

TECHNICAL PROCEDURE

HENDRICKSON AIR-RIDE SUSPENSIONS

SUBJECT: Ride Height Settings
LIT NO: L388
DATE: November 2003 **REVISION:** D

The tables in this publication list the recommended or "designed" ride heights for all current Hendrickson trailer suspensions. The designed ride height helps optimize suspension performance and helps maintain load equalization among the axles.

NOTE: Ride height is just one of many factors that influence load equalization. Even small adjustments in ride height (within the specified range) can impact the way the load is distributed among the axles.

Operating an air suspension outside its specified ride height range can reduce ride quality, damage cargo and increase suspension wear. To take full advantage of the benefits an air-ride suspension has to offer, each suspension on the trailer should be operated at its designed ride height.

A suspension's designed ride height is defined as the distance from the suspension mounting surface (the bottom of the trailer) to the center of the axle (see Figure 1).

There are two easy ways to determine a suspension's ride height:

1. For suspensions with five-inch diameter axles, use a Hendrickson Ride Height Gauge (Figure 2) to measure the distance between the axle and the mounting surface of the suspension.

For more information on the Hendrickson Ride Height Gauge, refer to Hendrickson publication L638.

To order a Ride Height Gauge, contact the Hendrickson customer service department at 866-RIDEAIR (866-743-3247) and specify part

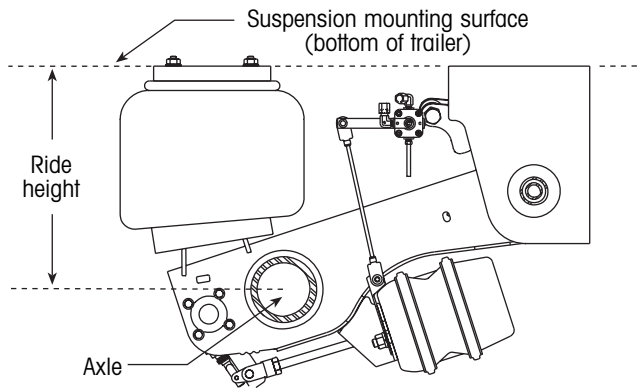


Figure 1. Ride height defined

number A-23442 (Ride Height Gauge for conventional suspensions) or A-23445 (Ride Height Gauge for low-ride suspensions).

OR

- 2a. Using a tape measure, measure the distance from the top of the axle to the mounting surface of the suspension (Figure 3).

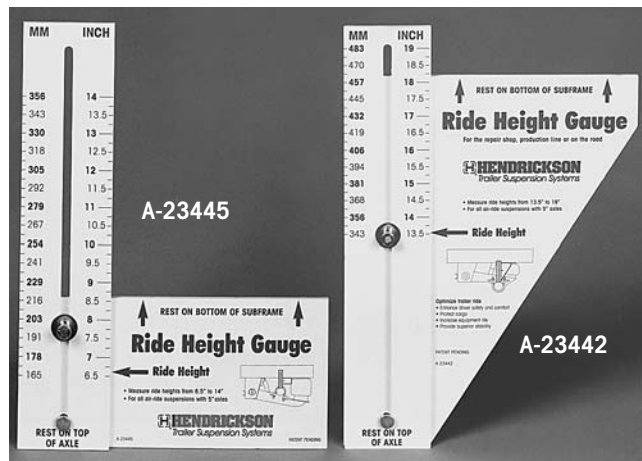


Figure 2. Hendrickson ride height gauges



- b. Add half of the axle diameter to this measurement to determine your suspension's ride height. For example, on a suspension with a five-inch diameter axle, add 2½ inches to the measured distance.

Compare this measured ride height with the listing in the appropriate table (see pages three through 11). While we recommend that our suspensions operate at their designed ride height, they can be satisfactorily operated within the range listed in the table applicable to your suspension model or type.

If the measured ride height does not fall within the range listed in the table, the suspension's ride height must be adjusted. Refer to Hendrickson publication L459, *Checking Trailer Ride Height*, for complete ride height adjustment instructions.

If your suspension model number is not listed in the tables, contact the Hendrickson technical service department at 800-455-0043 in the United States or 800-668-5360 in Canada for ride height range information.

