Asia Pacific Region Only

TECHNICAL BULLETIN

TRAILER SUSPENSION IDENTIFICATION GUIDE

LIT NO: 97117-151
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HENDRICKSON
The World Rides On Us™

SUSPENSION IDENTIFICATION

Suspension identification should begin with the easiest and most obvious features first. Beginning with hubcaps, suspension design type and then collecting details from the identification and build tags. After the base suspension is established, further details may be gained from the applicable individual parts list, which are available at hendrickson.com.au.

CHECKING HUBCAPS & PIVOT CONNECTION

The first identifying item that you will notice when looking at a trailer will be the hubcaps.

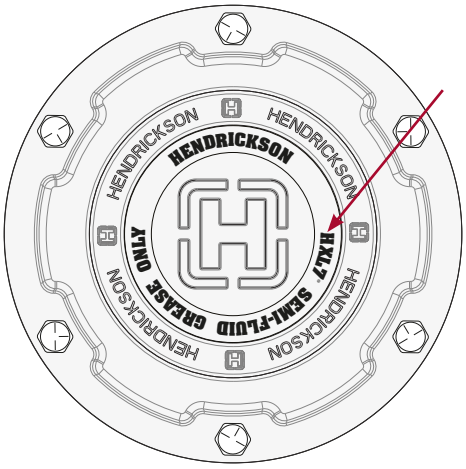


Figure 1: **Identifying Hendrickson Wheel End by Hubcap**

Hubcaps on Hendrickson axles will usually be marked with the [H] logo coupled with an identifying label. The label will specify what type of wheel end is fitted to the axle. (Refer Figure 1.) If it is not a Hendrickson hubcap, then it is probably not a Hendrickson axle, but it may still have a Hendrickson suspension.

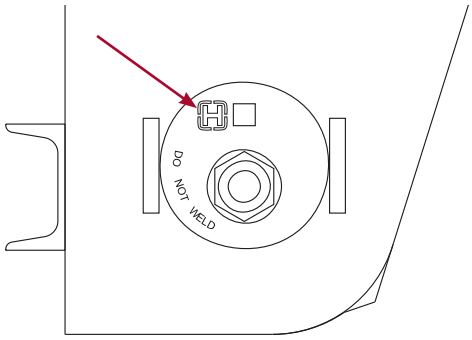


Figure 2: **QUIK-ALIGN® Pivot Connection**

Look at the front of the suspension, where it joins the hanger, and you should be able to identify the exclusive Hendrickson QUIK-ALIGN® pivot connection system. This system allows for quick and reliable wheel alignment and repair of suspension systems without welding. It will have an embossed Hendrickson [H] logo. Refer Figure 2.

INTRAAX® & HT IDENTIFICATION

INTRAAX® axles have unique properties due to the integration of the axle and suspension, along with the benefits of the distinctive TRI-FUNCTIONAL™ Bush (TFB™). INTRAAX can be recognised by the axle passing through the suspension beams, while the Hendrickson HT suspension uses U-bolts and is welded to the axle.

Keep in mind that a Hendrickson loose axle may be fitted to another manufacturer's suspension, on the other hand, an HT suspension may be fitted with any type of loose axle. If it is not a Hendrickson INTRAAX integrated suspension, then there could be a mixture of components.

A Hendrickson loose axle can be identified by the hubcap (refer Figure 1) and when matched with a HT suspension will also have a QUIK-ALIGN pivot connection with the [H] logo on the locating washers. Refer Figure 2.

