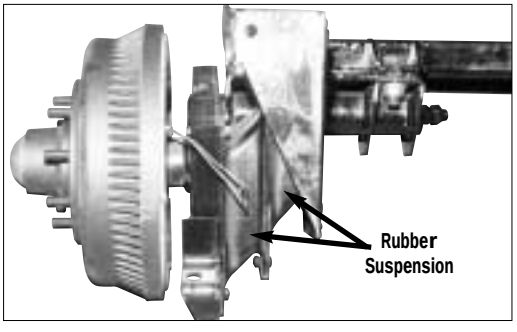
RIDING ON RUBBER

MOR/ryde's new independent suspension for trailers softens the bumps and grinds

PRODUCT EVALUATION

Leaf spring suspensions have been around long before there were travel and fifth-wheel trailers, and while leaf springs do a functional job in RV applications, they don't always make up the most effective and comfortable components of a suspension. MOR/ryde International, looking for improvements over low-tech leaf springs, has introduced a rubber-spring independent suspension system designed for original-equipment or aftermarket installation on trailers.



Diagonal-shaped parts to the right of center (arrows) are the rubber suspension block elements. The shock absorber is not installed in this view.

After installing the MOR/ryde suspension, the test subject Peterson Industries Excel fifth-wheel rode level with the road.

Based on our testing and observations, the new MOR/ryde system can vastly improve a trailer's ride quality over that of an original-equipment leaf-sprung system.

What's the point of smoothing the ride in a trailer that typically doesn't carry passengers? Well, it helps to keep your fragile valuables intact. Dishes and kitchen equipment, a television and entertainment center, computer equipment and other breakables are frequently carried along.

While leaf springs are cheap to buy and easy for the factories to incorporate into their chassis, many of these suspensions are too stiff and non-compliant, especially when using high-capacity axles under lighter trailers. In these cases, suspension travel is limited and the ride quality is compromised.

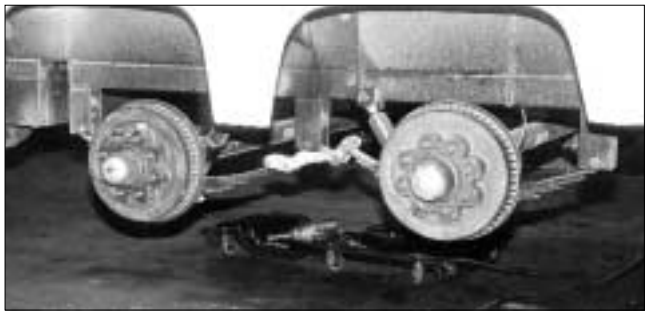
The MOR/ryde system consists of a fully independent suspension setup with each wheel moving inde-

JEFF JOHNSTON

A complete package that's ready to install, the MOR/ryde axle (left) replaces the stock axle and leaf springs. The stock parts must be removed from the frame via unbolting or "blue-tip" wrench (cutting torch) before installing the new parts.

By Jeff Johnston

pendently of the other and supported by rubber blocks tensioned in shear. MOR/ryde pioneered the use of rubber blocks in shear as a suspension component many years ago and has many such systems in use on RVs and other commercial applications. This new system uses trailing arms pivoting on high-strength fiberglass collar bearings, along with paired rubber suspension springs on each axle end, plus shock absorbers to further enhance ride quality. The replacement axle assembly is designed to be welded to the frame in place of the stock axles and leaf springs. A specially valved shock absorber, custom-made for this application, is included at each wheel.



The MOR/ryde installation (bottom) is neat and clean, compared to the stock leaf spring setup, and in this example provided about an extra 3 inches of body lift for the trailer.

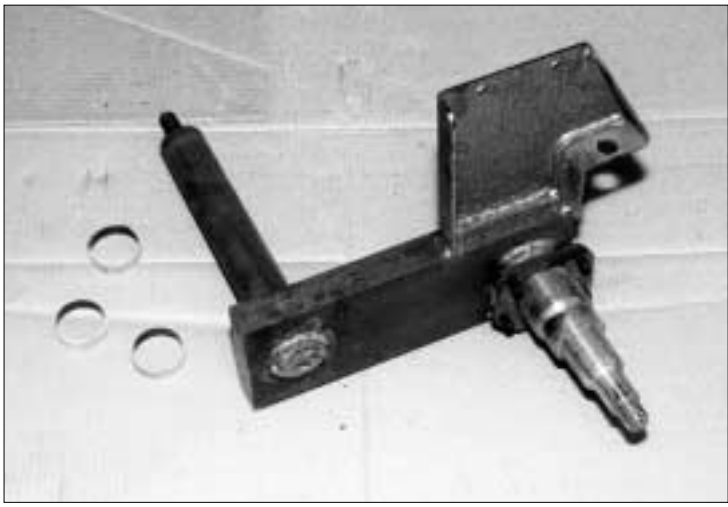
MOR/ryde's replacement kits are available in gross axle weight ratings (gawr) of 3,500 to 10,000 pounds, so there are systems available to fit most fifth-wheel and travel trailers with conventional leaf spring-supported axles. The axles evaulated here are rated at 6,000 pounds and retail for approximately $670 per axle (with re-use of the stock brake parts).