DESIGNED RIDE HEIGHT AND SURELOK®

SURELOK® is a ride height locking device that uses mechanical support arms to maintain the trailer's height for efficient trailer loading. When engaged, the mechanical support arms help limit trailer "drop" and "walk" during the loading/unloading process.*

If a suspension is equipped with SURELOK, it should be operated as close as possible to its designed ride height. Suspension ride height is the primary consideration for optimal SURELOK performance (not the amount of clearance between the SURELOK support arms and the suspension beam). When the suspension is operated at its designed ride height, the SURELOK support arms will have the proper clearance from the suspension beams.

Any increase above the specified maximum ride height can reduce the effectiveness of SURELOK to limit trailer drop and/or walk (see Figure 4).

Conversely, any ride height set below the specified minimum ride height value will prevent the SURELOK support arms from properly engaging (see Figure 5).

* Refer to Hendrickson publication B48, *Trailer Walk*, for a complete description of trailer drop and walk.



Figure 3. Measuring ride height

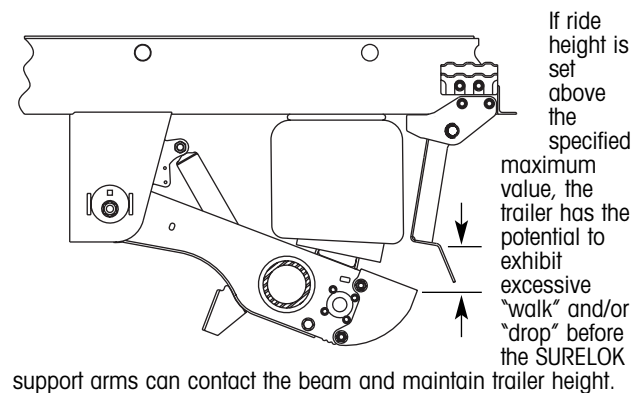


Figure 4. Ride height set too high

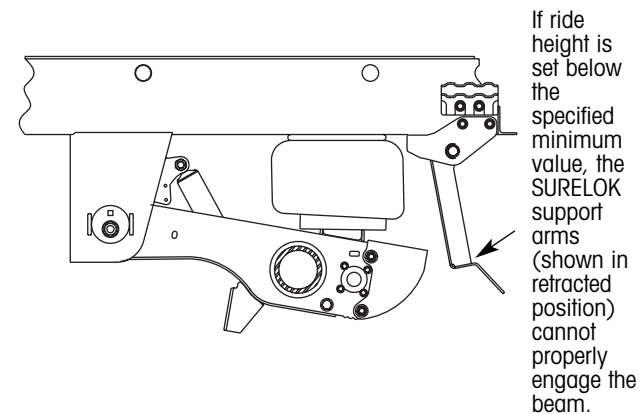


Figure 5. Ride height set too low

**HT190 RIDE HEIGHT SETTINGS**

SUSPENSION MODEL NUMBER	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
Underslung Primary Suspensions			
HT190U-6-001	6"	6"	8"
HT190U-6.75-001	6.75"	6.5"	7"
HT190U-7-001	7"	6.75"	7.75"
HT190U-7.5-001	7.5"	7.25"	8.25"
HT190U-9-001	9"	8.75"	9.75"
HT190U-12-001	12"	11.75"	12.75"
Top Mount Primary Suspensions*			
HT190TA-14-005	14"	13.75"	15"
HT190TA-15-005	15"	14.75"	16"
HT190TA-16-005	16"	15.75"	17"
HT190TA-17-005	17"	16.75"	18"
HK Slider Suspensions (HT190T Suspension on K-2® Slider Box)*			
HK190T-16	16"	15.75"	16.25"
HK190T-16.5	16.5"	16.5"	16.75"
HK190T-17	17"	16.75"	17.25"
HK190T-18	18"	17.75"	18.25"
HK190T-19	19"	18.75"	19.25"
HK RAMP-READY SLIDER Suspensions (HT200U Suspension on K-2 RAMP-READY SLIDER Box)			
HTHKR200U9	9"	8.75"	10"
HTHKR200U10	10"	9.75"	11"
HTHKR200U11	11"	10.75"	12.5"
HTHKR200U12	12"	11.75"	12.5"
HT190T Suspension on Non-Hendrickson Slider Box*			
HT190T-14-001 & -002	14"	13.75"	15"
HT190T-15-001 & -002	15"	14.75"	16"
HT190T-16-001 & -002	16"	15.75"	17"
HT190T-17-001 & -002	17"	16.75"	18"

