

**H ZMD**<sup>®</sup>  
SHOCKLESS RIDE TECHNOLOGY



**H HENDRICKSON**  
*The World Rides On Us*<sup>®</sup>



## ZERO MAINTENANCE DAMPING®

Hendrickson provides the latest in ride technology with ZMD® ZERO MAINTENANCE DAMPING® technology. This patented<sup>▲</sup> system eliminates the need for an external damping component such as a shock absorber. Instead, the suspension damping function has been incorporated into the suspension air springs. ZMD's unique air spring design provides suspension damping and trailer isolation all in one package without adding additional components to the air spring.

<sup>▲</sup> This product is covered by at least one or more U.S. and/or foreign patents and/or pending U.S. and/or foreign patent applications. See Hendrickson for details.

### What are customers saying about ZMD?

*We decided to invest in ZMD ride technology to eliminate our shock maintenance expenses. An added bonus was the improved ride quality that our drivers experienced on top of that savings. Drivers in the fleet reported they felt a difference in the ride quality when the trailer was unloaded. Since our fleet runs loaded only 50% of the time, this will help us maintain our vessels as we tend to keep our trailers 20+ years.*

**Kyle Neumann**  
Maintenance Director

*When specifying options for my trailers, I look for reduced maintenance and prolonged tire wear.*

*I noticed that the road hauling was excellent and the tire wear was also better than I had expected. All my expectations were met! Since then I have purchased an additional two B-Trains with Hendrickson's ZMD technology and will continue to into the future.*

**Yvon Savoie**  
Owner  
Transport Yvon Savoie

[www.ridezmd.com](http://www.ridezmd.com)

## HOW ZMD® WORKS

As the axle moves up and down, pressurized air is exchanged between the flex member and the piston. By controlling this air flow, ZMD air springs provide continuous suspension damping for the entire life of the air spring.



## FEEL THE DIFFERENCE

Hendrickson's ZMD technology does a superior job of isolating the trailer from road inputs whether fully loaded or dead heading. ZMD helps to diminish the fore and aft forces transmitted to the trailer from the suspension by damping as the suspension travels up and down providing a more comfortable ride for the driver.

**More Comfortable**

**Less Wear**

**Greater Protection**



**Watch ZMD  
in action**

# ZMD® FEATURES AND BENEFITS

## Patented Air Spring

- Superior ride quality and driver comfort
- Reduced overall suspension maintenance
- Uniform damping levels over the life of the air spring
- Enhanced cargo protection
- Increased trailer component life
- No moving parts
- No hydraulic fluid

## Robust Down Stop

- Reduced labor and costs
- Less maintenance
- Reduced risk of roadside inspections and CSA violations



## SPECIFICATIONS

MODEL	RIDE HEIGHTS (inches)	NOTES
<b>ULTRAA-K®</b>		
<b>UTKNT 40K</b>	16	Standard
<b>VANTRAAX®</b>		
<b>HKANT 40K</b>	16	Optional; Requires QUIK-DRAW®
<b>INTRAAX®</b>		
<b>AANT 23K</b>	14, 15, 16, 17	Optional; Standard travel only
<b>AAT 23K*</b>	14, 15, 16, 17	Optional; Standard travel and limited rebound*
<b>AAT 25K*</b>	14, 15, 16, 17, 18, 19	Optional; Standard travel and limited rebound*

\*RCA Raised-Center Axle is available on AAT 23K / 25K models equipped with ZMD for both standard and limited rebound travel. Only 14" or 16" ride heights are available with limited rebound travel when specifying RCA.

## WARRANTY

ITEM	PARTS	LABOR
<b>ZMD® "Shockless" Ride Technology</b>		
ZMD Air Springs ZMD Down Stops	3 years	3 years
<b>Traditional Air Springs and Shock Absorbers</b>		
Air Springs	2 years	1 year
Shock Absorbers	2 years	2 years

See L583 Comprehensive Warranty Statement or contact Hendrickson for complete warranty terms, conditions and limitations.



# FREQUENTLY ASKED QUESTIONS



Scan for more info

## 1. Why is ZMD® limited to specific ride heights on ULTRAA-K®, HKANT 40K and select top-mount INTRAAX® models?

ZMD® is currently limited because this patented air spring is rated for 20K, 23K and 25K axle applications only. Additionally, the down stop has been rigorously tested for these specific applications.

## 2. How are ZMD air springs installed?

ZMD air spring installation procedures and mounting hardware are identical to standard air spring and shock installation procedures. To install ZMD air springs as a retrofit, simply remove the existing shocks and air springs and replace with ZMD air springs and down stops. The select INTRAAX® AANT 23K models that are available with ZMD require an additional bolt to be added to the shock clevis on winged hangers only. Follow all applicable Hendrickson installation, service, maintenance and repair procedure publications.

## 3. Can standard air springs be mixed with ZMD air springs?

**NO.** Mixing ZMD air springs with standard air springs is not recommended. While the load curves for each product are somewhat similar, they provide different damping performance to the suspension system. Mixing ZMD and standard air springs on the same suspension can adversely affect the operation and life of other integral suspension components.

## 4. Can ZMD air springs equipped on VANTRAAX® and INTRAAX suspensions be interchanged?

**NO.** Both ZMD and standard air springs are specially designed to meet the needs and geometry of the specific application. It is important to use only the exact air springs specified by Hendrickson for each model to ensure maximum operation performance and life of components.

## 5. How can customers tell the difference between a ZMD air spring and a standard air spring?

The customer must visually inspect the air spring to verify the type of air spring.

Identifiers include:

- ZMD embossed on the bellows
- Part number
- Down stop instead of shocks

Similar to today's standard air springs, the Hendrickson part number will be located on the ZMD air spring bellows.

## 6. Can ZMD be retrofitted on existing trailers in service?

Yes. ZMD air springs and down stops can be retrofitted on select VANTRAAX and INTRAAX models with the following specifications. VANTRAAX HKANT 40K models require a 16-inch ride height and QUIK-DRAW®. ZMD is compatible with Hendrickson's SURELOK® device. INTRAAX AANT 23K and AAT 23K / 25K models are available with 14-inch through 19-inch ride heights and standard travel. INTRAAX AAT 23K / 25K RCA models are available with 14- or 16-inch ride heights and limited rebound travel. Please call Hendrickson for assistance in ordering a ZMD retrofit kit.

*Actual product performance may vary depending upon vehicle configuration, operation, service and other factors.*

*All applications must comply with applicable Hendrickson specifications and must be approved by the respective vehicle manufacturer with the vehicle in its original, as-built configuration. Contact Hendrickson for additional details regarding specifications, applications, capacities, and operation, service and maintenance instructions.*

Call Hendrickson at **330.489.0045** or **866.RIDEAIR (743.3247)** for additional information.



### TRAILER COMMERCIAL VEHICLE SYSTEMS

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