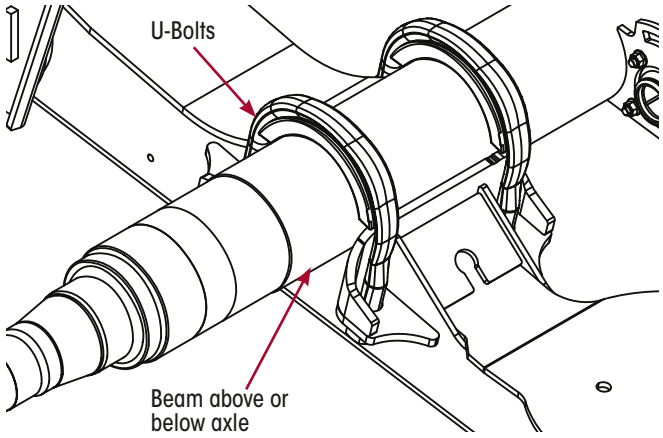


Figure 3: **Hendrickson HT Suspension**

On an HT suspension the beams are welded to the axle and have U-bolts securing the connection. (Refer Figure 3.) The beams will have Hendrickson identification tags and [H] branded QUIK-ALIGN hardware. (Refer Figure 2.) The HT suspension will often, but not always, be mated with a Hendrickson loose axle. This is not an integrated INTRAAX suspension.

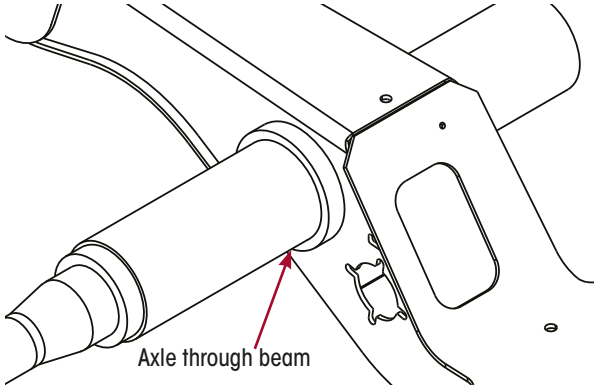


Figure 4: **Hendrickson INTRAAX® Integrated Suspension**

On an INTRAAX suspension the axle passes through the beams and is integrated into the suspension. It has no U-Bolts. This design ensures all suspension components are of greatest reliability, including having no U-bolts that need regularly checking. Refer Figure 4.

PIVOT BUSH IDENTIFICATION

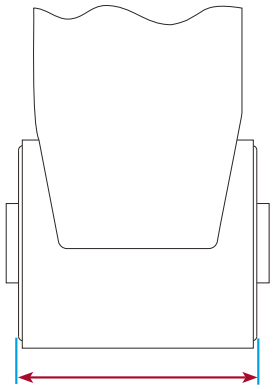


Figure 5: **Wide 6" (300 mm) bush for AAT, AAL, EDT, EDL & HT**

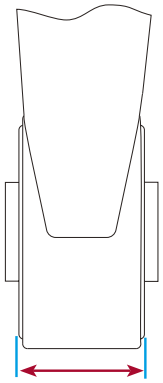


Figure 6: **Narrow 3" (150 mm) bush for AANT & AANL**

The final major INTRAAX identification feature is the width of the TRI-FUNCTIONAL bush.

- The standard (wide) bush is 6 inches (150 mm) wide, refer Figure 5.
- The narrow bush is 3 inches (75 mm) wide, refer Figure 6.

