⊞ IDENTIFICATION GUIDE

HUS®3 WHEEL-END SYSTEM

SUBJECT: Wheel-End Identification

LIT NO: L1162
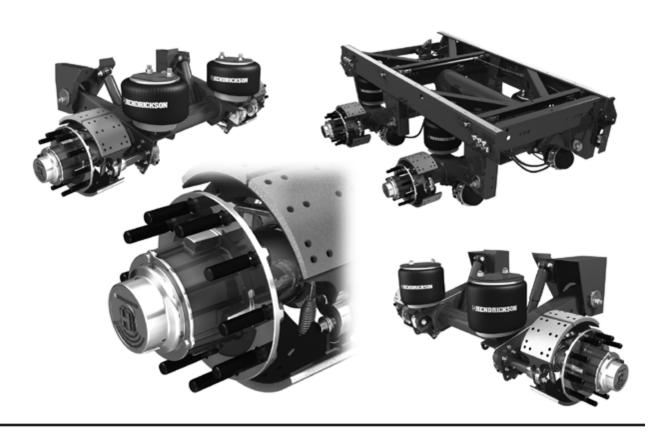**DATE:** June 2010

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⊞ HENDRICKSON

The World Rides On Us®

HOW TO IDENTIFY AN HUS®3 WHEEL-END SYSTEM

STEP 1. Verify that the wheel end is a Hendrickson product as indicated by the Hendrickson logo on the hub cap

STEP 2. Look for the WEM attached to wheel studs (see Figure 1). If the WEM is present no further action is required. If not, please continue to next step.

STEP 3. Look for a 3-bolt hub cap, a unique feature of the HUS3 wheel-end system. If the hub cap has the unique 3-bolt design, you have an HUS3 wheel-end system (see Figure 1) and need to proceed to the next step.
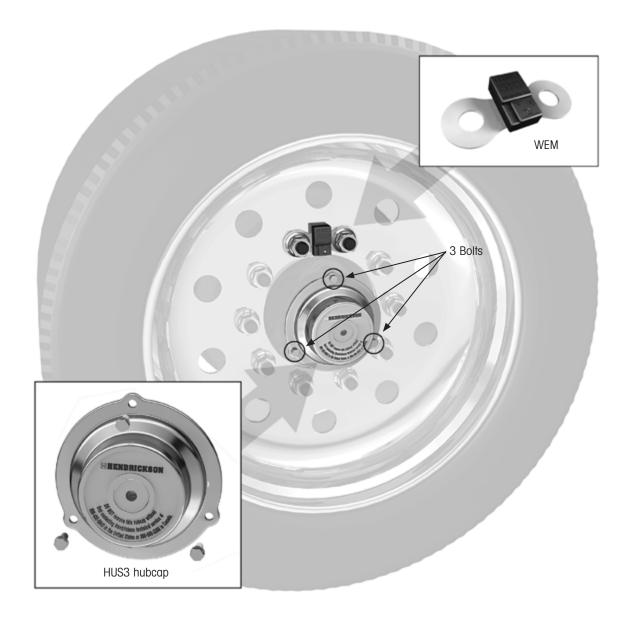
WEM

3 Bolts

HUS3 hubcap

Figure 1: *HUS3 hub cap and WEM*

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HOW TO FIND YOUR MODEL AND SERIAL NUMBER

STEP 4. Identify the model and serial number of the suspension. Find the identification tag (see Figure 2) on the suspension by referencing the chart below. Note the model and serial number on the tag. If no tag is found, contact Hendrickson Technical Service to determine what suspension model is on the trailer.

WHERE TO FIND ID TAG

SUSPENSION MODEL	TAG LOCATION
INTRAAX® Primary Suspension System	Inside of curbside beam
INTRAAX-SP Slider Suspension System	On roadside front frame bracket gusset
VANTRAAX® Slider Suspension System	On roadside slider box side rail above front frame bracket; also has blank Intraax tag on inside of curbside beam

Note model and serial numbers for reference when calling Hendrickson Technical Services