* If any of these suspensions are equipped with SURELOK,® they should be operated as close as possible to the designed ride height. Refer to the section titled DESIGNED RIDE HEIGHT AND SURELOK on page two for details on how an improper ride height can reduce the effectiveness of SURELOK to limit trailer drop and/or walk, or prevent the SURELOK support arms from properly engaging.



HT230 RIDE HEIGHT SETTINGS

SUSPENSION MODEL NUMBER	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
Primary Suspensions*			
HT230TA-14-001, -002, & -007	14"	13.75"	15"
HT230TA-15-001, -002, & -007	15"	14.75"	16"
HT230TA-16-001, -002, & -007	16"	15.75"	17"
HT230TA-17-001, -002, & -007	17"	16.75"	18"
HT230TA-18-001, -002, & -007	18"	18"	19.5"
HT230-19-001 & -002	19"	18.75"	20"
HK Slider Suspensions (HT230 Suspension on K-2® Slider Box)*			
HK230-16	16"	15.75"	16.25"
HK230-16.5	16.5"	16.5"	16.75"
HK230-17	17"	16.75"	17.25"
HK230-18	18"	17.75"	18.25"
HK230-19	19"	18.75"	19.25"
HT230 Suspension on Non-Hendrickson Slider Box*			
HT230TA14-004 HT230TB14-003	14"	13.75"	15"
HT230TA15-009 HT230TB15-009 HT230TB15-010	15"	14.75"	16"
HT230TA16-004 HT230TB16-003 HT230TB16-004	16"	15.75"	17"
HT230TB17-009 HT230TB17-010	17"	16.75"	18"
Liftable Suspensions			
HT230TB15-003	15"	13.75"	15"
HT230TB17-003	17"	15.75"	17"
HT230-19-003 & -004	19"	17.75"	19.25"

* If any of these suspensions are equipped with SURELOK® they should be operated as close as possible to the designed ride height. Refer to the section titled DESIGNED RIDE HEIGHT AND SURELOK on page two for details on how an improper ride height can reduce the effectiveness of SURELOK to limit trailer drop and/or walk, or prevent the SURELOK support arms from properly engaging.

**HT250 RIDE HEIGHT SETTINGS**

SUSPENSION MODEL NUMBER / TYPE	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
Underslung Primary Suspensions			
HT250U-6.5-001	6.5"	6.25"	8.5"
HT250U-7.5-001	7.5"	7.25"	10.25"
HT250U-9-001	9"	7.25"	10.25"
HT250U-12-001	12"	10"	12.5"
HT250U-14-001	14"	12"	14.5"
Underslung Primary Limited Travel Suspensions			
HT250U-6.5-002	6.5"	6.25"	7.5"
HT250U-9-002	9"	8.75"	10.25"
HT250U-12-002	12"	11.75"	14.5"
Top Mount Primary Suspensions* ¹			
HT250TB12-001	12"	11.75"	14.5"
HT250TB14-001	14"	11.75"	14.5"
HT250TB15-001	15"	13"	15"
HT250TB16-001	16"	14"	16"
HT250TB17-001	17"	15"	17"
HT250TB19-001	19"	16"	19"
Underslung Slider Suspensions			
HT250U-9-003	9"	7.25"	10.25"
Underslung Y-Beam Suspensions (Models with Welded Collar Pivot Connection)			
HT250U-6.5Y-001 & -006	6.5"	6"	7.5"
HT250U-9Y-001 & -006	9"	7.25"	10.25"
Underslung Y-Beam Suspensions (Models with QUIK-ALIGN® Pivot Connection)			
STANDARD	6.5"	6"	7.5"
	7.5"	6.5"	8.5"
	9"	7"	10"

* If any of these suspensions are equipped with SURELOK,® they should be operated as close as possible to the designed ride height. Refer to the section titled DESIGNED RIDE HEIGHT AND SURELOK on page two for details on how an improper ride height can reduce the effectiveness of SURELOK to limit trailer drop and/or walk, or prevent the SURELOK support arms from properly engaging.