Top Mount or Underslung HT Identification

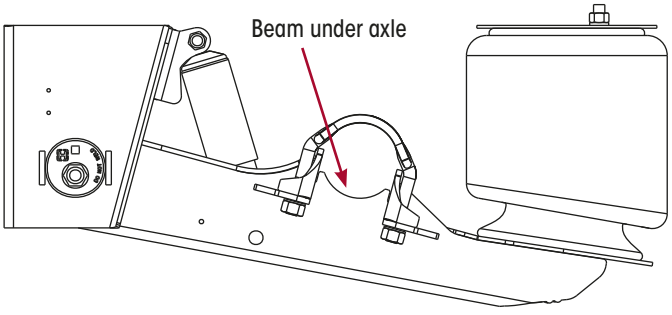


Figure 7: **Underslung HT Suspension (HT250U Shown)**

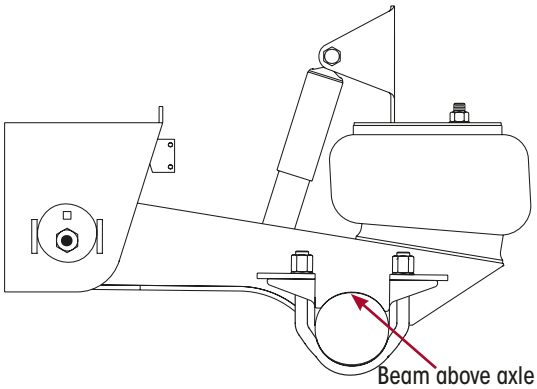


Figure 8: **Top Mount HT Suspension (HT230T Shown)**

Hendrickson HT suspensions will be either top mount (overslung) or underslung. Top mount places the beam over the axle; Underslung positions the beam under the axle. They are attached to the axle by means of U-bolts along with welding. Refer to Figure 7 and Figure 8.

Top Mount or Low Ride INTRAAX Identification

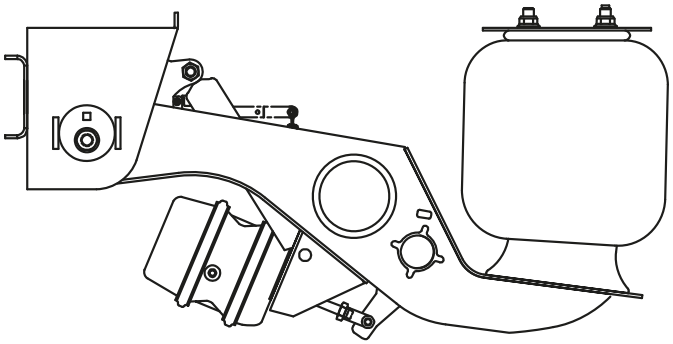


Figure 9: **Low Ride INTRAAX Suspension (AAL Shown)**

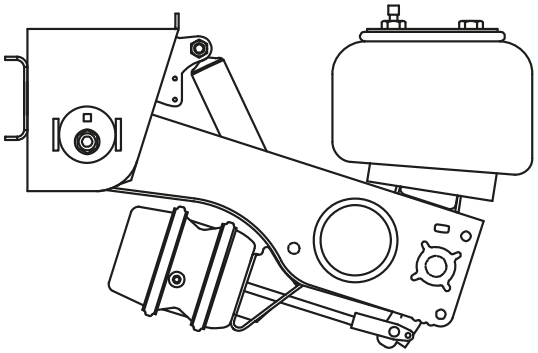


Figure 10: **Top Mount INTRAAX Suspension (AAT Shown)**

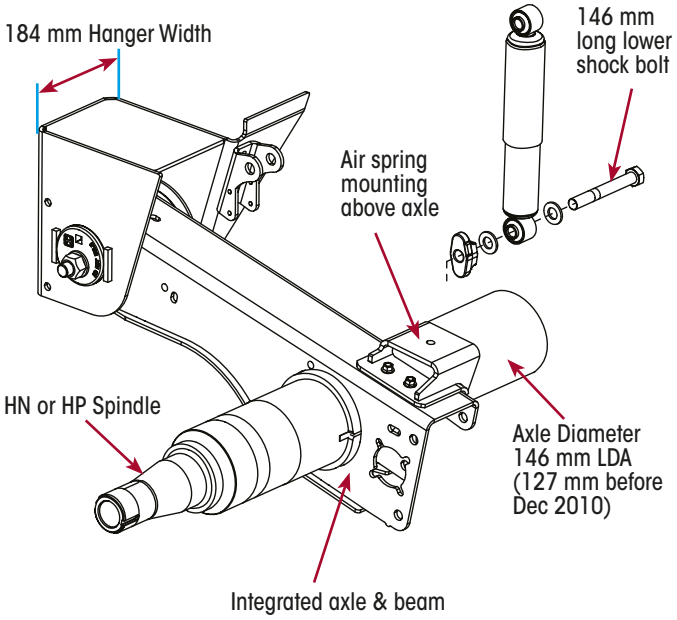
An INTRAAX suspension will be either top mount or low ride, depending on where the air spring mounts to the suspension. Top mount INTRAAX resemble an overslung suspension, whereas low ride INTRAAX are comparable to underslung. However, INTRAAX axles are unique because axles pass through the beams, rather than over or under, so they are not called overslung or underslung. Refer to Figure 9 and Figure 10.