HENDRICKSON VANTRAAX®

MODEL _____

DESC. _____

CUST. PT. NO. _____

SERIAL NO. _____

K-2° SLIDER

CAPACITY
SLIDER/SUSPENSION

_____ LB

TRI-FUNCTIONAL° BUSHING

MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING PATENTS: U.S. PATENT NOS.: 5171036, 5366237, 5720489, 5996981, 6024417, 6240806, 6244608, 6279933, 6412789, 6725743, 6752406, 6926122. MEXICAN PATENTE NOS.: 177978, 190976, 202281, 214622, 223713, 230787, 230788, 231160, AUSTRALIAN PATENT NOS.: 666572, 707479, 739422, 750171, 2003243658. NEW ZEALAND PATENT NOS.: 260280, 272361, 334263, 510161, 516216 527705 AND OTHER ISSUED FOR FOREIGN PATENTS, AND PENDING U.S. AND FOREIGN PATENTS.
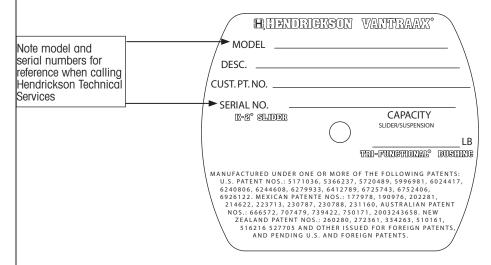
Figure 2: *Sample Identification Tag (VANTRAAQX® tag shown)*

STEP 5. Now that you have identified that your trailer is equipped with HUS3, and requires WEMs, please contact Hendrickson Technical Service (1-866-743-3247) for instructions on how to receive and install WEMs on your trailers. Your Hendrickson representative will arrange for convenient shipment of the WEMs.

STEP 6. Once you have received your WEMs, continue to page 4 for instructions on installation and use.

WHEEL-END MONITOR (WEM™) OVERVIEW

WHAT IS A WEM™?

The Wheel-End Monitor (WEM™) is a device designed and manufactured by SKF to constantly monitor wheel bearing conditions, signaling spalled bearings by flashing a red light when activated with a magnet. The WEM uses a vibration sensing program to detect when vibrations exist outside a threshold established for spall-free bearings. The flashing red light provides an early indication of potential wheel-end performance issues.
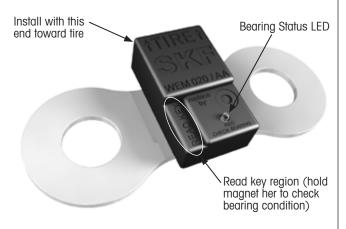

Install with this end toward tire

Bearing Status LED

Read key region (hold magnet her to check bearing condition)

Figure 3: *Wheel-end Monitor (WEM)*

INSTALLATION

Oriented as shown in Figures 3 and 4, attach the WEM to the wheel using any two adjacent wheel studs and nuts. Standard wheel nut torque and tightening sequence still applies.

Included with the WEM is a trailer decal (L775) outlining HUS wheel-end inspection procedures (Figure 5). Affix the decal in a prominent location above the front driver's side wheel of the trailer.

CHECKING BEARING CONDITION

Check bearing condition by holding the magnet to the read key region of the WEM (Figure 6). A blinking LED indicates bearing condition:

GREEN — Bearings operating properly

RED — Damage detected*

RED and GREEN — WEM malfunction*

*Service required — Contact Hendrickson technical service at 866-743-3247 for further details.

Figure 4: *WEM installed*
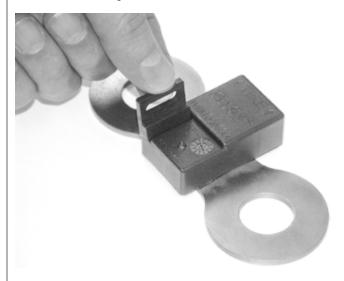

Figure 5: *Trailer decal L775*

Figure 6: *Using the magnet to check bearing condition*

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SKF WHEEL-END MONITOR (WEM™) INSTALLATION, USE AND MAINTENANCE INFORMATION

⚠**WARNING:** **Read instructions and safety precautions before installing, using and maintaining the WEM™. Failure to do so could result in serious injury or death, especially when operating the vehicle on which the WEM is installed.**

1. WHAT IS THE WEM?

The WEM is a device that constantly monitors the condition of the wheel bearings. The WEM is approved for use only with trailer axles equipped with the Hendrickson HUS® wheel end. If damage begins to occur to a wheel bearing in the form of spalling on the bearing raceway, the WEM can signal this (when properly installed) by its blinking red light. The WEM only monitors possible spalling of the bearing raceway inside the wheel on which the device is installed.