The system is designed to use the stock backing plates and brake drums from the trailer's original axles. MOR/ryde can also supply optional, upgraded, oversize brakes, which typically cost around $420 per axle for 12¼¥2½-inch brakes, or $499 for 12¼¥3⅜-inch brakes.

A special brake-adjusting tool with a sharply bent end, available at auto-parts stores everywhere, is required to reach the brake adjustment point on the new axles.

The MOR/ryde system definitely isn't cheap, but it works as advertised, which makes it a good value as an aftermarket or OEM investment. Some higher-end trailer manufacturers, notably Carriage, Newmar, Teton and Travel Supreme, have the MOR/ryde system available as a factory option, and both Newmar and Teton have made this system standard on at least one product line.

Installing the MOR/ryde system automatically provides an approximately 1½-inch lift over the stock leaf spring suspension, which can compensate somewhat for the higher hitch point on certain pickups and help adjust attitude for those fifth-wheels that are forced to ride low-slung in the rear. The owner of the trailer we observed opted for slightly more lift, so an extra steel spacer bar was welded into place before installing the new suspension, which resulted in about a 3-inch body lift over stock. The trailer happily lost its tail-down configuration after the MOR/ryde system was installed.



A single suspension trailing arm element shows the three fiberglass collar bearings (left), the stub axle on which the trailing arm pivots, the wheel spindle and the metal bracket to which the springs and shock are attached.

ON THE ROAD

We evaluated the MOR/ryde installation on a 2000-model Peterson Industries Excel Limited 30-foot fifth-wheel trailer towed by a 1999 Ford F-350. The project was handled inside of six hours, including time out for photos, by trained installers.

Our test drive loop around some of the Midwest's "finest" roads included cracked and broken pavement, several railroad crossings and some bridge approach and departure transitions that had things flying in the trailer. Three of us rode in the fifth-wheel to observe the trailer's reactions in stock and modified form. Riding in a fifth-wheel is legal in Indiana, and we had our portable FM-band radios to stay in touch with the driver, as per the letter of the law and general safety procedures.

A factory-stock trailer leaf spring suspension can be a real bone-rattler, and this rig was certainly no exception. We felt and heard every minor crack and irregularity in the road, and with each bump, things in the trailer went "crash" in unison with the bad roads. This trailer was a rear kitchen model, which aggravates the problem because the kitchen and its many stored items are at the very aft end where it's most affected by the leverage effect of the trailer bouncing on its steel springs.

The worst spot in the road was a bridge crossing where, at 45 mph, we observers, along with a lot of noisy items in the trailer, were launched airborne for a moment along with the accompanying "bang-crash-bang." It didn't take much of a drive to reveal this trailer needed help.

Following the MOR/ryde axle installation we took on the same loop once again. It was immediately apparent that something was different. Gone was the harsh "crash-bang" noise on almost every road surface irregularity. It was replaced by a lower-frequency "bump-thump" that made it sound as if a suspension muffler had been installed on the chassis. (There's a new one for sleazy garage mechanics... "Yeah lady, yer suspension muffler is shot, she's gonna need a new one, gonna run some money, hafta special order y'know...").

Even from a seat-of-the-pants perspective, there was a noticeable difference in the trailer's ride. There was vertical motion at the aft end, but it was a softer, more gentle type of movement that was less likely to cause damage. The kitchen and other potentially noisy interior areas were considerably quieter (most of the items remained in place) because the trailer body was no longer responding in a sudden, harsh manner to bumps on the road.

The bridge crossing that sent everything flying earlier was still rough, in a better-cushioned kind of way, but we heard none of the crashing pots and pans that accompanied the jump the first time around. Plus, we all kept our feet on the floor this time—and the driver negotiated that nasty part of the road at the same speed.

Meanwhile, the tow vehicle driver reported he had to adjust the brake control to accommodate the new oversized brakes. Even when the brakes were brand new and not yet broken-in, they were performing above and beyond the old stock brakes.

A stock leaf-spring suspension can ride pretty rough. Installing the new MOR/ryde aftermarket suspension can smooth out the harsh spots and help preserve the structure and contents of your rig, be it a fifth-wheel or travel trailer. Given the added benefit of the extra safety angle of the oversized brakes, the MOR/ryde system rates a big "plus" with us. **TL**

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