IDENTIFYING INTRAAX® MODEL

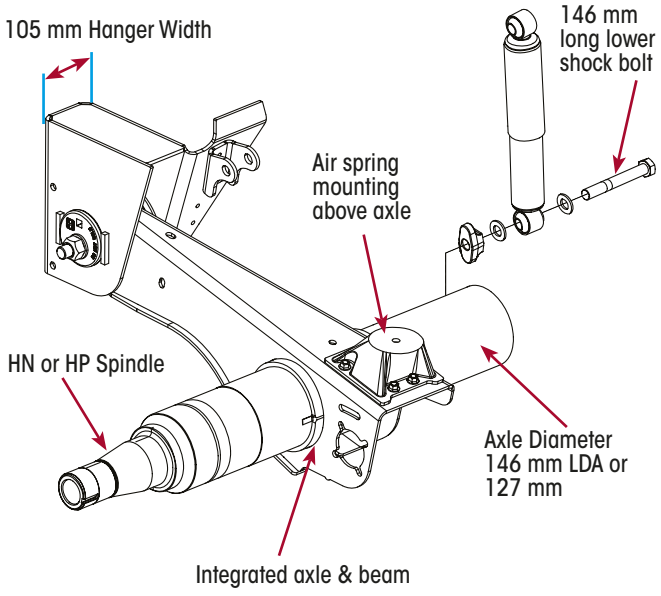
Other axle differences include axle diameter, track width, parallel (HP) or tapered (HN) spindles, shock or ZMD damping, load rating capacity and whether it is disc or drum brake. Types of brakes, hubs, bearings, slack adjusters and other variables may also be necessary, depending on the service work required. Australian Road Friendly suspension may include additional brackets for the lower shock absorber mount. Compare the suspension with the following illustrations to verify to suspension type.