¹ The HT250T is intended for use as a liftable suspension, in combination with other HT primary models.



HT250US RIDE HEIGHT SETTINGS

DESIRED SUSPENSION TRAVEL	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
STANDARD	4"	3.75"	4.25"
	5.5"	5.5"	7"
	6.5"	6.5"	7"
	7.5"	7.5"	8.75"
	9"	7.75"	10.25"
	12"	11"	12.75"
	14"	13"	14.75"
LIMITED JOUNCE	7.5"	7.5"	8.75"
	9"	9"	10.5"
	12"	12"	14.25"
EXTENDED REBOUND	6.5"	6.5"	8.5"

HT300 RIDE HEIGHT SETTINGS

SUSPENSION TYPE	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
Top Mount Primary Suspensions			
STANDARD (-001 & -002 MODELS)	15"	14.75"	16.25"
	16"	16"	17"
	17"	16.75"	18.25"
	19"	18"	19.5"
	21"	N/A	N/A
	23"	22.75"	24"
LIFTABLE (-003 & -004 MODELS)	17"	15.75"	17.25"
	19"	17.75"	19.25"
	21"	19.75"	21"
	23"	N/A	N/A
Underslung Primary Suspensions			
STANDARD (-001, -005, & -011 MODELS)	7.5"	7.5"	10"
	9"	7.5"	10"
	12"	11.75"	13"
	14"	12"	14"
	15"	13"	15.25"
	17"	15"	17"



VANTRAAX® HKANT 40K RIDE HEIGHT SETTINGS*

SUSPENSION TRAVEL	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
STANDARD	14"	13.75"	15.25"
	15"	14.75"	15.25"
	16"	16"	17.25"
	16.5"	16.5"	17.25"
	17"	17"	17.25"
	18"	18"	19.25"
	19"	19"	19.25"

VANTRAAX HKAT 46K RIDE HEIGHT SETTINGS*

SUSPENSION TRAVEL	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
STANDARD	14"	13.75"	15.75"
	15"	14.75"	15.75"
	16"	16"	17.75"
	16.5"	16.5"	17.75"
	17"	17"	17.75"
	18"	18"	19.75"
	19"	19"	19.75"

VANTRAAX HKARL 46K (RAMP-READY SLIDER) RIDE HEIGHT SETTINGS

SUSPENSION TRAVEL	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
STANDARD	9"	8.5"	11.5"
	10"	9.5"	11.5"
	11"	10.5"	12"
	12"	11.5"	12"

* If any of these suspensions are equipped with SURELOK,® they should be operated as close as possible to the designed ride height. Refer to the section titled DESIGNED RIDE HEIGHT AND SURELOK on page two for details on how an improper ride height can reduce the effectiveness of SURELOK to limit trailer drop and/or walk, or prevent the SURELOK support arms from properly engaging.



VANTRAAX® HKAT 50K RIDE HEIGHT SETTINGS*

SUSPENSION TRAVEL	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
STANDARD	16"	16"	17.5"
	16.5"	16.5"	17.5"
	17"	17"	17.5"
	18"	18"	19.75"
	19"	19"	19.75"

* If any of these suspensions are equipped with SURELOK,® they should be operated as close as possible to the designed ride height. Refer to the section titled DESIGNED RIDE HEIGHT AND SURELOK on page two for details on how an improper ride height can reduce the effectiveness of SURELOK to limit trailer drop and/or walk, or prevent the SURELOK support arms from properly engaging.

