adjustments. MOR/ryde uses Hunter Engineering Alignment Equipment to set toe and camber of each tire off the kingpin of a fifth-wheel, or coupler if the suspension is installed on a travel trailer. When the tires are aligned properly, the trailer is easier to tow and the tires are less susceptible to premature wear and blowouts. Trailer tires that haven't been balanced can also aggravate these problems, but that's another story.

The installation on our 32-foot NuWa HitchHiker was expertly performed at the MOR/ryde service center in Elkhart, Indiana. Technicians assigned to this task are seasoned professionals with high-level skill sets. This installation is complex, making it virtually impossible for the do-it-yourselfer and, for that matter, most RV service facilities to make the conversion — unless trained by MOR/ryde. MOR/ryde technicians install about 150 IS suspensions every year, and the system is used by a number of



The completed MOR/ryde IS Suspension System upgrade with Kodiak Disc Brakes. Next up: tires, wheels, and laser alignment.

travel-trailer and fifth-wheel manufacturers who offer this upgrade as an option.

The installation of this system is custom to every trailer. The process begins by taking measurements to determine how the trailer will react to the suspension and what, if any, frame reinforcements need to be made. MOR/ryde recommends each wheel be weighed to determine the appropriate shear spring for the system. The shear spring is the core component contributing to the ride quality afforded by the IS system, and is adjustable based on trailer weight.

Installation begins by removing the existing axles, leaf springs and spring hangers. After the existing suspension has been removed, the chassis is cleaned and prepared for installation. Once the frame is prepared, the IS components are assembled and positioned onto the

frame. Additional measurements taken prior to removal of the old system allow the technician to know exactly where to install the new hardware. Because the old suspension may have been off kilter a bit, the technicians further double-check the dimensions to ensure alignment accuracy. The IS components are then precision-welded to the frame.

Next comes the installation of the brake system. MOR/ryde offers a high-quality disc-brake system, or the trailer's existing brake system can be used. Customers can also elect to upgrade to heavier-duty electric brakes.

We went with the hydraulic disc brakes, which provide superior stopping distances and smoother braking. The fiver is used for full-time living, so adding major safety elements is welcomed and appreciated. After reviewing the options,

we chose Kodiak Trailer Disc Brakes and Carlisle Industrial Brake and Friction for the actuating unit.

Once the entire system, including the brakes, is installed, the alignment is performed by connecting electronic equipment to the kingpin and then to each axle to give accurate toe and camber readings. Once the alignment is perfect, the wheels are installed. The technician performs a road test and a final inspection is done to ensure that all is well with the new MOR/ryde IS Suspension System.

The entire installation, including the disc-brake actuator and hydraulic lines, took the better part of two days. Routine maintenance for the IS system is minimal, requiring only regular greasing of the pivoting arm as well as a visual inspection of the main components. The installed price for the IS system is



- (1)** A MOR/ryde technician takes great care with the numerous measurements of the frame's position with the old axles, as the results are critical for positioning the new IS.
- (2)** The SRE 4000 rubber equalizers reduced stress on the NuWa HitchHiker and improved ride quality.
- (3)** Although the SRE 4000 was an effective upgrade to our fifth-wheel trailer's suspension, the new IS is far more effective.



MOR/ryde uses a sophisticated laser system to ensure proper alignment.

\$1,040 per 7,000-pound-rated axle. The 7,000-pounders were installed on the test fifth-wheel, and axles are also available in 8,000-, 9,000- and 10,000-pound capacities. The IS system is backed by a five-year limited warranty. The Kodiak disc brake and Carlisle actuator package is \$1,839 for a two-axle kit and the labor is \$740 for a normal installation.

After we left the MOR/ryde center, we aimed for every pothole and railroad track we could find to test the IS system. As we crossed the first pothole, we could feel the sharp-edged bump in both front and rear axles of the truck. As the trailer passed over, we felt nothing. Upon encountering railroad crossings, as expected, the truck ride was rough. However the impact on the trailer was

far superior to that of our original axles and leaf springs.

Now that we have traveled more than 500 miles of various terrain to evaluate the value of the IS suspension, we are impressed with overall ride and handling characteristics that MOR/ryde has provided. The disc-brake addition has improved stopping power dramatically, with the added bonus of smooth and even braking action. There are only a few brake controllers that will work with this system, and we chose the Hensley Tru-Control, which is considered one of the best matches for the Carlisle actuator.

These top-quality upgrades contribute considerably to overall safety and peace of mind while on the road, and MOR/ryde's superior customer service will ensure a smooth suspension transition. Add in the benefit of reduced wear and tear and this IS system is, quite simply, one of the best improvements an owner can make to a travel trailer or fifth-wheel. 📧

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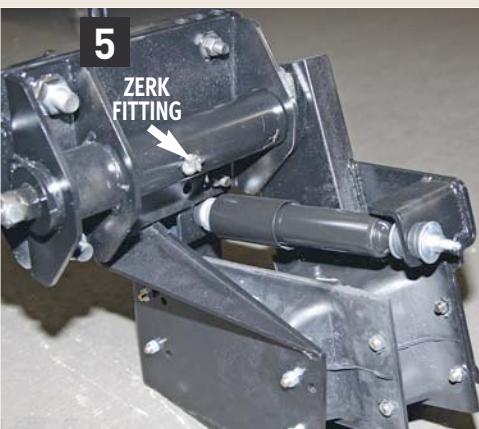
What are other people saying about the IS system?

"I would like to take this opportunity to thank you and your staff for the recent upgrades, hydraulic disc brakes and Independent Suspension, to our fifth-wheel trailer. The courtesies and speedy installation are greatly appreciated. The results are very satisfactory and perhaps even more than I expected. The brake system had increased my confidence and ability to stop in a safe and secure manner. The previous brake system was totally unsatisfactory and gave me many stressful moments. The ability to stop the trailer on a downgrade at highway speeds is most reassuring. I would recommend this system to anyone. I have no way to evaluate the IS system but I have noticed that items in the trailer stay in place much better than before. Again please express my thanks to the people who worked on our trailer and those who made our visit pleasant."

Bob Compton IS Independent Suspension & Disc Brakes

"My new Carri-Lite trailer is equipped with MOR/ryde IS suspension, disc brakes, and pin box. The trailer tows and rides great and the brakes are much more effective than the drum brakes on my last trailer. Thanks for your help.."

John Harlan IS Independent Suspension, Disc Brakes & Pin Box System



- (4) The hydraulic actuator by Carlisle is very compact and extremely efficient.
- (5) A clear view of the inner workings of our new IS Suspension System reveals a high-quality shock absorber and the location of the grease zerk.
- (6) A MOR/ryde technician makes the final adjustments to the alignment.



SMOOTHING OUT THE ROUGH SPOTS.

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