INTRAAX Top-Mount Identification

AAT INTRAAX Top-Mount
AAT230, AAT250

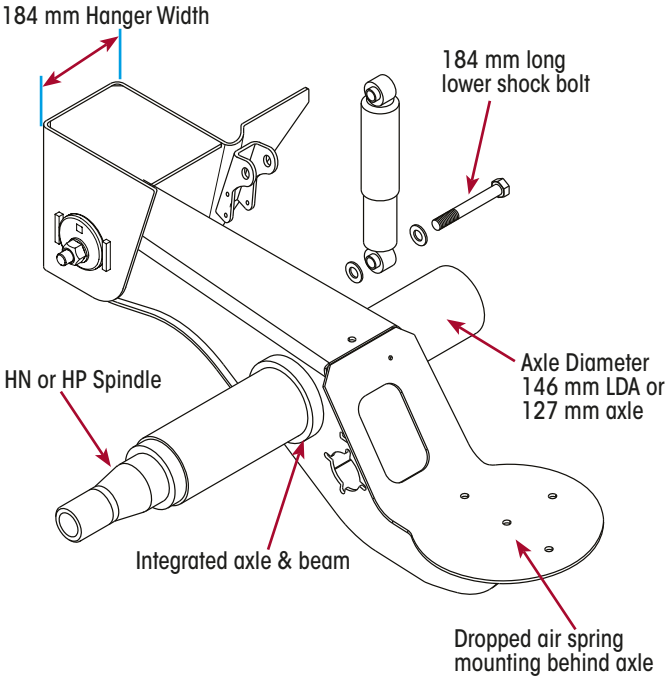


AANT INTRAAX Top-Mount
AANT230

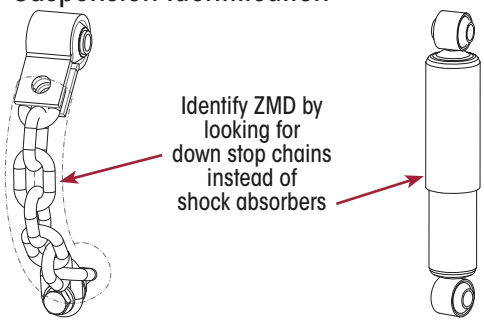


INTRAAX Low-Ride Identification

AAL INTRAAX Low-Ride
AAL230, AAL250



ZMD™ Suspension Identification

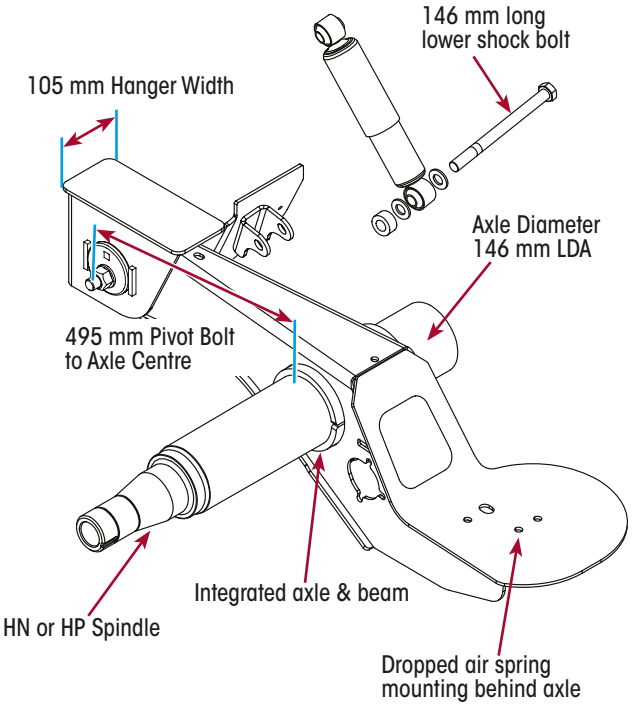


Zero Maintenance Damping™ (ZMD™) suspensions use down stop chains and internally damped air springs to replace the function of standard shock absorbers. These suspensions can easily be identified by the installation of down stop chains instead of shock absorbers.

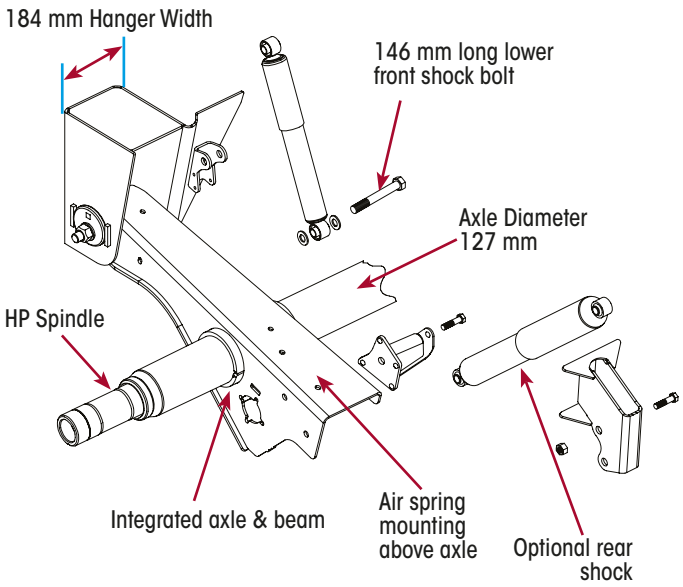
NOTE: There are other component changes and internal differences within the air springs. These cannot be simply be interchanged with standard components.