INTRAAX® LOW-RIDE / LIFTABLE AAL 23K, AAL 25K, AAL 30K & AAEDL 30K RIDE HEIGHT SETTINGS

DESIRED SUSPENSION TRAVEL	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
STANDARD	6.5" *	6.5" *	7.5" *
	7.5" *	6.5" *	7.5" *
	8" *	7.25" *	10" *
	9"	7.25"	10"
	12"	10"	13.5"
	14"	11.25"	15"
	15"	12.75"	15"
	16"	13.5"	17"
	17"	14.25"	17"
	19"	16.5"	19"
LIMITED JOUNCE	9"	8.5"	10"
	12"	11"	13.5"
	14"	12.5"	15"
	15"	13.5"	15"
	16"	14.5"	17"
	17"	15.5"	17"
	19"	17.5"	19"

* These ride heights are not available on AAL 30K and AAEDL 30K models.



INTRAAX® LOW-RIDE / LIFTABLE AAZL 23K & AAZL 46K RIDE HEIGHT SETTINGS

DESIRED SUSPENSION TRAVEL	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
STANDARD	6.5"	6.5"	7.5"
	7.5"	6.5"	7.5"
	8"	7.25"	10"
	9"	7.25"	10"
	12"	10"	13.5"

INTRAAX® LOW-RIDE / LIFTABLE AANLS 20K RIDE HEIGHT SETTINGS

DESIRED SUSPENSION TRAVEL	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
STANDARD	6.25"	6.25"	8"
	7"	6.25"	8"
	9"	8"	9.5"
	12"	10.5"	12"



**INTRAAX® TOP-MOUNT AAT 23K, AAT 25K, AAZNT 23K, AAZNT 46K & AANT 23K
RIDE HEIGHT SETTINGS***

SUSPENSION TYPE	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
STANDARD	13.5"	13.25"	15.75"
	14"	13.25"	15.75"
	15"	14.25"	15.75"
	16"	15.25"	17.75"
	17"	16.25"	17.75"
	18"	17.25"	19.5"
	19"	18.25"	19.75"
HIGH CONTROL	13.5"	13.5"	16"
	14"	13.5"	16"
	15"	14.5"	16"
	16"	15.5"	18.5"
	17"	16.5"	18.5"
LIMITED REBOUND¹	14"	13.25"	14.5"
	16"	15.25"	16.25"
	18"	17.25"	18.25"

* If any of these suspensions are equipped with SURELOK,® they should be operated as close as possible to the designed ride height. Refer to the section titled DESIGNED RIDE HEIGHT AND SURELOK on page two for details on how an improper ride height can reduce the effectiveness of SURELOK to limit trailer drop and/or walk, or prevent the SURELOK support arms from properly engaging.

¹ AAZNT 23K and AAZNT 46K models are not available as limited rebound suspensions. The limited rebound information in this table only applies to AAT 23K, AANT 23K and AAT 25K models.

**INTRAAX® TOP-MOUNT AAT 30K RIDE HEIGHT SETTINGS***

SUSPENSION TYPE	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
STANDARD	13.5"	13.5"	15.75"
	14"	13.5"	15.75"
	15"	14.5"	15.75"
	16"	15.5"	17.5"
	17"	16.5"	17.5"
	18"	17.5"	19.75"
	19"	18.5"	19.75"
HIGH CONTROL	13.5"	13.5"	16"
	14"	13.5"	16"
	15"	14.5"	16"
	16"	15.5"	18.5"
	17"	16.5"	18.5"

* If any of these suspensions are equipped with SURELOK,® they should be operated as close as possible to the designed ride height. Refer to the section titled DESIGNED RIDE HEIGHT AND SURELOK on page two for details on how an improper ride height can reduce the effectiveness of SURELOK to limit trailer drop and/or walk, or prevent the SURELOK support arms from properly engaging.

INTRAAX® TOP-MOUNT AAEDT 30K RIDE HEIGHT SETTINGS

SUSPENSION TYPE	DESIGNED RIDE HEIGHT	MINIMUM RIDE HEIGHT	MAXIMUM RIDE HEIGHT
STANDARD (FRONT SHOCKS)	14"	14"	15.25"
	15"	14.75"	15.75"
	16"	15.25"	17.75"
	17"	15.25"	17.75"
STANDARD (REAR SHOCKS)	14"	14"	14.75"
	15"	14.75"	15.25"
	16"	15.25"	17.5"
	17"	15.25"	17.5"



Information contained in this literature was accurate at the time of publication. Product changes may have been made after the copyright date that are not reflected.

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