NOTE: The WEM is not a substitute for the continued performance of the maintenance and inspection practices recommended by the vehicle OEM. The WEM is instead meant to provide added redundancy to help improve the safe operation of the vehicle.

2. INSTALLATION

Refer to Figure 7 of the properly installed WEM.

The WEM must be installed in the proper direction so that the WEM's light (LED lamp) is clearly visible. In addition, the arrows on either side of the word "TIRE" must point in the direction that is the shortest distance towards the tire and not point towards the center of the wheel. See illustration of properly installed WEM.

Install the WEM by removing two of the lug nuts fastened on to any two wheel bolts that are adjacent to each other and are located on the outer side of the wheel. Insert the two bolt openings of the WEM over the two bolts. Reattach the two lug nuts to the wheel bolts fitted through the two bolt openings of the WEM.

Figure 7: *Properly installed WEM*

Apply the same torque to these two lug nuts as recommended by the vehicle's OEM for the attachment of the wheel on to the end of the axle.

After installation, test the WEM to confirm that it can be activated. See instruction number 3 for activation instructions.

3. ACTIVATING THE WEM AND READING THE RESULT

The WEM should be activated and read after being installed to confirm proper installation. The WEM should be manually activated and read every two weeks after installation to detect any possible spalling of the bearing. Follow the instructions below on how to activate and read the WEM. However, any time the WEM is seen as warning of spalling of the bearing raceway by blinking red, either automatically or by manual activation, you should heed the warning found below in this step number 3.

At the first indication of spalled bearings, the WEM will automatically initiate a program to blink red continuously for two weeks. After two weeks, the WEM will stop blinking to conserve battery power, but will blink the red warning when manually activated. The WEM can also be activated manually with the magnet furnished with the WEM. Hold the magnet next to the words "read key" printed on the outer side of the WEM as shown below. Hold the magnet in that position for 2 to 3 seconds with the labeling found on the magnet pointed towards the lamp (LED) of the WEM as shown in Figure 8 for WEM activation.

Figure 8: *WEM activation*

If the WEM blinks green when manually activated, this means it has not detected any spalling of the bearing raceway. If the WEM blinks red when manually activated, or if the WEM activates automatically and blinks red, this means the WEM has detected spalling of the bearing raceway. Discontinued blinking by the WEM after it has blinked red does not mean that the spalling of the bearing raceway is no longer present.

⚠**WARNING:** **If the WEM indicates spalling of the bearing raceway by blinking red when activated manually or automatically, you must inspect and have maintenance performed on the affected wheel-end. Driving with a spalled bearing can lead to bearing failure and loss of vehicle control or vehicle fire resulting in serious injury, death or damage. Do not operate the trailer vehicle for more than 10,000 miles without inspection or maintenance of the wheel-end after the WEM has started to blink red either manually or automatically.**

If the WEM blinks alternatively red then green when activated, then the WEM may be mounted in the wrong direction. Refer again to installation instruction number 2 above. If the WEM is installed correctly but any time after installation the light does not blink when you attempt to activate the WEM or the light blinks red then green when you activate, then the WEM is not working and will not warn against bearing spall. If the WEM is not working, do not install it or leave it installed on the wheel end.

4. SAFETY PRECAUTIONS FOR THE INSTALLATION, USE AND MAINTENANCE OF THE WEM

DO NOT USE the WEM with any other axles except Hendrickson trailer axles equipped with HUS wheel ends.

DO NOT ALTER the Disc Wheel/Hub or Drum Interface Dimensions. The WEM is only approved for use for SAE mounting System III as stated in Table 1 (chapter 5.1.2.1) of the SAE recommended practice J694 "Disc Wheel/Hub or Drum Interface Dimensions".

DO NOT RE-USE the WEM once it has detected the presence of spalling of the bearing. The WEM will not detect a second occurrence of spalling after it has been activated manually or automatically giving warning of the presence of spalling of the bearing by blinking its red light. After the first time the WEM has warned of spalling, you must replace the WEM with a new (not used) WEM.

DO REPLACE the WEM well before its stamped replacement date so that the WEM remains in service during the operation of the trailer vehicle prior to the next maintenance interval. The WEM battery has a limited life. The required replacement date for the WEM is stamped on its outer side near the WEM's light.

DO TEST **the WEM if any time after installation of the WEM the vehicle has been left to stand idle for more than 7 consecutive days. Test the WEM with the magnet as described in instruction number 3 above to again make sure that the WEM is still operating properly.**

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