INTRAAX Extreme Duty Identification

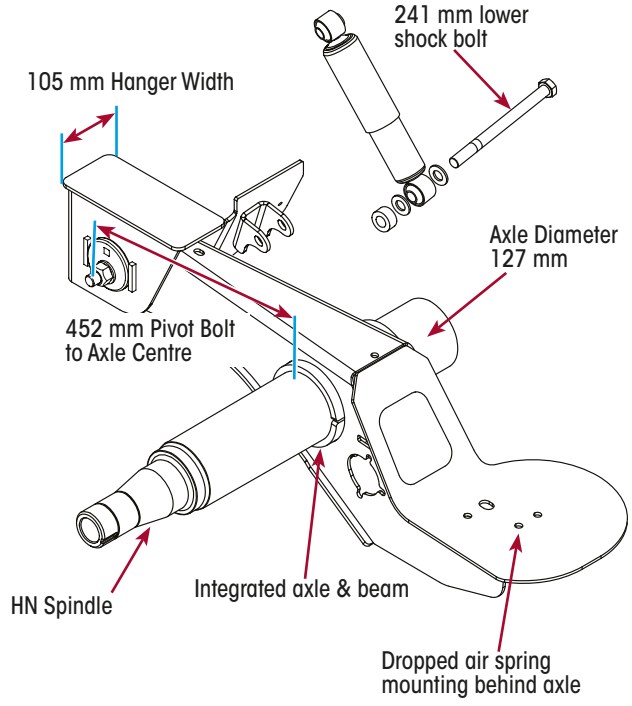
AANL INTRAAX Low-Ride
AANL230



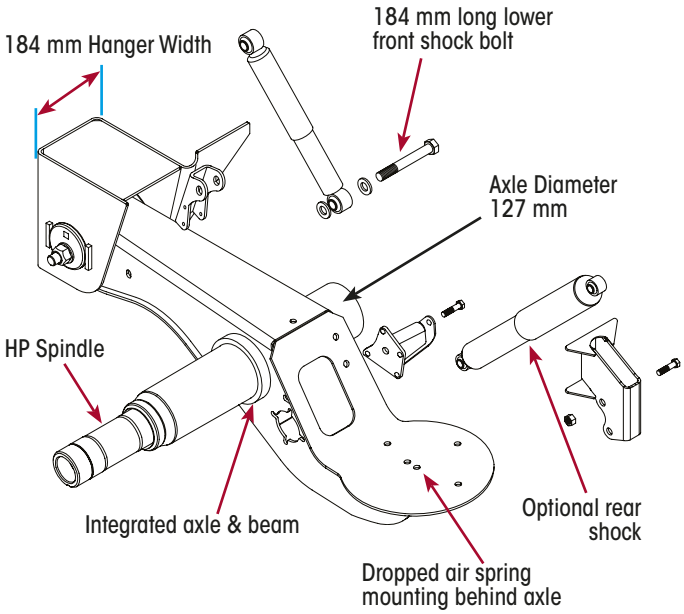
EDT INTRAAX Extreme Duty Top-Mount
EDT300



AANLS INTRAAX Short Beam Low-Ride (New Zealand)
AANLS200



EDL INTRAAX Extreme Duty Low-Ride
EDL300



IDENTIFICATION PLATES

To confirm identification or if more detailed information is required, refer to the identification plates that are attached to the suspension beams.

HT suspension: Both beams will have an ID plate. Refer Figure 11.

INTRAAX suspension: The left-hand beam will have the identification numbers from the HALFTRAAX™ (bare axle). The right-hand beam will have the assembly number which will provide further details, such as suspension ride height and the assembly number which can be used to track finer details or variations if necessary.

Suspension Identification Plate

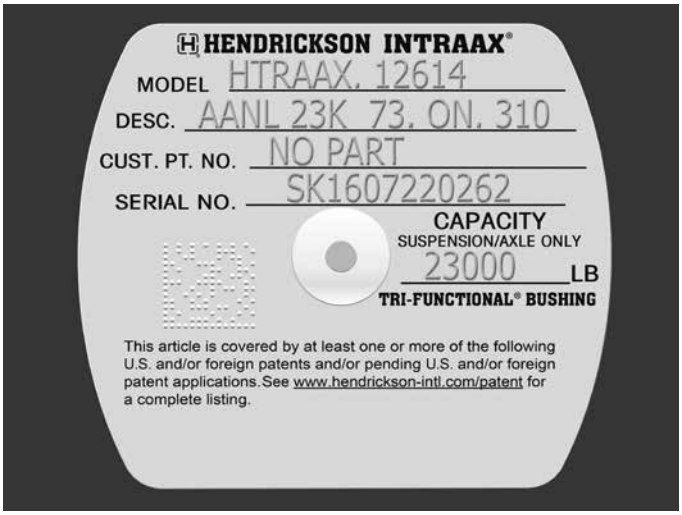


Figure 11: **Axle Identification Number Plate**

The suspension identification plate (refer Figure 11) is usually located on the inboard side of the left-hand trailing arm and provides the following information:

- Model
- Description
- Customer Part Number (if applicable)
- Axle Serial Number
- Axle Capacity

For example, the serial number (e.g. SK1607220262) provides the following details:

Model Number

Unique Hendrickson axle model number.

Description

The identification plate may provide some helpful information. Refer to Table 1 However, it will not provide all details required for repair and not all suspensions comply with the pattern shown.

Manufacturing Plant Identifier

The first two digits of the serial number identify the manufacturing plant that originally manufactured the suspension assembly. For example:

- SK – Somerset Kentucky
- LI – Lebanon Indiana
- CO – Canton Ohio

Date of Manufacture

The third to eighth digits of the axle serial number identify the date the suspension assembly was manufactured in date format: Year - Month - Date. For example, the code 160722 shows that it was manufactured on 22 July 2016.

Manufacturing Sequence Number

The final four digits (e.g. 0262) of the axle serial number provide the manufacturing sequence number.

Description

Duty Cycle	TFB Pivot	Beam Profile	Suspension Capacity	Axle Style	Axle Diameter	Axle Track	Spindle	Axle Wall	Brake Size
AA - Standard AAED - Extreme Duty	N - Narrow (3-Inch) (Blank) - Wide (6-Inch)	T - Top-Mount L - Low-Ride LS - Low-Ride Short	20K - 20,000 lbs. 23K - 23,000 lbs. 25K - 25,000 lbs. 30K - 30,000 lbs.	C - Cambered (Blank) - Standard RC - Raised Centre	S - 5.00″ L - LDA (5.75″)	71 - 71.5″ 73 - 73.0″ 755 - 75.5″ 77 - 77.5″ 795 - 79.5″ 83 - 83.5″	N - HN P - HP	ST - Standard HD - Heavy Duty	310 - 377/430mm ADB 4 - 377/430mm ADB 41 - 415mm MAXX22T ADB 7 - 16.5″ × 7″ X - 16.5″ X5 - 15″ × 8-5/8″ X7 - 16.5″ × 7″ HXS™ X8 - 16.5″ × 8-5/8″ HXS

Table 1: **ID Plate Description**

Suspension Assembly Number Plate

Figure 12: **Axle Assembly Number Plate**

The suspension assembly number plate is usually located on the inboard side of the right-hand trailing arm. (Refer Figure 12) It indicates that the suspension was assembled in Australia and provides the following information:

- Ride Height
- Assembly Part Number
- Date of Assembly

Assembly Number

The first six digits of the assembly part number identify the suspension system base model, while the remaining digits identify specific options such as wheel end and brake system configuration.

Refer to Table 2 for a five-level breakdown of the assembly number for INTRAAX and CONNEX ST. For further details refer to the specific parts list for that suspension or axle.

Base Model Identification

Manufacturer (Digit 1)	TRI-FUNCTIONAL™ Bush Width (Digit 2)	Load Capacity (Digit 3 & 4)	Model (Digit 5)
H= Hendrickson	• N = Narrow – 3 Inch TFB (76.2 mm) • W = Wide – 6 Inch TFB (152.4 mm) • S = Steerable with Wide 6 Inch TFB (152.4 mm)	• 20 = 20,000 lbs (9,070 kg) • 23 = 23,000 lbs (10,430 kg) • 25 = 25,000 lbs (11,300 kg) • 30 = 30,000 lbs (13,600 kg)	• L = Low Ride • T = Top Mount

Table 2: **Base Model Identification**

Ride Height Plate

The ride height plate is usually attached to the trailer frame by the trailer manufacturer. It provides an additional means of identifying a Hendrickson suspension system, along with giving information about system ride height and road friendly certification number. Refer Figure 13.

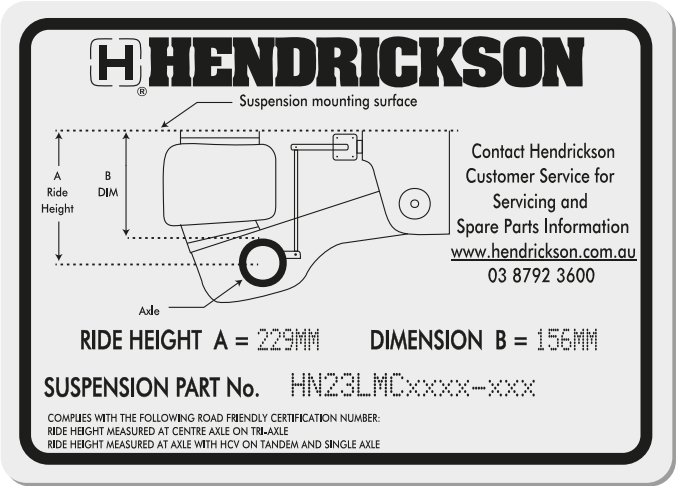


Figure 13: **Suspension Ride Height Plate**

IDENTIFYING OTHER FEATURES

Identifying Axle Diameter

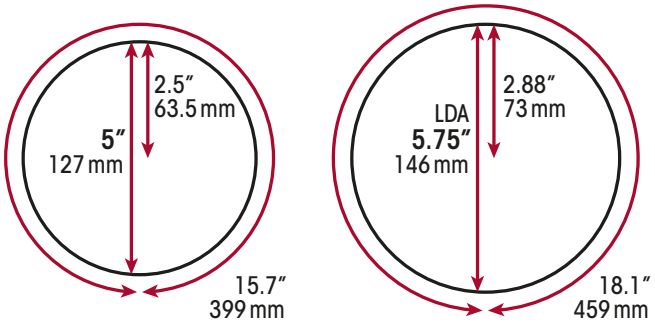


Figure 14: **Identifying Axle Diameter**

If unsure, it is easy to confirm axle diameter by measuring axle circumference with a tape measure. Refer Figure 14.

- 5″ (127 mm) axle has a circumference of 399 mm (15.7″) and a radius of 63.5 mm (15.7″).
- 5.75″ (146 mm) LDA axle has a circumference of 459 mm (18.1″) and a radius of 73 mm (2.88″).

Spindle Identification

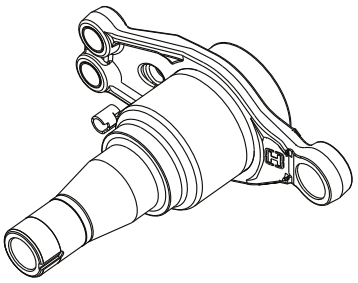


Figure 15: **HN Tapered Spindle**

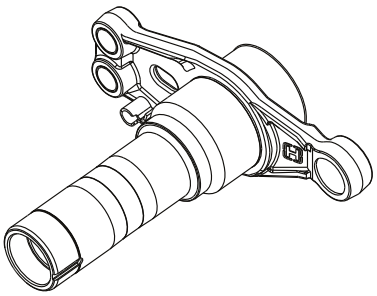


Figure 16: **HP Parallel Spindle**

Depending on specifications, Hendrickson suspensions and axles may be available with either HN (Tapered) or HP (Parallel) spindles. Refer Figure 15 and Figure 16.

REVISIONS TABLE

DATE	REV	PAGE	DESCRIPTION
Dec-2021	C	All	Complete document overhaul.

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.

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